DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

of

MINING OF MINOR MINERALS

[Project or Activity of Schedule 1(a), Mining of Minerals, Cat-B-1]

For

Project name	Extraction of Sand, Stone & Bajri by **Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher**
Location	Khasra no. 382/5 (Shamlat Land- Hill Slope) over an area measuring 04-70-61 Ha, situated in Mauza & Mohal Thakran, Tehsil Haroli, District Una, State- Himachal Pradesh.
Land Status/ Type	Private land- Hill Slope
Mining Area	04-70-61 Ha
Category (as per EIA Notification, 2006)	Category B1 (*Due to cluster situation, as one other mining lease exists within 500m radius of the project site*).
Production capacity	Approx. 96,400 MT for one year or 4,82,000 MT over a period of five years
Baseline study period	From November, 2023 to January, 2024 and one-month additional study period of November, 2025; **Monitoring done by M/s Chandigarh Pollution Testing Laboratory, Mohali (NABL accreditation TC-6728 Valid till: 08/11/2028)**
TOR Letter No.	HPSEIAA/2025/1342 dated 04.12.2025

APPLICANT

Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher

Village & P.O Palakwah, Tehsil Haroli, District Una, Himachal Pradesh.

PREPARED BY

Chandigarh Pollution Testing Laboratory- EIA Division

(QCI/ NABET Certificate No: NABET/EIA/25-28/RA 0371) , valid upto 13.02.2028

Address: E- 126, Phase- VII, Industrial Area, Mohali, Pun jab- 160055.

Contacts: 0172-4669295, 5090312

E-mail: eia@cptl.co.in / cptleia@gmail.com

02th January, 2026

DECLARATION BY CONSULTANT

CHANDIGARH POLLUTION TESTING LABORATORY
(Environmental Monitoring, EIA, NOC, ETP, STP)
NABET Accredited EIA Consultant
TC-6729

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Date: 02.01.2026

TO WHOMSOEVER IT MAY CONCERN

I hereby declare that the EIA/EMP report for the proposed mining project for Extraction of Sand, Stone & Bajri by **Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher,** R/o Village & P.O Palkwah, Tehsil Haroli, District Una, Himachal Pradesh over an area measuring 04-70-61 Ha, located at Khasra nos. 382/5 (Private Land- Hill Slope), falling in Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh has been prepared by as per "Terms of Reference" and information supplied by the project proponent.

Sital Singh
CEO
Chandigarh Pollution Testing Lab

Authorized signatory

UNDERTAKING BY PROJECT PROPONENT

MAA PITAMBRA STONE CRUSHER
Mauza - Mohal Thakran, VPO Palkwah, Tehsil Haroli, District Una, (H.P.) 177220
M : +91 82351 60001, +91 70184 44971

Ref. No.....

Dated : 09/01/2026

UNDERTAKING

(As per MoEF Office Memorandum No. 11013/41/2006-1A_II (dtd. 05.10.2011)

1, Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher located at Village & P.O Palkwah, Tehsil Haroli, District Una, Himachal Pradesh, do hereby solemnly affirm and declare that:

- M/s Chandigarh Pollution Testing Laboratory-EIA Division located at Plot No.: E-126. Phase-7, Industrial Area, Mohali, Punjab, has been engaged by the company for obtaining ToR and carrying out the EIA Study for obtaining the Environmental Clearance from SEIAA, Himachal Pradesh, under the EIA Notification, 2006 as amended till date for the proposed Extraction of stone & bajri by Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher, falling in Khasra no. 382/5 (Shamlat Land- Hill Slope) over an area measuring 04-70-61 Ha, situated in Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh.
- The present EIA Study Report of the proposed project has been prepared in accordance with the TORs issued by SEAC, Himachal Pradesh.
- I endorse all the contents (data & information) of the EIA Report, as prepared by the EIA consultant (M/s Chandigarh Pollution Testing Laboratory- EIA Division), to be accurate, true and correct and I own the responsibility for the same

For M/s Maa Pitambra Stone Crusher

NABET DISCLOSURE

QCI-NABET Scheme for Accreditation of EIA Consultant Organizations/Version 3/June 2015
DECLARATION BY CONSULTANT

[As per MoEF OM No.-J-11013/41/2006-IA. II (I) dated 04.08.2009 & NABET Annexure-VII]

DECLARATION BY EXPERTS CONTRIBUTING TO THE EIA/EMP OF

[Project or Activity of Schedule 1(a), Mining of Minerals, Cat-B-1]

by

Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher, from the mining lease area measuring 04-70-61 Ha from Khasra nos. 382/5 (Private Land- Hill Slope), falling in Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh. The project is categorized as Category B1 as per EIA Notification and its subsequent amendments.

Part-I

EIA Sector No. as per NABET	1
EIA Sector No. as per MoEF&CC	1(a)
Name of sector as per NABET	Mining of Minor Minerals

Details of Laboratory

Name with address	Chandigarh Pollution Testing Laboratory E-126, Phase-VII, Industrial Area, Mohali, Punjab, India
NABL accreditation	TC-6728 Valid till: 08/11/2028
MoEF&CC recognition	dated 10.03.2025

Declaration by Experts contributing on the EIA/EMP

I, hereby, certify that I was part of the EIA team in the following capacity that developed the above EIA/EMP.

EIA Co-ordinator:

Name	Mr. Ranbir Singh Rana
Signature and Date	21/1/26
Period of Involvement	November 2023- January 2024 & November 2025
Address	E-126, Industrial Area, Phase-VII, Mohali, Punjab- 160055.
Contact Information	99881-27295

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DECLARATION BY CONSULTANT

Functional Area Experts

Functional Areas	Name of the Expert	Task	Period	Signature with Date
Air Pollution Prevention, Monitoring & Control (AP)	**FAE: Mr. Ranbir Singh Rana**	• Conducted site visits and identified project impacts on air quality. • Recommended air pollution mitigation measures. • Assisted in preparing the Environmental Management Plan (EMP). • Developed the environmental budget for air pollution control	November 2023- January 2024 **Additional Study: November 2025**	
Meteorology, Air Quality Modeling & Prediction (AQ)	FAE: Mr. Ranbir Singh Rana TM: Mr. Jagir Singh **FAE: Mr. Ranbir Singh Rana**	• Conducted site visits and finalized monitoring locations for air quality monitoring. • Reviewed and validated air quality data. • Oversees the evaluation of results from Ambient Air Quality Monitoring (AAQM). • Assisted in finalizing monitoring locations for air quality assessments. • Checked and ensured accuracy of the air quality data. • Supported the evaluation of Ambient Air Quality Monitoring (AAQM) results.	November 2023- January 2024 **Additional Study: November 2025**	
Water Pollution, Prevention, Control & Prediction of Impacts (WP)	FAE: Mr. Jagir Singh TM: Mr. Daljeet Singh **FAE: Mr. Sital Singh**	• Conducted site visits and finalized sampling locations for both ground water and surface water. • Developed and assessed the water requirement for the project. • Identify potential impacts of water pollution. • Suggest appropriate mitigation measures for water pollution.	November 2023- January 2024 **Additional Study: November 2025**	

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		• Assisted the FAE in site visit and contributed to the preparation of the EIA documentation.		
Soil Conservation (SC)	FAE: Mr. Nagendra Prasad Todaria TM: Mr. Surinder Singh Matharu **FAE: Mr. Samarjit Kumar Goyal FAA: Ms. Babli**	• Conducted site visits to assess soil quality and conservation needs. • Finalized soil sampling locations based on site observations. • Reviewed and finalized survey findings related to soil conservation. • Identified potential impacts on soil health and stability. • Suggested appropriate soil conservation and mitigation measures. • Assisted in site visits to assess soil conditions. • Supported the finalization of soil sampling locations. • Contributed to identifying soil-related impacts and mitigation strategies. • Assist in the preparation of the EIA documentation related to soil conservation.	November 2023- January 2024 **Additional Study: November 2025**	
Risk and Hazard Management (RH)	**FAE: Mr. Aprup Anant Adawadkar**	• Assisted in perfecting the risk assessment report. • Supported in the development and interpretation of consequence analysis related to potential hazards. • Ensured that all risk management strategies are accurately represented and aligned with the project's requirements.	November 2023- January 2024 Additional Study: November 2025	
Socio-Economics (SE)	**FAE**: Mr. Ramandeep Kaur **TM:** Mr. Ranbir Singh Rana	• Conducted site visits to assess socio-economic conditions. • Identification of socio-economic impacts and prepare the relevant reports. • Suggested mitigation measures to address socio-economic impacts.	November 2023- January 2024	

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	FAE: Mr. Ranbir Singh Rana	• Contributed to the preparation of the Environmental Management Plan (EMP) and the environmental budget.	**Additional Study: November 2025**	
Solid and Hazardous Waste Management (SHW)	FAE: Mr. Surinder Singh Matharu **FAE: Mr. Rajiv Kumar Garg**	• Conducted site visits to assess solid waste generation from the proposed mining project. • Evaluated the effectiveness of the proposed mitigation measures for waste management. • Recommended improvements to enhance waste management practices and ensure safe disposal of solid waste.	November 2023- January 2024 **Additional Study: November 2025**	
Ecology & Biodiversity (EB)	FAE: Mr. Nagendra Prasad Todaria **FAE: Mr. Asheesh Shrivastava** **FAA: Ms. Babli**	• Conducted site visits to assess the ecological and biodiversity status of the area. • Evaluated the biological environment concerning terrestrial fauna and the aquatic ecosystem. • Assessed potential impacts on the ecological environment due to the project. • Contributed to the preparation of the EIA documentation related to ecology and biodiversity. • Assisted the FAE in site visits. • Contributed to identify ecological impacts and suggesting mitigation measures. • Assisted in preparing the EIA documentation, focusing on ecological and biodiversity aspects.	November 2023- January 2024 **Additional Study: November 2025**	

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Hydrogeology (HG)	**FAE: Mr. Mohan Sriram Bhagwat**	a. Understanding and reporting Ground water conditions b. Finalization of Ground water sampling locations c. Ground water resource assessment. d. Evaluated the impact on ground water potential and mitigation measures for avoiding ground water contamination. e. Assessed the impacts on ground water and surface water due to this mining project and mitigation measures. f. Study of the drainage system within the lease area and study area for the baseline, impacts due to this project and their mitigative measures. g. Recommendations about water conservation measures. h. Contribution to EIA documentation	November 2023- January 2024 **Additional Study: November 2025**	MSbhagwat
Geology (Geo)	**FAE: Mr. Mohan Shriram Bhagwat**	a. Study of Geological aspects, Topographical conditions, Natural drainage, Soil types and Geomorphology based on the secondary data b. Impacts of the project and Recommendations. c. Contribution to EIA documentation	November 2023- January 2024 **Additional Study: November 2025**	MSbhagwat
Nosie and Vibration (NV)	FAE: Mr. Parag Shyamrao Khujnare FAE: Mr. Jagir Singh (Noise only) TM: Mr. Jagir Singh (Vibration) **FAE: Mr. Samarjit Kumar Goyal**	• Conducted site visits to assess ambient noise and vibration levels. • Analysed ambient noise quality data and identify areas of concern. • Evaluated impacts of noise and vibration from the project and recommend abatement measures. • Contributed to the EIA documentation related to noise and vibration management.	November 2023- January 2024 Additional Study: November 2025	

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Land Use (LU)	**FAE: Ms. Debarati Ghosh**	• Conducted site visits to assess land use patterns and their impact. • Analyzed data related to the land use pattern within the project area. • Developed a land use map for the study area. • Assessed impacts on the land environment due to landform changes and suggest mitigation measures. • Contributed to the EIA documentation related to land use changes due to the mining of minor minerals	November 2023- January 2024 **Additional Study: November 2025**	Debarati Ghosh

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DECLARATION BY CONSULTANT

Part-B

Declaration by Head of the ACO / authorized person

I, Mr. Sital Singh, hereby, confirm that:

The above-mentioned experts prepared the EIA covered under schedule 1(a) & Category "B1" for project namely "Extraction of stone & bajri by **Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher**, from the mining lease area measuring 04-70-61 Ha having Khasra nos. 382/5 (Private Land- Hill Slope), falling in Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh.". The project is categorized as Category B1 as per EIA Notification and its subsequent amendments. The consultant organization shall be fully accountable for any mis-leading information.

- It is also certified that EIA Report has been analyzed by the system for plagiarism check using Plagiarism Checker X software in accordance with good scientific practice.
- The Awarded ToRs (Terms of Reference) have been complied with and incorporated into the EIA/EMP Report. The data submitted in the EIA Report are correct to the best of our knowledge. I have thoroughly reviewed the report, and the consultant organization shall be fully accountable for any misleading or inaccurate information.
- No unethical practices have been carried out and external data / text have not been used without proper acknowledgement, while preparing this EIA report.

Certificate of Plagiarism check	
Title of EIA Report	Extraction of stone & bajri by Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher from Khasra no. 382/5 (Shamlat Land- Hill Slope) over an area measuring 04-70-61 Ha, situated in Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh.
Name of Accredited Organisation	Chandigarh Pollution Testing Laboratory
Unique Identification Number	**CPTLE-MPSC/1 & 1(a) 2025-434/3- DEIA-Rev.01**
Name of EIA Co-ordinator	Mr. Ranbir Singh
Name of the Software	Plagiarism Checker X
Date of Check	02.01.2026
Time of Check	12:47 PM

Name: Mr. Sital Singh
Signature:

Designation: Chief Executive Officer
Name of the EIA Consultant Organization: Chandigarh Pollution Testing Laboratory QCI/NABET Accredited Environment Consultancy.
NABET Certificate No. & Date of Issue: NABET/EIA/25-28/RA 0371 Dated 11th February, 2025
Valid upto 13th February, 2028.

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
AAQM	Ambient Air Quality Monitoring
NAAQS	National Ambient Air Quality Standards
CPCB	Central Pollution Control Board
EC	Environmental Clearance
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
KLD	Kilo Litres per Day
km	Kilometre
m	Metre
µg/m³	Microgram per cubic metre
mg/m³	Milligram per cubic metre
ML	Mining Lease
MoEF&CC	Ministry of Environment, Forest and Climate Change
BOD	Biochemical Oxygen Demand
CO	Carbon Mono-oxide
COD	Chemical Oxygen Demand
ND	Not Detectable
CPCB	Central Pollution Control Board
SPCB	State Pollution Control Board
SEIAA	State Environment Impact Assessment Authority
SEAC	State Expert Appraisal Committee
EAC	Expert Appraisal Committee
TOR	Terms of Reference
NABET	National Accreditation Board for Education and Training
NABL	National Accreditation Board for Testing and Calibration Laboratories
NO_2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
PM_{10}	Particulate Matter (≤10 microns)
$PM_{2.5}$	Particulate Matter (≤2.5 microns)
PUC	Pollution Under Control
SO_2	Sulphur Dioxide
TPA	Tonnes Per Annum
TPD	Tonnes Per Day
MT	Metric Tons
dB (A)	Decibel
IMD	Indian Meteorological Department
MSL	Mean Sea Level
NS	Not Specified
NOC	No-Objection Certificate
^0C	Degree Celsius
Avg.	Average

Abbreviation	Full Form
RET	Rare-Endangered-Threatened
BSI	Botanical Survey of India
ZSI	Zoological Survey of India
ND	Not Detectable
LC	Least concern
DMP	Disaster Management Plan
bgl	Below Ground Level
agl	Above Ground Level
AMSL	Above Mean Sea Level
PPE	Personal Protective Equipment
MPSC	Maa Pitambra Stone Crusher
Prop.	Proprietor
Pvt.	Private

TOR LETTER

सत्यमेव जयते

File No: HP SEIAA/2025/1342
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), HIMACHAL PRADESH)
***

Dated: **04/12/2025**

To,

ISHAR SINGH
Village & P.O. Palkwah, Tehsil Haroli, District Una, Himachal Pradesh, UNA, HIMACHAL PRADESH, 177220
isharpitambrasc@gmail.com

Subject: Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding.

Sir/Madam,

This is in reference to your application for Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding in respect of project Extraction of Sand, Stone and Bajri from Khasra no. 382/5 over an area measuring 04-70-61 Ha (Pvt. Land- Hill Slope) falling in Mohal/Mauza Thakran of Tehsil Haroli, District Una, Himachal Pradesh by Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher submitted to Ministry vide proposal number SIA/HP/MIN/554136/2025 dated 07/10/2025.

2. The particulars of the proposal are as below:

(i) TOR Identification No.	TO25B0108HP5392197N
(ii) File No.	HP SEIAA/2025/1342
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Extraction of Sand, Stone and Bajri from Khasra no. 382/5 over an area measuring 04-70-61 Ha (Pvt. Land- Hill Slope) falling in Mohal/Mauza Thakran of Tehsil Haroli, District Una, Himachal Pradesh by Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher
(viii) Name of Company/Organization	ISHAR SINGH
(ix) Location of Project (District, State)	UNA, HIMACHAL PRADESH
(x) Issuing Authority	SEIAA
(xi) Applicability of General Conditions	no
(xii) Applicability of Specific Conditions	no

SIA/HP/MIN/554136/2025 Page 1 of 8

a)	Proposal No.	SIA/HP/MIN//554136/2025, **TOR's** HP SEIAA/2025/1342
b)	Processing fee	UTR reference no. J-129685006 on dated 06/10/2025 having amount of Rs. 25,000/-.
c)	Project type	Extraction of Sand, Stone & Bajri.
d)	Project Location	Khasra number 382/5 falling in Mohal/Mauza Thakran of Tehsil Haroli, District Una, Himachal Pradesh.
e)	Jamabandi	Jamabandi for the year 2020-2021
f)	Land Status	Private alnd /hill slope (Shamlat Land inder possession of applicant).
g)	Capacity	96,400 MT/year
h)	Mining Area	04-70-61 Hectare
i)	Leases with in 500 meter from the periphery of the area applied.	One mining leases exist within 500 meters:
j)	Letter of Intent	LoI issued on dated 15.07.2025, valid for two years.
k)	EMP Cost	Capital Cost Rs. 70.0 Lakhs Recurring Cost Rs. 5.08 Lakhs
l)	CER cost	Rs. 16 Lakhs.

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the Ministry for an appraisal by the State Environment Impact Assessment Authority(SEIAA) Appraisal Committee (SEIAA) in the Ministry under the provision of EIA notification 2006 and its subsequent amendments.

4. The above-mentioned proposal has been considered by State Environment Impact Assessment Authority(SEIAA) Appraisal Committee of SEIAA in the meeting held on 18/11/2025. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B, Part C EIA, EMP)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.

5. The brief about configuration of plant/equipment, products and byproducts and salient features of the project along with environment settings, as submitted by the Project proponent in Form-1 (Part A, B and C)/EIA & EMP Reports/presented during SEIAA are annexed to this EC as Annexure (1).

6. The SEIAA, in its meeting held on 18/11/2025, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of Terms of Reference under the provision of EIA Notification, 2006 and as amended thereof subject to stipulation of specific and general conditions as detailed in Annexure (2).

7. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the State Environment Impact AssessmentAuthority(SEIAA) Appraisal Committee hereby decided to grant Terms of Reference for instant proposal of M/s. ISHAR SINGH under the provisions of EIA Notification, 2006 and as amended thereof.

8. The Ministry reserves the right to stipulate additional conditions, if found necessary.

9. The Terms of Reference to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

10. This issues with the approval of the Competent Authority.

Copy To

1.The Secretary (Environment), Ministry of Environment, Forests & Climate Change (MoEF&CC), GoI, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003 .
2.The Chairman, Central Pollution Control Board, Him Parivesh Bhawan, CBD-cum-office Complex, East Arjun Nagar, New Delhi-110032.
3.The Chairman, Himachal Pradesh State Pollution Control Board, Shimla-171009.
4.The Director (Environment, Science Technology & Climate Change) to the GoHP, Shimla-171001.

5.The Adviser (IA), MoEF&CC, GoI, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003.
6.The Integrated Regional Office, MoEF&CC, CGO Complex, Shivalik Khand, Longwood, Shimla, HP-171001.
7.The Monitoring Cell, MoEF&CC,GoI, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003
8.Record File.

Annexure 1

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994
1.2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee
1.4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the areashould be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone)
1.5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics
1.6	Details about the land proposed for mining activities should be givenwith information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority
1.7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large,may also be detailed in the EIA Report
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided
1.9	The study rea will comprise of 10 km zone around the mine lease from lease periphery and the data

S. No	Terms of Reference
	contained in the EIA such as waste generation etc. should be for the life of the mine / lease period
1.10	Land use of the study rea delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given
1.11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees
1.13	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished
1.14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated
1.15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given
1.16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted
1.17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlifeand copy furnished
1.18	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost
1.19	Proximity to Areas declared as Critically Polluted or the Project areas likely to come under the

S. No	Terms of Reference
	Aravali Range, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered
1.20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)
1.21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report
1.22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given
1.23	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map
1.24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated
1.25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided
1.26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided
1.27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided
1.28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the

S. No	Terms of Reference
	working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished
1.29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out
1.30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same
1.31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given.The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution
1.32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines
1.33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report
1.34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report
1.35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed
1.36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations
1.37	Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation
1.38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project

S. No	Terms of Reference
1.39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project
1.40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given
1.41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out
1.42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report
1.43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc
1.44	Besides the above, the below mentioned general points are also to be followed:- a) All documents to be properly referenced with index and continuous page numbering. b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project. d) Where the documents provided are in a language other than English, an English translation should be provided. e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted. f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed. g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation. h) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable. i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area
1.45	1) The project proponent shall include the detailed analysis of GLC-2.5 with air modeling and shall prepare the wind-rose diagram of the site to plan the installation of PCDs. 2) The project proponent will assess and erasure that, after ceasing mining operations, to undertake-re-grassing the mining area and any other area which may have been disturbed due to their mining activities and for restoration of the land to a condition which is fit for growth of fodder, flora, fauna etc. 3) The project proponent shall conduct and submit a comprehensive mineral replenishment study to assess the rate and extent of natural replenishment of minerals in the leased area. 4) The project proponent shall submit a certificate from the Director (Industries) to the fact that the proposed mining site is recommended/approved on the basis of the District Survey Report prepared & approved by SEIAA authorities in conformity with the SO No. 141 (E), SO No. 3611(E) and as per Sustainable Sand Mining Management Guidelines, 2016 and Enforcement & Monitoring

S. No	Terms of Reference
	Guidelines for Sand Mining, 2020 published by MoEF&CC, GoI. 5) Hard copy of the application along with the relevant document shall be ink signed & submitted in the office of SEIAA Secretariat. 6) The project proponent shall submit compliance report to the issue raised during public hearing. 7) The project proponent shall submit proposed EMP and including CER activities as its part. All the commitment made under EMP & CER shall be made in the form of affidavit. 8) The project proponent must ensure that environmental samples are analyzed at laboratories located in close proximity to the project site to maintain the accuracy and integrity of results. During each sampling activity, videography and geo-tagged photographs must be captured to provide transparent evidence of proper sampling locations, methods, and handling practices.

Additional Terms of Reference

N/A

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Quantity	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Sand, Stone & Bajri	Sand, Stone & Bajri	96400	Tons per Annum (TPA)	Road	

Signature Not Verified

Digitally Signed by : Sh Puni Chand Rana
Member Secretary, SEIAA

Date: 04/12/2025

TOR COMPLIANCE

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	1. Standard Terms of Reference for (Mining of Minerals)		
1.1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.	Not applicable. The proposed project is a new mining lease for extraction of sand, stone & bajri from private hill-slope land (Khasra Nos. 382/5), granted Letter of Intent vide No. Udyog- Bhu (Khani-4) Laghu--53/2025-4397 dated 15.07.25. There was no mining activity at the site prior to 1994 or before the EIA Notification came into force. Hence, no historical production data exists.	**Copy of LOI attached as Annexure I**
1.2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	The Project Proponent, Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher, has been issued a Letter of Intent (LoI) for grant of mining lease by the Director of Industries, Government of Himachal Pradesh, vide Letter No. Udyog- Bhu (Khani-4) Laghu-53/2025-4397 dated 15.07.2025 for extraction/collection of Sand, Stone & Bajri from Hill Slope (Shamlat Land) over an area measuring 04-70-61 Ha, comprising Khasra Nos. 382/5, falling in Mohal/Mauza Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh.	**Refer to Additional documents- Annexure II**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.	All project documents are fully consistent and in the name of the same lessee– Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher. • The Approved Mining Plan has been sanctioned by the State Geologist, Himachal Pradesh, Shimla on 09/09/2025. • The EIA/EMP Report has been prepared strictly on the basis of the approved mining plan (lease area, production capacity, bench size, waste handling & reclamation plan).	**Refer to Chapter 2 and page no 35.**
1.4	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	All the necessary maps such as 10 km toposheet map, 500 buffer map, pillar co-ordinates, LULC map of study area are included in EIA report.	**Refer to Chapter 3 (Figure 3.1, 3.2, 3.3 and 3.9) page no 59, 60, 61, 85 respectively.**
1.5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals	The Survey of India Toposheet No. H43E3, H43E7. (1:50,000 scale) covering the project area has been used to prepare the Location & Geological Map.	**Local Geology of Lease Area (Chapter**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	and mining history of the area, important water bodies, streams and rivers and soil characteristics	The area represents hilly terrain of the Lower Shivalik Hills, characterized by undulating slopes, rocky outcrops, and silty-sand deposits. The geomorphology shows dissected hill slopes with moderate drainage density. The dominant lithology comprises sandstone, shale and minor siltstone, and the mineable mineral is stone & bajri (minor mineral). No large-scale mining was recorded historically within the lease boundary prior to this proposal. Important surface water features include the Soan River (~6 km from the site) and several seasonal nallahs draining toward it. Soil characteristics in the buffer zone range from silty-loam to sandy-loam.	**2, Section 2.5, Page 38).** **Soil Quality and Characteristics (Chapter 3, Tables 3.9 Pages 88).**
1.6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority	• The land is classified as "Shamlat Non-Forest Hill-Slope Land", and no forest or government land is involved. • The mining activity conforms to the Himachal Pradesh Land-Use Policy and the provisions of the H.P. Minor Minerals (Concession) & Mineral Prevention of Illegal	--

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		Mining, Transportation and Storage Rules, 2015. • Being private land, no land-use diversion from agricultural/forest to mining category is required under State policy. • The Letter of Intent (LoI) for grant of mining lease was issued by the Director of Industries, H.P., after due verification of land ownership and its suitability for mining use. • All necessary NOCs from the landowners have been obtained, and the activity has been verified to be in compliance with local land-use regulations.	
1.7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the	The project is a proprietorship firm of Sh. Ishar Singh and hence has no formal Board of Directors. However, a written Environmental Policy has been adopted committing to compliance with all applicable environmental laws and EC conditions. An Environmental Management Cell under the Proprietor will oversee implementation of EMP, periodic monitoring, and reporting of any deviation/non-	**Refer Chapter 6 section 6.5 page no 177.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report	compliance to the State Pollution Control Board. Quarterly review and record maintenance are ensured by the Proprietor.	
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided	The project involves semi-mechanized open cast mining on a hill-slope with bench height and width of 4 m each as per approved Mining Plan. No underground mining or large-scale blasting is proposed; only controlled, small-scale blasting using low-intensity charges will be undertaken under the supervision of a licensed blaster. A slope stability analysis has confirmed safe overall pit slopes (<45°). Safety measures include: controlled bench development, proper drainage, slope monitoring, use of PPE, and restricted access during blasting. Regular inspection and adherence to DGMS guidelines ensure mine safety.	**Refer Chapter 2, Section 2.13 Page No.41.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
1.9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period	The EIA study covers a 10 km radius (core + buffer zone) around the 04-70-61 Ha lease area. Baseline data were collected from the past EIA report M/s Lakhwinder Singh Stone Crusher and one-month additional study period of November, 2025 covering air, water, soil, noise, and ecology. The mine life is 5 years, and all projections for production (4,82,000 MT) in 5-year, waste generation (206437 MT total), and reclamation have been evaluated for the full lease period as per the approved Mining Plan.	**Refer Chapter2 and 3 section 3.4 Page No.35 & 62.**
1.10	Land use of the study rea delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	The 10 km study area comprises mostly private hill slopes, agricultural land, and scattered habitation; no forest land, wildlife sanctuary, or migratory route exists within the buffer. The Soan River lies ≈ 6 km away. Pre-mining land use: Barren/private hill slope; Operational phase: Active benches and haul roads; Post-mining: Backfilled and plantation-restored area. Land-use change is minor and confined to the lease boundary; reclamation will restore ecological balance through plantation of ~5400 saplings.	**Refer Chapter 3 Page No.55.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
1.11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given	No Over Burden or waste dump is proposed outside the mine lease area. All Sub-grade mineral will be temporarily stacked within the lease boundary and reused for backfilling and reclamation of mined-out benches. Hence, no external land acquisition or R&R issues are involved.	**Reference: Chapter 2, Section 2.9 (Page 40)**
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.	The entire 04-70-61 Ha mining lease area falls on Private Non-Forest Hill-Slope Land. There is no forest land involved within the lease or within 10 km buffer. A certificate from the Divisional Forest Officer, Una Forest Division, confirming non-involvement of forest land, has been obtained and enclosed. Hence, no inspection or clearance under the Forest (Conservation) Act, 1980 is required.	**Refer to Annexure VI.**
1.13	Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net	The entire lease area comprises Shamlat land non-forest hill-slope land. There is no forest land or virgin forest	**Refer to Annexure VI (DFO Certificate)**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	area within the mining lease; hence no forestry clearance, NPV payment, or Compensatory Afforestation (CA) is applicable. The details regarding no Forest Land are given DFO certificate and Joint Inspection Report, Una.	
1.14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated	The mining lease area is on Shamlat non-forest hill-slope land, and no forest land or forest dwellers are involved. The project area and its 10 km buffer zone do not fall within any Scheduled Tribe settlement or notified forest rights area. Hence, provisions of the Forest Rights Act, 2006 are not applicable to this project.	**Refer to Annexure VI (DFO Certificate)**
1.15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given	Within the 10 km study area, there are no Reserved or Protected Forests directly adjoining the lease. Vegetation in the region mainly consists of common subtropical species—*Acacia catechu*, *Dalbergia sissoo*, *Azadirachta indica*, *Mangifera indica*, *Ficus religiosa*, and various grasses. No endangered or rare species were recorded, and no ecological sensitive zone exists nearby.	**Refer to section 3.12 of Chapter 3 Page No.124.**
1.16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details	No wildlife sanctuary, migratory route, or protected corridor exists nearby. No Schedule I species were	**Refer to chapter 3 section 3.12. page no**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.	observed. Potential impacts (noise, dust, habitat disturbance) are minimal and confined to the lease area. Mitigation includes restricted working hours (daytime only), controlled blasting, plantation (5400 saplings), and regular monitoring.	**124. Annexure VI (DFO Certificate)**
1.17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/ (existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.	There are no National Parks, Wildlife Sanctuaries, Eco-sensitive Zones, or Corridors within 10 km of the lease boundary. A certificate from the Divisional Forest Officer (DFO), Una Forest Division confirms that no protected area falls within the 10 km radius. Hence, NBWL clearance is not applicable.	**Refer to Annexure VI (DFO Certificate)**
1.18	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for	A comprehensive biological study was conducted covering the core zone and 10 km buffer zone during post-monsoon season (**November, 2023 to January, 2024 and also one-month additional study from 1st**	**Provided at 3.12 Page No.124.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.	**November, 2025 to 30th November, 2025**) through primary field surveys and secondary data from the State Forest Department. The area supports common subtropical species such as *Acacia catechu*, *Dalbergia sissoo, Ficus religiosa, Azadirachta indica*, and grasses. Faunal species recorded include Indian hare, mongoose, peafowl, partridge, and garden lizard. No endangered, endemic, or Schedule-I species were observed in the studyarea. Mitigation measures include greenbelt development 5400 native saplings), dust suppression, and noise control. Cost details are provided in EIA report	
1.19	Proximity to Areas declared as Critically Polluted or the Project areas likely to come under the Aravali Range, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be	The project site at Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh is not located within or near any Critically Polluted Area notified by the CPCB nor within the Aravalli Range (which is restricted to parts of Haryana, Rajasthan, Gujarat, and Delhi). The region has no court-imposed restrictions on mining activities. The Letter of Intent	**Refer to Annexure I (Letter of Intent)**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	considered	from the State Geologist confirm the area's eligibility for mining.	
1.20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).	Not Applicable. The project site is located in District Una, Himachal Pradesh, which is a non-coastal, inland hill region. The area does not fall under CRZ jurisdiction and no coastal features such as mangroves, estuaries, or tidal influence exist. Hence, CRZ clearance and CRZ maps are not required.	**----**
1.21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need-based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the	The mining lease area is entirely on Shamlat land owned by consenting landowner, and there is no habitation or displacement involved. Hence, no R&R Plan or compensation is required. A socio-economic survey within the 10 km buffer indicates that no SC/ST families or vulnerable households are affected by the project. The project will provide local employment to locals during operation phase, improving local income and infrastructure.	**Reference: Chapter 3 (Socio-economic aspects section 3.13, Pages 141)**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.		
1.22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.	Primary baseline monitoring was conducted during post-monsoon season from previews EIA report from (**M/s Lakhwinder Singh Stone Crusher and Screening Plant, November, 2023 to January, 2024 and also one-month additional study was conducted from 1st November, 2025 to 30th November, 2025**) for all environmental components within the 10 km study area. Ambient Air Quality (AAQ) monitoring was carried out at 8 stations, following CPCB 2009 guidelines. Parameters monitored: PM10, PM2.5, SO_2, NO_2. & O_3 etc. All values remained within NAAQS limits. Water (surface & ground), soil, noise, and biological data were also collected. Site-specific meteorological data (temperature, humidity, rainfall, wind speed/direction) were recorded using an onsite weather station; predominant wind direction was NW.	**Refer section 3.7 to 3.12 Page No.70, Annexure- X (Test Reports)**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
1.23	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map	As it is a non-coal mining project, there are no specific points of emission. Air quality modeling has been conducted based on fugitive emissions and vehicular movements within the mining area. The 24- hourly average ground-level concentration (GLC) values for the project have been calculated for concentration of PM2.5, considering the topographical features surrounding the project and applicable stability classes. The maximum incremental concentration of PM2.5 attributable to the proposed operations is estimated to be 0.04 µg/m³, resulting in a cumulative concentration of 34.04 µg/m³. Since the mining will be mostly Semi-mechanized and no blasting will be involved, therefore impact of the fugitive emission from the unit will be negligible. SPM level due to movement of vehicles will also be checked. The present max PM10 is 66.9 µg/m^3 and PM2.5 is 34.0 µg/m^3. There will be marginal increase in existing level of ambient air quality (PM2.5, which will be well within the permissible, limits i.e. 60ug/m3.	**Chapter-4 Para: 4.1 Table:4.1 Fig.4.1, Page No. 161**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
1.24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated	Only 8.0 KLD water will be required. The water will be sourced through IPH supply water at crusher site. Affidavit for the same has been provided as Annexure-VIII(a).	**Chapter- 2 Para: 2.13 Table No.2.13 Page No. 41**
1.25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided	The permission for the same been taken from the competent authority. The affidavit regarding the same is enclosed as Annexure-VIII(a).	**Chapter- 2 Para: 2.13 Table No.2.13 Page No. 41**
1.26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided	The proposed stone & bajri mining project has a very low water requirement (8.0 KLD), primarily for dust suppression, plantation, and domestic use. Several water conservation and reuse measures have been planned to ensure sustainable utilization: • Water sprinkling on haul roads and loading points to minimize dust emissions, using recycled water wherever possible. • Construction of garland drains/ retaining structures to channelize surface runoff and minimize soil erosion. • Rainwater harvesting will be implemented through collection pits within mined-out area, where storm water	**Chapter- 2 Para: 2.13 Table No.2.13 Page No. 41**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		will be stored and reused for dust suppression and greenbelt irrigation. • Natural drainage patterns will be maintained, and no groundwater abstraction from bore wells is proposed.	
1.27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	The proposed mining activity will be semi-mechanized, dry in nature, and involves no wastewater generation or effluent discharge. Baseline monitoring (post-monsoon 2025) indicates that both surface and groundwater in the study area meet IS:10500 and IS:2296 standards. No toxic effluents or process water will be involved. The overall impact on water quality will be negligible and reversible, with all mitigation measures incorporated in the EMP.	**Chapter 3 Page no 51 and Annexure-X (Test Reports)**
1.28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table; a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the	Based on the baseline hydrogeological survey and monitored data, the groundwater table in the project area occurs at a depth of 35–40 m below ground level (bgl), as confirmed by nearby tube wells and dug wells in Village Palakwah. No groundwater abstraction or dewatering is proposed. Runoff and rainwater from the	--

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished	lease area will be diverted through garland drains and contour drains to minimize infiltration. Since the mining will not intersect the groundwater regime, no CGWA clearance or detailed hydrogeological study is required under the current conditions. However, periodic monitoring of groundwater levels and quality will be carried out twice a year as part of the EMP to ensure no adverse impact on the aquifer system.	
1.29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.	Mining will be done in the hill slope through which no stream is passing.	**--**
1.30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.	The proposed mining lease is located at Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh. As per the approved Mining Plan, the surface elevation of the lease area ranges from about 534 m to 506 m AMSL, with an average elevation of around 530 m AMSL. Mining will be carried out by forming benches of 4 m	**Refer to chapter-2 Page No. 35.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		height and 4 m width, with a maximum working depth of about 4 m bgl. Accordingly, the lowest and highest working level will be 534 to 506 m AMSL. Thus, a vertical separation of more than 30 m will be maintained between the working depth and the groundwater table, and no intersection with groundwater is anticipated at any stage of mining.	
1.31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.	A detailed and time-bound Progressive Greenbelt Development Plan has been prepared for the proposed project. The plan proposes the plantation of approximately 5400 native saplings over an area in a phased manner during the five-year period. Plantation will be carried out along the 5- 7.5 m safety barrier zone, haul roads, and reclaimed benches to serve as dust and noise barriers, aid slope stabilization, and enhance local aesthetics. A budget of ₹30.0 lakhs has been earmarked for plantation and maintenance, with an expected survival rate of ≥80%. Maintenance activities such as watering, mulching, and replacement of dead saplings will be conducted regularly, and fencing will be provided	**Chapter -2 Para: 2.11 Table :2.12 Page No.41**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		to protect against grazing. Limited plantation (~5400 saplings) already exists along the haul road and crusher premises; additional plantation will begin immediately after Environmental Clearance under the Environmental Management Plan.	
1.32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines	An estimated 24 trucks/tippers will be daily employed for transportation of minerals from mining site to the crusher site from where the processed minerals will be transported to the via a kaccha road from the Palakwah–Lalehri Road route, which has adequate capacity to accommodate the additional transportation load per day.	**Chapter 1, Para 1.5.4 Page No. 28**
1.33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	The project proponent will provide adequate on-site facilities for the welfare and safety of the mine workers as part of the Environmental Management Plan. A dedicated rest shelter and first-aid room will be	**Reference: Chapter 10 (EMP, Pg. 194)**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		established near the mining site, equipped with potable drinking water, seating space, and sanitary facilities (separate toilets for men and women). Personal Protective Equipment (PPE) such as helmets, earplugs, gloves, safety shoes, and dust masks will be issued to all workers. A first-aid kit and stretcher will be maintained at the site under the supervision of a trained supervisor. Periodic medical check-ups and awareness sessions on occupational safety will be conducted twice a year. Workers will also have access to shade areas and drinking water points during peak summer months. All facilities will comply with the Mines Rules, 1955 and DGMS guidelines to ensure safe and hygienic working conditions.	
1.34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	The mining site after removal of hill slope will be reclaimed for plantation and restored to its original land use.	**Refer section 2.7 of Chapter 2 Page No.40.**
1.35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in	The proposed mining project will be operated on a semi-mechanized, dry basis, where potential occupational	**Refer chapter-10. Page no 194.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	health impacts are mainly due to dust exposure, noise, and vibration from mining and material handling. The EIA/EMP identifies respiratory ailments, hearing loss, and fatigue as potential risks. To mitigate these, the proponent will implement a comprehensive Occupational Health & Safety (OHS) Management Plan in accordance with DGMS and Mines Rules, 1955. Preventive measures include: • Regular water sprinkling and dust suppression at haul roads and loading points. • Provision of Personal Protective Equipment (PPE) — masks, earplugs, helmets, gloves, and safety shoes for all workers. • Acoustic enclosures for machinery and regular noise level monitoring. • Establishment of an on-site first-aid facility with trained personnel. • Pre-placement medical examination for all workers before employment and periodic medical check-ups twice a year to detect respiratory or hearing	

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		disorders early. • Maintenance of individual health records and awareness programs on occupational hazards. • Deployment of a Health & Safety Officer responsible for implementation and record maintenance under the Environmental Management Cell. All medical and safety measures are included in the EMP budget (₹0.50 lakh/year) and will be reviewed annually.	
1.36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	The proposed Stone & Bajri Mining Project at Mohal/Mauza Thakran of Tehsil Haroli, District Una, Himachal Pradesh, is not expected to have any major adverse public health impacts. However, localized effects such as fugitive dust generation and noise may occur, potentially leading to minor respiratory irritation or hearing stress among nearby residents and workers. The EIA identifies dust inhalation and noise exposure as key health concerns, particularly for workers engaged in excavation and transportation.	**Refer chapter-10. Page no 197.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		To mitigate these, the project proponent will implement a comprehensive Public Health and Occupational Safety Plan as part of the Environmental Management Plan (EMP) given in EIA report. These measures are integrated within the EMP budget, with approximately ₹2.0 lakh recurring cost earmarked specifically for occupational and community health management. The overall EMP allocation includes ₹62.5.0 lakh (capital) and ₹9.0 lakh (recurring) for environmental, health, and safety management.	
1.37	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	The proposed Stone & Bajri Mining Project will significantly contribute to the local socio-economic upliftment of nearby villages—primarily Polian beet, Kutharbeet, Kungrat, Palakwah and other—by generating direct and indirect employment opportunities, improving infrastructure, and enhancing income levels. The project is expected to provide direct and indirect benefits to more than 90 individuals through allied services such as transport, equipment maintenance, and small-scale trade.	**Refer chapter- 3 section 3.13 page no 141.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		Under the Corporate Environment Responsibility (CER) and Social Development Plan, the proponent has committed to several community-focused measures with defined budgets and time frames have been included in EIA Report. These initiatives are integrated into the EMP and CER budget with specific timelines and will be monitored by the Environmental Management Cell to ensure timely implementation and sustained community benefit.	
1.38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	A comprehensive Environmental Management Plan has been formulated to address and mitigate all potential environmental impacts identified during the assessment of the proposed project located at Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh. The EMP integrates site-specific measures for air, water, land, noise, ecology, and occupational health, with defined responsibilities, timelines, and budget allocations. The project is located on private barren land; hence, no forest, agricultural, or grazing land will be disturbed.	**Refer to Chapter 10 Page no 197**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		Impacts on land use and topography will be temporary and limited to the mine lease area. Progressive reclamation, greenbelt development (5400 native saplings), and stabilization of worked-out benches will restore the area post-closure. To control air pollution, regular water sprinkling, covering of loaded trucks with tarpaulin, maintenance of haul roads, and creation of a three-tier greenbelt have been proposed. Garland drains, silt traps, and settling ponds will prevent siltation and protect nearby surface water. The mining depth (25 m bgl) will remain well above the groundwater table (35–40 m bgl), ensuring no aquifer interference. For noise mitigation, equipment will be periodically maintained and fitted with silencers, while PPEs such as earplugs, dust masks, and helmets will be provided to all workers. The occupational health plan includes pre-placement and periodic medical check-ups twice a year, maintenance of health records, and safety training. The overall EMP cost is ₹62.5 lakh (capital) and ₹9.0	

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
		lakh (recurring), covering environmental monitoring, dust control, health care, greenbelt maintenance, retaining structures & its maintenance and social welfare measures. Implementation will be overseen by the Environmental Management Cell (EMC) headed by the Project Proponent.	
1.39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.	The Draft EIA Report is being submitted for public hearing. The issues raised during the Public Hearing, along with the commitments of the Project Proponent, will be complied with and incorporated in the final EIA/EMP report.	**Refer to Chapter 7 Page no 179.**
1.40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	No litigation is pending.	**--**
1.41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	The cost of the project is 25.0 lakhs and the cost of EMP is Rs. 62.5 Lakhs as Capital cost and Rs.9.0 Lakhs as Recurring cost/Annum.	**Chapter-10 Table 10.2 page 197**
1.42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	Complied in EIA report.	**Chapter-7 Para: 7.2 Page No.179**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
1.43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc	This Project will provide several benefits to the near villagers by a proper planning and management. This project will employ most of the worker from nearby villages. There will not be any increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. During the operation of this project no adverse impact on the surrounding environment is envisaged.	
1.44	**Besides the above, the below mentioned general points are also to be followed:**		
(a)	All documents to be properly referenced with index and continuous page numbering	Noted & complied.	**Attached as Annexure I - X**
(b)	Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.	Agreed & complied	**Refer to Chapter 3 Page no 55.**
(c)	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.	Agreed & complied	**Annexure -X (Test Reports)**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
(d)	Where the documents provided are in a language other than English, an English translation should be provided.	Agreed & complied.	--
(e)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted	The prescribed Questionnaire for Environmental Appraisal of Mining Projects, issued by MoEF&CC, will be included as part of the Final EIA/EMP submission.	--
(f)	While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA. II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.	The EIA/EMP Report has been prepared in strict compliance with the MoEF&CC Office Memorandum dated 04.08.2009, following all prescribed instructions for structure, content, and presentation. The report was prepared by QCI NABET Accredited Environmental Consultant, M/s Chandigarh Pollution Testing Laboratory- EIA Division in accordance with the Standard ToR for Mining of Minerals, EIA Notification, 2006 (as amended), and MoEF&CC guidelines. All data collection, impact assessment, and documentation conform to these official instructions.	--
(g)	Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC	The project is a new mining proposal; hence, no earlier EC exists and no compliance report from the Regional Office is applicable.	**Chapter 7 page no 179.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.	There will be no changes in project scope, parameters, or production capacity from the details submitted in Form-I and PFR at the time of ToR granted. The draft EIA/EMP and Final EIA/EMP will retain identical project details, with only Public Hearing suggestions to be incorporated.	
(h)	As per the circular no. J-11011/618/2010-IA. II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable. i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area	Agreed and complied.	--
1.45(a)	The project proponent shall undertake and include the detailed analysis of GLC-2.5 with air modeling and shall	Complied in EIA report. ***In view of TOR point no. 1.23 above.***	**Chapter -4 Fig.4.1** **Page 161.**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
	prepare the wind-rose diagram of the site to plan the installation of PCDs.		
1.45 (b)	The project proponent will assess and erasure that, after ceasing mining operations, to undertake grassing the mining area and any other area which may have been disturbed due to their Mining activities and for restoration of the land to a condition which is fit for growth of fodder, flora, fauna etc.	Agreed & will be complied.	**--**
1.45 (c)	The project proponent shall conduct and submit a comprehensive mineral replenishment study to assess the rate and extent of natural replenishment of minerals in the leased area.	Not applicable, as it a hill slope mining project.	**--**
1.45 (d)	The project proponent shall submit a certificate from the Director (Industries) to the fact that the proposed mining site is recommended/approved on the basis of the District Survey Report prepared & approved by SEIAA authorities in conformity with the SO No. 141 (E), SO No. 3611(E) and as per Sustainable Sand Mining Management Guidelines, 2016 and Enforcement & Monitoring Guidelines for Sand Mining, 2020 published by MoEF&CC, GoI.	Not applicable, the clarification letter regarding the same has been issued by the industry department.	**Attached as Annexure-XI**

S. No.	Terms of Reference	TOR Compliance	Reference in EIA
1.45 (e)	Hard copy of the application along with the relevant document shall be ink signed & submitted in the office of SEIAA Secretariat.	Noted & agreed to comply.	--
1.45 (f)	The project proponent shall submit compliance report to the issue raised during public hearing.	Noted & will be complied in the Final EIA report.	--
1.45 (g)	The project proponent shall submit proposed EMP and including CER activities as its part. All the commitment made under EMP & CER shall be made in the form of affidavit.	Noted & will be complied in the Final EIA report.	--
1.45 (h)	The project proponent must ensure that environmental samples are analyzed at laboratories located in close proximity to the project site to maintain the accuracy and integrity of results. During each sampling activity, videography and geo-tagged photographs must be captured to provide transparent evidence of proper sampling locations, methods, and handling practices.	Noted & complied. Geo-tagged sampling photographs have been included in Chapter 3 of the draft EIA report.	**Chapter 3 page no 55.**

Details of Products & By-products

Name of the product / By-products	Product / By-product	Quantity	Unit	Mode of Transport / Transmission

S. No.	Terms of Reference	TOR Compliance		Reference in EIA
Sand, Stone & Bajri	Sand, Stone & Bajri	96400	Tons per Annum (TPA)	Road

EXECUTIVE SUMMARY

1.0 Project Name and Location:

Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher, Village & P.O Palakwah, Tehsil Haroli, District Una, Himachal Pradesh has been issued "Letter of Intent" for grant of mining lease vide letter No. Udyog- Bhu (Khani-4)Laghu-53/2025-4397 dated 15.07.2025 for extraction/ collection of sand, stone & bajri from Hill slope over an area measuring 04-70-61 Ha bearing Khasra nos. 382/5 (Shamlat Land- Hill slope) falling in Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh. **The project itself falls in category B2, however due to cluster situation having one other mining lease (M/s Jai Shankar Stone Crusher measuring 02-76-30 Ha, the project is categorized as Category B1 as per EIA Notification and its subsequent amendments.**

2.0 Project Proposal:

The applicant is seeking prior Environmental Clearance for the proposed project as per EIA notification-2006 and the subsequent amendments. The project proponent has engaged ***QCI NABET Accredited Environmental Consultant, M/s Chandigarh Pollution Testing Laboratory- EIA Division*** for conducting EIA study and preparation of EIA/EMP report.

DETAILS OF THE PROJECT

Particulars	Details
Name of the project	**Extraction of sand, stone & bajri by Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher**
Type of project	**Mining of Minor Minerals (Sand, Stone and Bajri)**
Location	Khasra no. 382/5 (Shamlat Land- Hill Slope) over an area measuring 04-70-61 Ha, situated in Mauza & Mohal Thakran, Tehsil Haroli, District Una, State-Himachal Pradesh.
Lease Area Co-ordinates	**Pillar Nos. / Latitude / Longitude** **P1** 31°23'1.03"N 76°13'47.45"E **P2** 31°23'9.32"N 76°13'48.28"E **P3** 31°23'8.24"N 76°13'54.62"E **P4** 31°23'2.77"N 76°13'57.74"E **P5** 31°23'8.17"N 76°13'57.82 "E **P6** 31°23'4.52"N 76°14'1.19 "E
Elevation (Altitude at origin)	Highest 534 meters above MSL. Lowest 506 meters above MSL.
Land Type	Shamlat land -hill slope
Mining Area	04-70-61 Ha
Products	Sand, Stone and Bajri
Capacity	Approx. 96,400 MT/Year or 4,82,000 MT over a period of five years.
Bench Level	4 X 4 meters (5 nos.)

Particulars	Details
Method of mining	Semi-mechanized
Working Days	270 (***As per approved Mine Plan***)
Sub-grade material (silty sand & top soil)	Approx. 2,06,437 MT over a period of five years.
Water Requirement	8.0 KLD
Source of water supply	IPH water supply at crusher site (Adjacent to mining site)
Manpower	Around 90 persons
Cost Details	
Cost of project	Rs. 25.0 Lakhs/-.
Cost of EMP	Rs. 62.5 Lakhs (Capital) Rs. 9.0 Lakhs (Recurring)/Annum
Environmental sensitivities of the area (within 10 km)	
Ecological sensitive areas (national parks, Wildlife sanctuaries, Biosphere reserves etc.)	None within 10 km radius.
State boundary	State boundary of Punjab
Nearest highway	MDR-39 (Una Jaijon Road)- 1.03 Km
Nearest railhead/ Railway station	Naya Nangal Railway Station- 11 Km
Nearest airport	Chandigarh Airport lies at a distance of 95.63 Km from project site.
Nearest Major City	Una (15.0 Km)

3.0 Project Description:

The Mining Plan of the mining site has been got prepared from RQP and the same has been got approved from State Geologist, Himachal Pradesh, Shimla on 09-09-2025. In this mining plan, it has been envisaged that the proposed project involves the mining of sand, stone & bajri in the Hill-Slope over an area measuring 04-70-61 Ha with proposed production capacity of 96400 MT/Annum. The year-wise quantity of material to be mined over a period of 5 years as mentioned in the approved Mining Plan, is given below in the table.

Table showing year-wise production programme of mining in mineable area (in M.T.)

Year	Bench Level (in m)	Opening reserves of useable material (Stone & Bajri)	Useable material consumed from the bench	Closing reserves of the bench	Sub-grade material including silty sand & top soil
1st Year	530,526	126000	96400	29600	41213
2nd Year	526,522	154340	96400	57940	41656
3rd Year	522,518	214495	96400	118095	41365

4th Year	518	118095	96400	21695	41263
5th Year	518,514	203135	96400	106735	40939
Total		**816065**	**482000**	**334065**	**206437**

Source: Approved Mine Plan

4.0 Generation of sub-grade material & Disposal Arrangements:

As envisaged in the mining plan, during operation phase there is likelihood of generation of sub-grade mineral/material like silty sand mixture, which will be stacked in the premises of the stone crusher for further screening & washing.

Besides, there is a layer of top soil covering the hill slope, which will be partly used for the maintenance of road and part of this mineral can be stacked at proper place for utilization of this material during road construction or some other use as a filling material. The year wise generation of sub-grade material including top soil during the lease period of five years, is given below in the table:

Showing year wise generation of Silty sand & Top soil (in MT)

Year	Sub-grade material (Silty sand & Top Soil
1st Year	41213
2nd Year	41656
3rd Year	41365
4th Year	41263
5th Year	40939
Total	**206437**

Source: Approved Mine Plan

The sub-grade material stored in the premises of the stone crusher, will be screened and washed in the machinery. Thereafter, the material will be temporarily stacked over the location as shown in the Mining Plan for further back-filling on the exhausted benches/pits for restoration/reclamation purposes. As mentioned in the above table, there will be 2,06,437 MT generation of silty sand and top soil for five years. This entire quantity shall be used for back-filling of the exhausted benches/pits for restoration/reclamation purposes. However, the top soil stacked in the premises of the mining site will be used as top layer after reclamation of the excavated pits. In order to prevent the flow of debris/silt outside the mining lease area, the project proponent will construct retaining structures at the suitable locations.

5.0 Description of Environment:

The baseline data in respect of environmental components: Air, Soil, Noise, Water, Ecology & Biodiversity and Socio-economic data has been collected for winter season from **November 2023 to January 2024** and one-month additional study period from **(1 November, 2025 to 30 November**

2025). The EIA study has been carried out for mine lease area (core zone) & area within 10 km radius of lease area (buffer zone).

BASELINE STATUS

Attribute	Baseline Study
Ambient Air Quality	**Monitoring Period: November 2023 to January 2024:** The ambient air quality monitoring results indicate that PM_{10} concentrations ranged from 61.4 µg/m³ (Beeton) to 75.0 µg/m³ (Haroli), which are well within the National Ambient Air Quality Standards (NAAQS) limit of 100 µg/m³ prescribed by the MoEF&CC (Notification dated 18.11.2009). The highest PM_{10} concentration was recorded at AAQ-5 (Haroli), while the P98 value during the study period was 68.2 µg/m³. The $PM_{2.5}$ concentrations varied between 31.5 µg/m³ at the project site and 39.9 µg/m³ at Kutharbeet. The P98 value was observed to be 37.2 µg/m³, which is within the prescribed NAAQS limit. All monitored locations complied with the standards, indicating satisfactory air quality conditions. The SO_2 concentrations ranged from 4.5 µg/m³ at Haroli to 7.4 µg/m³ at Bathu, with a P98 value of 6.45 µg/m³, which is significantly below the NAAQS limit of 80 µg/m³. Similarly, NO_x concentrations varied from 8.3 µg/m³ (Tahliwal) to 11.8 µg/m³ (Dhugge), with a P98 value of 10.05 µg/m³, indicating good ambient air quality with respect to nitrogen oxides. O_3 and CO concentrations were found to be below detectable limits during the monitoring period. **Monitoring Period: November 2025** During November 2025, PM_{10} concentrations ranged from 59.7 µg/m³ at Tahliwal village to 70.4 µg/m³ at the project site. Lower concentrations at Tahliwal can be attributed to the absence of emission-generating activities, while relatively higher levels at the project site are likely due to nearby mining leases within a 500 m radius. The $PM_{2.5}$ concentrations ranged from 30.0 µg/m³ at Tahliwal to 38.3 µg/m³ at Dhugge. The P98 value was 37.5 µg/m³, remaining within the NAAQS limit of 60 µg/m³. Higher $PM_{2.5}$ levels at Dhugge may be attributed to vehicular movement along the nearby state highway and surrounding mining

Attribute	Baseline Study
	activities. The SO_2 concentrations ranged between 5.1 µg/m³ and 6.6 µg/m³, with a P98 value of 6.5 µg/m³, while NO_x concentrations varied from 5.4 µg/m³ to 10.4 µg/m³, with a P98 value of 9.9 µg/m³. All observed values were well within prescribed standards. O_3 concentrations ranged from 19.6 µg/m³ to 22.3 µg/m³, with a P98 value of 22.03 µg/m³, significantly below the NAAQS limit of 100 µg/m³. CO concentrations ranged from 0.50 mg/m³ to 0.56 mg/m³, with the maximum observed at Dhugge village. The P98 value was 0.55 mg/m³, indicating low levels of carbon monoxide pollution. Concentrations of NH_3, Benzene, BaP, Pb, Ni, and As were found to be below detection limits throughout the monitoring period. The detection limits for these parameters are as follows: • ***NH_3: 20.0 µg/m³*** • ***Benzene: 0.5 µg/m³*** • ***BaP: 0.9 µg/m³*** • ***Pb: 0.1 µg/m³*** • ***Ni: 5.0 µg/m3*** • ***As: 0.7 µg/m³***
Noise Environment	**During November 2023 to January 2024** Ambient noise monitoring was conducted at the project site and at selected locations within a 5 km study area to assess the existing noise environment. The recorded daytime noise levels across the study area ranged from 43.6 dB(A) to 48.4 dB(A), while night-time noise levels ranged from 31.6 dB(A) to 35.4 dB(A). The maximum daytime and night-time noise levels, i.e., 48.4 dB(A) and 35.4 dB(A) respectively, were observed at the project site. The remaining monitoring locations—Beeton, Dhugge, Chhetran, Nangal Khurd, Palakwah, Kutharbeet, and Kungrat—represent residential areas. Noise levels recorded during both daytime and night-time at these locations were found to be within the permissible limits prescribed by the Central Pollution Control Board (CPCB) for residential areas. **During Additional One-Month Study Period (November 2025):** Ambient noise monitoring carried out at five locations during November 2025 indicated that noise levels at all locations were within the CPCB-

Attribute	Baseline Study
	prescribed limits for residential areas. Daytime noise levels ranged from 45.4 dB(A) at Chandpur to 49.6 dB(A) at Thakran. The relatively higher noise levels at Thakran may be attributed to the presence of other active mining leases. Night-time noise levels varied from 31.3 dB(A) to 34.5 dB(A), reflecting a low background noise environment and minimal nocturnal disturbance. Overall, the baseline noise environment of the study area is acceptable and compliant with residential area noise standards.
Water Quality	**Groundwater:** **During November 2023 to January 2024** • The monitoring was done at 8 locations. • The pH ranged from 7.34 at Beeton to 7.89 at Kutharbeet, indicating neutral to slightly alkaline water. The analyzed values are within the acceptable limit (6.5-8.5) mentioned in the IS:10500-2012. • Total hardness varied between 240 mg/l at Beeton to a maximum of 270 mg/l at Dhugge. The analyzed values are beyond the acceptable limit (200 mg/l) but within the permissible limit (600 mg/l) as mentioned in the IS:10500-2012. • Calcium concentration ranged from 30.2 mg/l at Beeton to 40.4 mg/l at Tahliwal & Bathu respectively, (acceptable limit is 75 mg/l as per IS:10500-2012) while Magnesium levels were between 10.2 mg/L at Haroli & Bathu, moreover, 18.2 mg/l at Beeton (within the acceptable limit i.e. 30 mg/l and below the permissible limit i.e. 100 as per IS:10500-2012). • Total Dissolved Solids ranged from 260 mg/l at Bathu to 288 mg/l at Dhugge. The analyzed values are within the acceptable limit (500 mg/l) mentioned in the IS:10500-2012. • Total alkalinity was recorded as 220 mg/L at Dhugge and 250 mg/L at palakwah and Haroli. These values are beyond the acceptable limits (200 mg/L) but within the permissible limits (600 mg/L) as specified in

Attribute	Baseline Study
	IS:10500-2012. • Chloride concentrations varied from 10.6 mg/l at Kutharbeet to 18.2 mg/L at Bathu. The analyzed values are within the acceptable limit (250 mg/l) mentioned in the IS:10500-2012. • Microbiological analysis of the groundwater indicated that Total Coliform was <2 MPN/100ml and E. Coli was absent, confirming good microbiological quality of the sample. • Heavy metals were below detection limits (BDL) in all samples, indicating that the groundwater is generally potable. **During November 2025** • The pH ranged from 7.29 at Beeton to 7.56 at Tahliwal, indicating neutral to slightly alkaline water. The analyzed values are within the acceptable limit (6.5-8.5) mentioned in the IS:10500-2012. • Total hardness varied between 190 mg/l at Beeton to a maximum of 220 mg/l at Palakwah & Tahliwal. The analyzed values are beyond the acceptable limit (200 mg/l) but within the permissible limit (600 mg/l) as mentioned in the IS:10500-2012. • Calcium concentration ranged from 48.0 mg/l at Tahliwal to 62.0 mg/l at Project site, (acceptable limit is 75 mg/l as per IS:10500-2012) while Magnesium levels were between 13.2 mg/L at Project site, moreover, 24.0 mg/l at Tahliwal (within the acceptable limit i.e. 30 mg/l and below the permissible limit i.e. 100 as per IS:10500-2012). • Total Dissolved Solids ranged from 210 mg/l at Beeton to 243 mg/l at Palakwah. The analyzed values are within the acceptable limit (500 mg/l) mentioned in the IS:10500-2012. • Total alkalinity was recorded as 180 mg/L at Beeton and 220 mg/L at Talhiwal. These values are beyond the acceptable limits (200 mg/L) but within the permissible limits (600 mg/L) as specified in IS:10500-2012. • Chloride concentrations varied from 12.4 mg/l at Palakwah to 22.4 mg/L at Beeton. The analyzed values are within the acceptable limit (250 mg/l) mentioned in the IS:10500-2012.

Attribute	Baseline Study
	• Heavy metals were below detection limits (BDL) in all samples, indicating that the groundwater is generally potable. ***The detection limits as per the laboratory analysis were:*** ***Fe: 0.01 mg/l*** ***Zn: 0.02 mg/l,*** ***Hg: 0.008 mg/L,*** ***Cd: 0.001 mg/L,*** ***Mn: 0.09 mg/L and Cr: 0.005 mg/L.*** • Microbiological analysis of the groundwater indicated that Total Coliform was Absent MPN/100ml and E. Coli was absent, confirming good microbiological quality of the sample. **Surface water: *SOAN RIVER*** **During the period November 2023 to January, 2024:** • The pH was found to be 7.33, indicating neutral water conditions, suitable for aquatic life and within permissible limits. • Total hardness was recorded 118.0 mg/l which is considered moderately hard but acceptable for most domestic and agricultural uses. • Total Dissolved Solids was 168 mg/l, which is well below the IS:2296 tolerance limit of 1,500 mg/L, indicating good water clarity and low mineral content. • Fecal Coliform was 30.0 MPN/100 ml, while Total Coliform was 70 MPN/100 ml, these values indicate a moderate level of microbial contamination. • The Chemical Oxygen Demand was recorded at 8.8 mg/L, indicating low levels of chemical pollutants and a low organic load. • The Biological Oxygen Demand remained less than 2.6 mg/L, which reflects very low biodegradable organic matter, indicating good water quality. • A healthy Dissolved Oxygen of 6.6 mg/L was observed, which is well within optimal levels for supporting aquatic life. **During the additional one-month study period of November 2025:** • The pH was found to be 7.56, indicating neutral water conditions, suitable

Attribute	Baseline Study
	for aquatic life and within permissible limits. • Total hardness was recorded 120.0 mg/l which is considered moderately hard but acceptable for most domestic and agricultural uses. • Total Dissolved Solids was 142 mg/l, which is well below the IS:2296 tolerance limit of 1,500 mg/L, indicating good water clarity and low mineral content. • Fecal Coliform was 50.0 MPN/100 ml, while Total Coliform was 110 MPN/100 ml, these values indicate a moderate level of microbial contamination. • The Chemical Oxygen Demand was recorded at 10.0 mg/L, indicating low levels of chemical pollutants and a low organic load. • The Biological Oxygen Demand remained less than <2 mg/L, which reflects very low biodegradable organic matter, indicating good water quality. • A healthy Dissolved Oxygen of 6.5 mg/L was observed, which is well within optimal levels for supporting aquatic life. The water quality of Soan River meets the criteria for Class B of CPCB Designated Best Use Classification, meaning: **"Drinking Water Source without Conventional Treatment but after Disinfection".**
Soil Quality	**During November 2023 to January 2024** • Soil pH is an important parameter influencing soil fertility, as vegetation cannot grow in soils with extremely low or high pH values. The pH of soil samples collected from the study area ranged from 7.38 to 7.78, indicating that the soils are neutral to slightly alkaline in nature. • Based on electrical conductivity (EC), soils are categorized into four classes: Normal, Critical for Germination, Critical for Growth of Sensitive Crops, and Injurious to Most Crops. The EC values in the study area ranged from 338 to 368 µmhos/cm, classifying the soils as "Critical for Germination", which suggests that the soil conditions are generally suitable for seed germination. • Soil fertility was further assessed based on the presence of major

Attribute	Baseline Study
	nutrients, including the primary nutrients Nitrogen (N), Phosphorus (P), and Potassium (K), and secondary nutrients Calcium (Ca), Magnesium (Mg), and Sulphur (S). These nutrients are referred to as major elements due to their relative abundance in soil. • The available nitrogen (as N) content in the study area varied from 1.18% to 1.84%, indicating low to moderate nitrogen availability. Available phosphorus levels ranged from 5.6 to 10.4 kg/ha, reflecting low to moderate concentrations. Available potassium levels ranged between 28.2 and 40.4 kg/ha, which is considered deficient for crop growth. • The organic matter content of the soils ranged from 0.32% to 0.52%, which is considered average to sufficient for supporting crop growth. **During Additional One-Month Study Period (November 2025)** • During the additional monitoring period, soil pH values ranged from 7.15 to 7.54, indicating that the soils continue to be neutral to slightly alkaline, suitable for agricultural activities. • Electrical conductivity values ranged from 214 to 264 µmhos/cm, classifying the soils as "Critical for Germination", while still indicating suitability for seed germination and early plant growth. • The available nitrogen content ranged from 4.5% at Haroli to 8.8% at Tahliwal, indicating moderate to high nitrogen availability, which is beneficial for vegetative growth and leaf development. Available phosphorus ranged from 38.2 kg/ha at Beeton to 54.2 kg/ha at Palakwah, reflecting moderate phosphorus levels, essential for plant vigor and crop quality. • The available potassium content ranged from 82.6 kg/ha at Bathu to 120 kg/ha at Palakwah and Beeton, which remains deficient for optimum crop growth. • The organic matter content during this period ranged from 0.41% to 0.61%, which is considered average to sufficient for sustaining soil fertility.

5.1 Biological Environment:

The biological environment has been studied based on the site observation and secondary data. No endangered species of plants and animals are found in the study area, so no impact on ecological environment.

The study area is characterized by the presence of various useful fodder grasses, including Dhub grass, Fowl-foot grass and Berseem. These grasses are commonly found in the region and serve as an important source of fodder for livestock.

In uncultivated and open tracts, several large weed species are prevalent. Prominent among these are Aak, Castor, Dhatura, and Thorny Cactus. These species tend to colonize abandoned or less-managed lands and may become dominant in the absence of proper land management practices.

In and around village areas, the vegetation differs slightly, with a prevalence of edible and multipurpose species such as Mango, Jamun, Neem, Siris, Gulmohar, Peepal, Kachnar, Khirk, Semal and Beul**.** The species found in the study area are common and widely distributed.

5.2 Socio-Economic Environment:

The socio-economic study encompasses the analysis of socio-economic conditions of habitation and communities living in the study area in addition to the potential issues & concerns of study area. In this regard, the view of stakeholders was invested through focused group discussions and questionnaire. The study involves the collection of baseline data including demographic details such as households, population literacy, employment pattern, health, transportation, communication & welfare facilities such as educational, recreational, hospitals and project awareness amongst the stakeholder. In addition, the economic resources, infrastructure facilities, communication, and aesthetic attributes are also considered in the study as per the requirements under the Ministry MoEF&CC.

6.0 Anticipated Environmental Impacts & Mitigation Measures:

Environment	Anticipated Impacts	Mitigation measures
Air environment	• In mining activity, the only source of emission is the particulate dust generation from the mining operation and the fugitive dust from loading and transportation activities. • In addition, gaseous emissions as fugitive are generated from the vehicle exhaust engaged in transportation of minerals. • All these emissions are human health hazard to workers & the surrounding population in terms of respiratory ailments and the vision impairments.	• Periodic air quality survey will be carried out to monitor the changes consequent upon mining activities as per the norms of State Pollution Control Board. • To control the emission of harmful gases, regular maintenance of equipment will be carried out. • Proper mitigation measures like water sprinkling on haul roads will be adopted to control fugitive dust emission. • Plantation will be carried out on the land arranged by project proponent. • To control the emissions, preventive maintenance of vehicles will be done and all transportation vehicles will carry a valid PUC certificate. • Over loading of trucks and consequent spillage on the roads will be avoided.
Water environment	• The mining operations may impact groundwater hydrogeology and surface water regime and the impacts depends on the nature of material, hydrogeology and groundwater requirements. • Groundwater contamination due to water table intersection.	• Mining operation will be undertaken as per approved mining plan; hence, there will not be noticeable effect on surrounding ground water resources due to mining. • There shall not any generation of wastewater including domestic

Environment	Anticipated Impacts	Mitigation measures
		effluent at the mining site as the worker/employees shall use the toilets constructed at the site of the stone crusher. The sewage generated shall be treated in the septic tank and the treated sewage shall be used for irrigation of greenbelt developed in the premises of the stone crusher. As such there shall not be any impact of treated waste effluent on the groundwater quality.
	• Surface water contamination due to waste water disposal.	• There will be no proposed discharge of wastewater into nearby water bodies from the project site; hence, the likelihood of direct surface water contamination is minimal. However, the Soan River lies approximately 6 km away from the project location, therefore the overall risk to surface water quality remains low.
	• Excessive mining results in the thickness of natural layer which may reduce the recharge of groundwater.	• No overburden or loose sediments will be kept in the working benches particularly during monsoon season. • Check dams/ retaining structures will be raised to reduce the velocity of runoffs, thereby minimizing the flooding & carryover of deposits to the receiving water bodies. • Sub-Grade dump will be stabilized during the course of their retention.

Environment	Anticipated Impacts	Mitigation measures
		• There would not be any adverse effect on the ground water quality. The proposed mining shall be much above the water table. However, regular monitoring of quality in the existing hand pumps/tube wells in the vicinity would be carried out.
Noise Environment	• Noise in the proposed mining area will mainly arise from mining equipment operation, material handling, and vehicle movement. Due to the open nature of mining in Hill Slope, noise emissions will be intermittent and localized, occurring primarily during operational hours. • Prolonged noise exposure from mining activities can adversely affect human health, causing issues such as high blood pressure, increased heart rate, respiratory stress, neurological disturbances (anxiety, fatigue), sleep disruption, and hearing loss, especially among workers without PPE. While noise from Hill Slope mining is generally moderate and localized, continuous exposure may impact worker health and disturb nearby residential areas or sensitive receptors.	• Periodical monitoring of noise will be done so as to take corrective actions wherever needed. • Speed of the vehicles in the mining area will be restricted. • Proper maintenance of all vehicles & equipment's will be carried out which will help in reducing generation of noise during operations. • Plantation will be taken up along the approach roads which will minimize propagation of noise. • Optimized scheduling of vehicle movement and material loading/unloading to avoid simultaneous high-noise activities. • Unnecessary blowing of horns will be prohibited.
Land Environment	• Mining alters the natural land contours, leading to changes in	• The mined area will be reclaimed through systematic backfilling

Environment	Anticipated Impacts	Mitigation measures
	topography and potential degradation of the land surface. Excavation activities can create pits and uneven terrain, affecting land stability if not properly managed. • Mining operations generate solid waste in the form of overburden, rejects, and debris. Improper disposal of this waste can cause land pollution and hinder future land use. • Removal of vegetation and soil during mining increases vulnerability to soil erosion, especially during monsoon rains, leading to loss of fertile topsoil and sedimentation in nearby water bodies. • Dust generated from mining, vehicle movement, and material handling can settle on nearby agricultural fields, potentially affecting crop growth and reducing productivity due to blocked stomata and altered soil properties.	using Sub-Grade material and topsoil to restore the landscape. After backfilling, the land will be stabilized by plantation or landscaping to improve ecological balance and prevent further degradation. • Sub-grade material will be backfilled into mined-out pits, followed by raising plantations over these areas to rehabilitate the land and prevent waste accumulation. • Soil erosion will be controlled by constructing gully checks, check dams, and other soil conservation structures to reduce runoff and retain topsoil. • Dust control measures such as regular water sprinkling, greenbelt development along haul roads, and controlled vehicle movement will be implemented to minimize dust emissions, thereby protecting nearby agricultural activities.
Ecology & Biodiversity	• Mining involves removal of substrate, vegetation clearance, and stockpiling, can lead to ecological impacts such as habitat loss, disturbance to sediment-dwelling species, reduced light penetration, and lower primary productivity.	• Mining site is located far away from wildlife sanctuary & its eco-sensitive zones, as such there will be no impact on the ecological environment. Further the mining shall be carried out only with semi-mechanized means which do not have any significant impact on the surrounding ecology of the area. • Operations will be restricted during the monsoon and aquatic

Environment	Anticipated Impacts	Mitigation measures
	• From a biodiversity perspective, unregulated mining in these areas can destroy nesting and foraging sites for birds, reptiles, and small mammals, and disrupt invertebrate and	breeding seasons to prevent disturbance to wildlife and reduce sediment runoff. • Controlled excavation techniques will be adopted to limit the depth and area of mining, thereby minimizing habitat destruction. • Mined-out areas will be systematically backfilled using Sub-Grade material and topsoil, followed by plantation to restore ecological balance. • Sediment control structures such as silt traps and check dams will be installed to prevent sedimentation in nearby water bodies. • No stockpiling of material will be allowed directly on active streambeds to avoid disruption of flow and aquatic habitats. • Regular environmental monitoring will be carried out to ensure compliance with prescribed norms and to assess the effectiveness of restoration efforts. • Additionally, mining activities will be conducted in coordination with local communities and regulatory agencies to ensure sustainable and responsible operations. • Restrict mining to designated zones (leaving safety zone) to avoid critical habitats, minimizing disturbance to nesting and foraging areas of wildlife.

Environment	Anticipated Impacts	Mitigation measures
	plant communities adapted to sandy and gravelly substrates. Additionally, increased noise, dust, and vehicular activity contribute to habitat fragmentation and disturb local wildlife behaviour. • Although hill slope mining is generally less intrusive than riverbed extraction, prolonged excavation without scientific planning and post-mining rehabilitation can result in significant biodiversity loss, reduced ecosystem services, and a gradual decline in the ecological stability of the Slope.	• Adopt phased excavation, including backfilling mined areas and restoring native vegetation to maintain habitat continuity. • Water sprinkling to limit airborne particulate matter that can harm plants and animals. • Restrict vehicular traffic to defined routes and limit speed to reduce habitat fragmentation and wildlife disturbance. • Prevent runoff from mining areas entering water bodies by constructing sediment traps and maintaining riparian vegetation, preserving aquatic habitats.
Solid waste	• The mining project for sand, stone, and bajri is not expected to generate solid waste, as all excavated materials will be processed at the crusher. Additionally, the silt clay and top soil mixture @2,06,437 MT produced during mining (over a period of 5 years) is considered a saleable by-product and will be sold along with the sand, minimizing waste disposal concerns. • The topsoil will be generated as Sub-grade mineral over five years, which, if left unmanaged, can disrupt local flora and fauna habitats through accumulation in waste piles. • Uncontrolled disposal may also alter landforms, cause	• Domestic sewage after septic treatment at nearby crusher site will be disposed on to land for plantation. • The silty sand mixture generated during mining will be processed at crusher along with after minerals. • Topsoil will be stored separately in designated areas with proper drainage and protective cover to prevent erosion and nutrient loss. This stored topsoil will be promptly used for backfilling mined-out areas and for afforestation efforts to restore vegetation and

Environment	Anticipated Impacts	Mitigation measures
	instability and reducing land usability, while exposed topsoil is vulnerable to wind and water erosion, leading to sedimentation in nearby water bodies and deterioration of water quality.	stabilize the landscape. • To control erosion and sediment runoff, structures such as check dams/retaining structures will be constructed around stockpiles. • Regular monitoring and maintenance of these stockpiles, including sustaining vegetation cover, will help prevent degradation and disturbance to local habitats. • Additionally, controlled handling and avoidance of indiscriminate topsoil disposal will protect landforms, adjacent ecosystems, and nearby water quality.
Soil Environment	• The removal of surface soil during mining disturbs the natural land cover, making the area vulnerable to wind and water erosion. Without proper management, exposed soil can be washed away during rains or blown off by wind, leading to degradation of land quality and reduced agricultural productivity in surrounding areas. • Additionally, loss of topsoil disrupts soil structure and nutrient content, negatively impacting vegetation growth and local biodiversity. This erosion can also contribute to sedimentation in nearby water bodies, affecting aquatic ecosystems and water quality.	• To prevent soil erosion from runoff, proper garland drains will be constructed around waste dumps. • Proper drainage management is also critical to avoid waterlogging and uncontrolled surface runoff. • Areas identified for landscaping will be prepared before topsoil stripping, allowing the topsoil to be carefully removed and stored. This preserved topsoil will then be reused during the reclamation and rehabilitation of the mining site as part of the mine closure plan. • These measures, combined with erosion control structures and progressive land restoration, will help to maintain soil stability and

Environment	Anticipated Impacts	Mitigation measures
		promote ecological recovery.
Occupational Health and Safety	• The primary health hazards are dust and noise exposure. Dust generated during excavation, crushing, and transportation can lead to respiratory problems such as chronic bronchitis, silicosis, and other lung-related ailments among workers and nearby residents. • Prolonged exposure to high noise levels from machinery and vehicle movement may cause hearing impairment and increased stress levels. • Additionally, dust can cause eye irritation and other visual discomforts. Without proper control measures, these hazards can significantly impact the health and well-being of workers and communities close to the mining area.	• All workers will be provided with appropriate Personal Protective Equipment's, including face masks and side-covered safety glasses to reduce dust inhalation and eye irritation. • Ear plugs will be provided to protect against noise-induced hearing loss. • Regular health check-ups, including chest X-rays, ECGs, and vision tests, will be conducted to monitor workers' health, with necessary medical treatment provided as needed. • These health assessments will be documented and reviewed annually to ensure ongoing occupational safety and well-being. Additionally, dust suppression measures like water spraying and equipment maintenance will be implemented to minimize dust generation, and noise control practices will be followed to reduce overall exposure.
Socio-economic environment	• The mining activity is expected to have a largely positive socio-economic impact by providing employment opportunities to the local population, thereby improving livelihoods and boosting the local economy. Since the workforce is primarily sourced from nearby communities,	To ensure positive socio-economic outcomes from mining of sand, stone, and bajri, the following mitigation measures are recommended: • Ensure hiring primarily from nearby communities to maximize local economic benefits and reduce social disruption.

Environment	Anticipated Impacts	Mitigation measures
	there is minimal risk of large-scale migration or social disruption. The influx of income may lead to better infrastructure, increased business for local vendors, and enhanced community services. However, potential challenges include increased pressure on local resources, such as water and transportation infrastructure, and possible conflicts over land use. If not managed properly, these could lead to social tensions or strain on existing public services.	• Promote skill development programs to enhance local workforce capabilities and future job prospects. • Maintain open communication with local communities to address concerns and involve them in decision-making. • Promote occupational health and safety programs for workers and support community health initiatives. • Monitor social impacts regularly to ensure community well-being and address any emerging issues promptly.
Traffic environment	Due to proximity of the project site to key road—MDR-39 Una- Jaijon Rd (1.03 Km), there may be increased mining-related vehicle movement may significantly impact local traffic conditions. The rise in heavy vehicle traffic can cause congestion, increase road wear and tear, and contribute to elevated levels of air and noise pollution along these routes. Additionally, the higher traffic volume raises the potential for accidents, affecting the safety of commuters and nearby residents.	Since the MDR-39 Una- Jaijon Rd approximately 5 Km from Lalri, with the last 1.03 Km accessed through a kutcha road, is located close to the project site and will be used primarily for transporting materials to its final destination, as such following measure/practices shall be adopted to minimize the impact due to increase in the influx of vehicles used for transportation of mined material. • Implement strict vehicle scheduling to avoid peak traffic hours and minimize congestion on MDR-39. • Use well-maintained vehicles to reduce emissions and noise levels. • Enforce speed limits and restrict movement of heavy vehicles near sensitive zones to enhance safety.

Environment	Anticipated Impacts	Mitigation measures
		• Provide adequate traffic signage and employ flaggers or traffic controllers during peak mining transport activities. • Regularly maintain and repair access roads to prevent deterioration and minimize dust generation. • Promote driver awareness and training on safe driving practices to reduce accident risks. • Develop alternate routes where feasible to divert heavy vehicles away from congested or residential areas. • Conduct periodic monitoring of air quality and noise levels along transport routes and take corrective actions if the monitored levels are found beyond the prescribed standards.

7.0 Accessibility of transport upto mining site:

The proposed mining site is located near the village Thakran of Tehsil Haroli, District Una, H.P., and is approachable via the Palkwah–Lalri road. The lease area is situated at a distance of approximately 5 Km from Lalri, with the last 1.03 Km accessed through a kutcha road.

8.0 Plantation:

The local & fast-growing species shall be planted out in the exhausted/worked out benches after spreading top soil. The sub-grade material in the form of top soil will be used for plantation by planting local trees and bushes. The total cost of plantation including its maintenance for five years will be approx. Rs.30.0 Lakhs. The cost includes cost of plants, manure and other labor activities. The species to be planted are Sahtoot, Mango, Poplar & Amla. The estimated survival rate proposed to be achieved shall be 80%. **Year-wise plan for plantation is shown in the table below:**

Year	Area to be covered (in Sqm.)	Number of trees to be planted
First	9000	1080
Second	9000	1080
Third	9000	1080
Fourth	9000	1080
Fifth	9000	1080
Total	**45000**	**5400**

The plantation maintenance will be carried out by the project proponent through the establishment of an Environmental Management Cell (EMC), and a dedicated person will also be engaged for its upkeep.

9.0 Point of public utility:

There is no point of public utilities present in and around the mining lease area.

10.0 Project Benefit:

The project will bring overall improvement in the surrounding area by way of employment opportunities and the state by revenue generation. There will be improvement in the economic condition of the people and the enhancement in the quality of life through employment.

11.0 Environmental Management Plan:

No major environmental impacts are anticipated in the Hill Slope mining except the generation of fugitive emissions from handling of minerals. The preventive measures will be in place to keep the pollutants in the prescribed levels. Plantation as proposed will further improve the air quality in the area.

A budgetary provision of ₹62.5 lakhs as capital cost and ₹9.0 lakhs as recurring cost has been allocated for environmental management. This includes air quality testing, air pollution control measures, waste management, occupational health and safety, as well as the cost and maintenance of plantation and retaining walls. An Environmental Management Cell (EMC) will be established for this purpose, which will be managed by the project proponent in coordination with environmental consultants.

Conclusion: The proposed project is expected to contribute positively to the economic, social, and environmental upliftment of the area. Through initiatives under Corporate Social Responsibility (CSR) and Corporate Environment Responsibility (CER), the project will have a beneficial impact on the region. The CSR and CER activities/budget will be determined by the Department of Environment, Science & Technology, Shimla, and the project proponent will implement the provisions as directed.

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

CHAPTER-1.0

INTRODUCTION

1.0 INTRODUCTION:

The mining sector in India is a substantial economic activity that boosts the country's GDP. The mining industry only provides 2.2% to 2.5% of GDP, but it makes up 10% to 11% of the GDP of the entire industrial sector. A mere six percent goes toward the total cost of producing minerals, even with smaller-scale mining operations. The mining sector in India offers a large number of employment opportunities. Minor minerals such as Stone & bajri are a valuable natural resource that provides the silica needed to create sodium silicate, a chemical substance that is used to make both regular and specialty glasses. Sand is added to clays to lessen shrinkage and cracking during the brick-making process. It is an element in plaster and concrete. Stone & bajri is a crucial raw resource used in the building industry for a number of purposes. Cement, gravel, water, steel, and river sand are the ingredients of reinforced concrete. It is used as plastering and joint filling mortar, along with cement and water. The company **M/s Maa Pitambra Stone Crusher** is committed to producing high-quality of Stone & bajri that the corresponding sectors may use.

An Environmental Impact Assessment (EIA) is a planning technique used to evaluate a project's environmental problems early in the planning and design phase in order to ensure that the project is environmentally feasible. When there are negative effects, they are identified and addressed in an environment management plan, which also designs mitigating strategies to control such impacts in a way that preserves the local ecology and environment. The objective of the present EMP is to prevent/minimize any such adverse impacts.

1.1 PURPOSE OF THE REPORT:

Environmental Impact Assessment (EIA) is the management tool to ensure the sustainable development and it is a process used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decision-making tool, which guides the decision makers in taking appropriate decisions for undertaking any project. EIA systematically examines both beneficial and adverse consequences of the proposed project on the surrounding environment ***and ensure that these impacts are taken into account during the project execution namely Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher.***

According to the Environmental Impact Assessment (EIA) Notification dated September 14, 2006, as amended from time to time, any new or expansion project requiring an EIA requires prior environmental clearance from the Ministry of Environment, Forests and Climate Change (MoEF&CC), Government

of India, New Delhi. The purpose of the Environmental Impact Assessment is to evaluate the area's current environmental conditions and develop an Environment Management Plan (EMP) based on the proposed mining activities. The current EIA report identifies and addresses any adverse impacts arising from the project.

1.2 CATEGORY OF THE PROJECT:

As per the EIA Notification (S.O. 1533) dated 14th September, 2006, and its subsequent amendments, the proposed project initially falls under 'Category B2' and thus, the EC lies with the state government. However, due to the presence of one other mining lease namely M/s Jai Shankar Stone Crusher measuring 02-76-30 Ha within a 500m radius of the project site, the project is re-categorized as ***'Category B1'*** for the purpose of public consultation.

In accordance with this categorization, a comprehensive Draft Environmental Impact Assessment Report has been prepared for the proposed project.

1.3 IDENTIFICATION OF THE PROJECT & PROJECT PROPONENT:

1.3.1 Identification of the Project:

The proposal pertains to the EC for the lease area of 04-70-61 Hectares for mining of sand, stone & bajri & falls under Category B1 due to the cluster formation as per EIA Notification, 2006 & its subsequent amendments. The details of the project are tabulated in table 1.1:

Table 1.1
Project Details

S. No.	Particulars	Details
1.	Name of the applicant	Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher.
2.	Name & Address	Village & P.O. Palakwah, Tehsil Haroli, District Una, Himachal Pradesh.
3.	Area (Ha)	04-70-61 Hectares
4.	Postal address	Village & P.O. Palakwah, Tehsil Haroli, District Una, Himachal Pradesh
5.	Status of mine	Application of fresh EC

1.3.2 Project Proponent:

Sh. Ishar Singh, Proprietor of M/s Maa Pitambra Stone Crusher is involved in this business considering motive of sustainable and ecofriendly work culture and no harm to surrounding environment from the project activities.

1.4 LEGAL PROVISION:

The proponent satisfies all legal requirements necessary for the projects such as Letter of Intent, Approval letter of mining plan from concerned authority, Jamabandi, 500-meter radius certificate and duly signed Joint Inspection Report attached as Annexures.

1.5 BRIEF DESCRIPTION:

1.5.1 Nature of the Project:

The mining lease area forms a part of the Hill- Slope and is covered with Upper Siwalik Formation. The Hill is mainly comprised of thick boulder bed of the Upper Siwalik Formation comprising of boulders, cobbles, pebbles, sand/silt deposits of terrace alluvium.

1.5.2 Size of the Project:

The project lease area is 04-70-61 Hectares and the production capacity is 96400 MT/annum. The size and magnitude of the operation depend upon the availability of laborers, weather conditions and other local conditions. The major mining activity will be undertaken during the dry seasons only. The average number of working days in the year would be 270 days.

1.5.3 Location of the Project:

The mining area is located on a hill slope in Mohal/Mauza Thakran, Tehsil Haroli, District Una, Himachal Pradesh. The site is accessible via a 3 km kutcha (unmetalled) road that branches to the left from the Palakwah–Lalehri Road near Chandrapur village in Tehsil Haroli. The mining lease area is located approximately 15 km from Una. The nearest major town, Haroli, is located about 7.5 km from the mining area. The details for the same given in table 1.2. Figure 1.1 and 1.3 shows the google image of the mining site.

Table- 1.2
Detail of Revenue records

Khasra No.	Area (In Hect.)	Owner Govt./ Private	Kism	Mauza & Mohal	Panchayat
382/5	04-70-61	Shamlat Land	Banjar Kadeem	Thakran	Palakwah
Total	**04-70-61**				

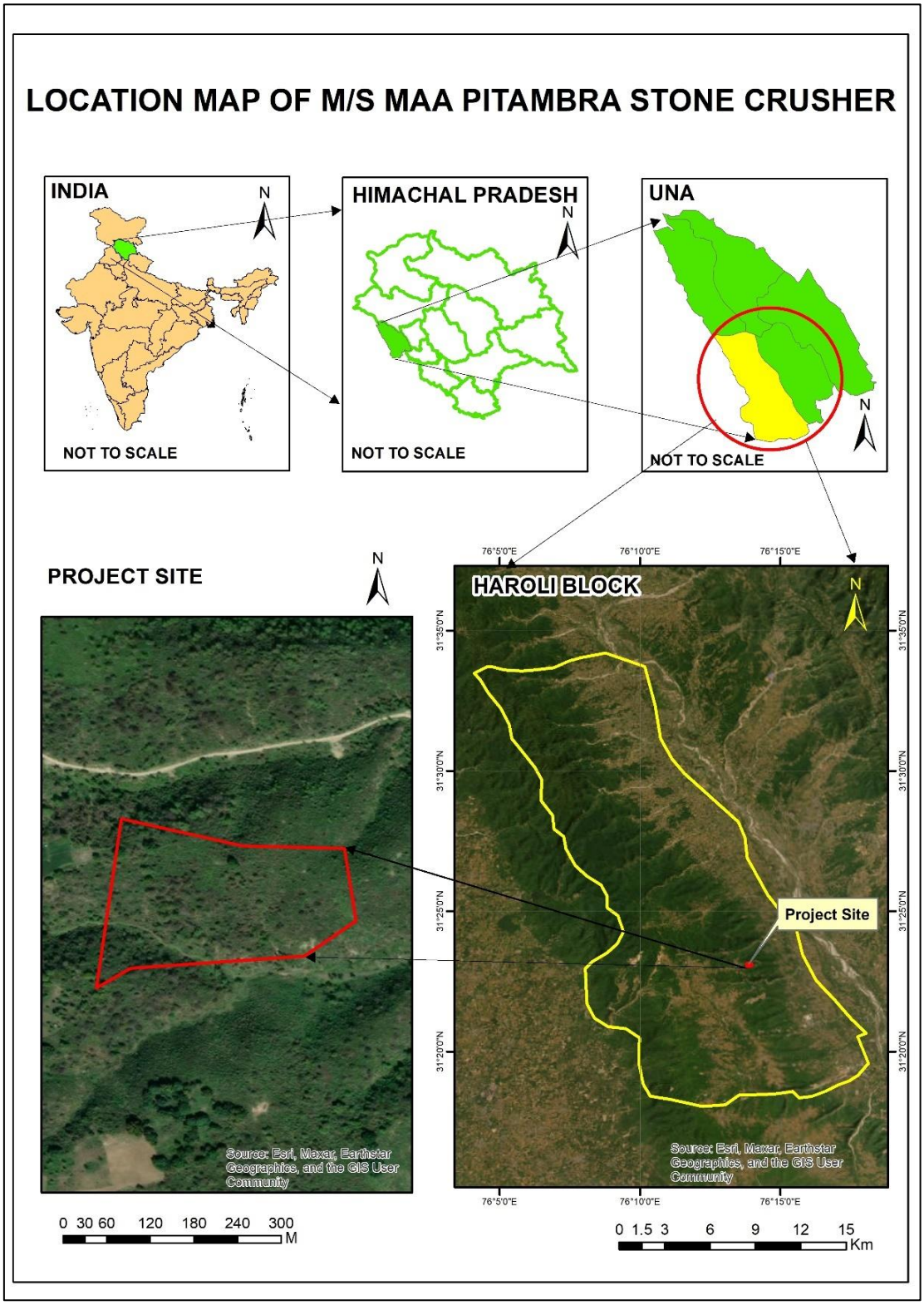
1.5.4 Detail of Road Transport:

The applied site is located in the form of hill slope in Mohal/Mauza Thakran, Tehsil Haroli, District Una, Himachal Pradesh. The site is accessible via a 3 km kutcha (unmetalled) road that branches to the left from the Palakwah–Lalehri Road near Chandrapur village in Tehsil Haroli. The mining lease

area is located approximately 15 km from Una and at a distance of approximately 7.5. kms from the nearest major town Haroli. An average proposed annual production from the lease area is 96400 metric tonnes of Stone & Bajri; material will be transported by trucks. The average daily production is around 357 MT/day for which around 24 trucks/tippers with @15 MT capacity are required to transport the material (total working days 270/year). The existing road is sufficient and is in good condition to bear this additional traffic load and no improvement in the existing road is required.

Figure – 1.1

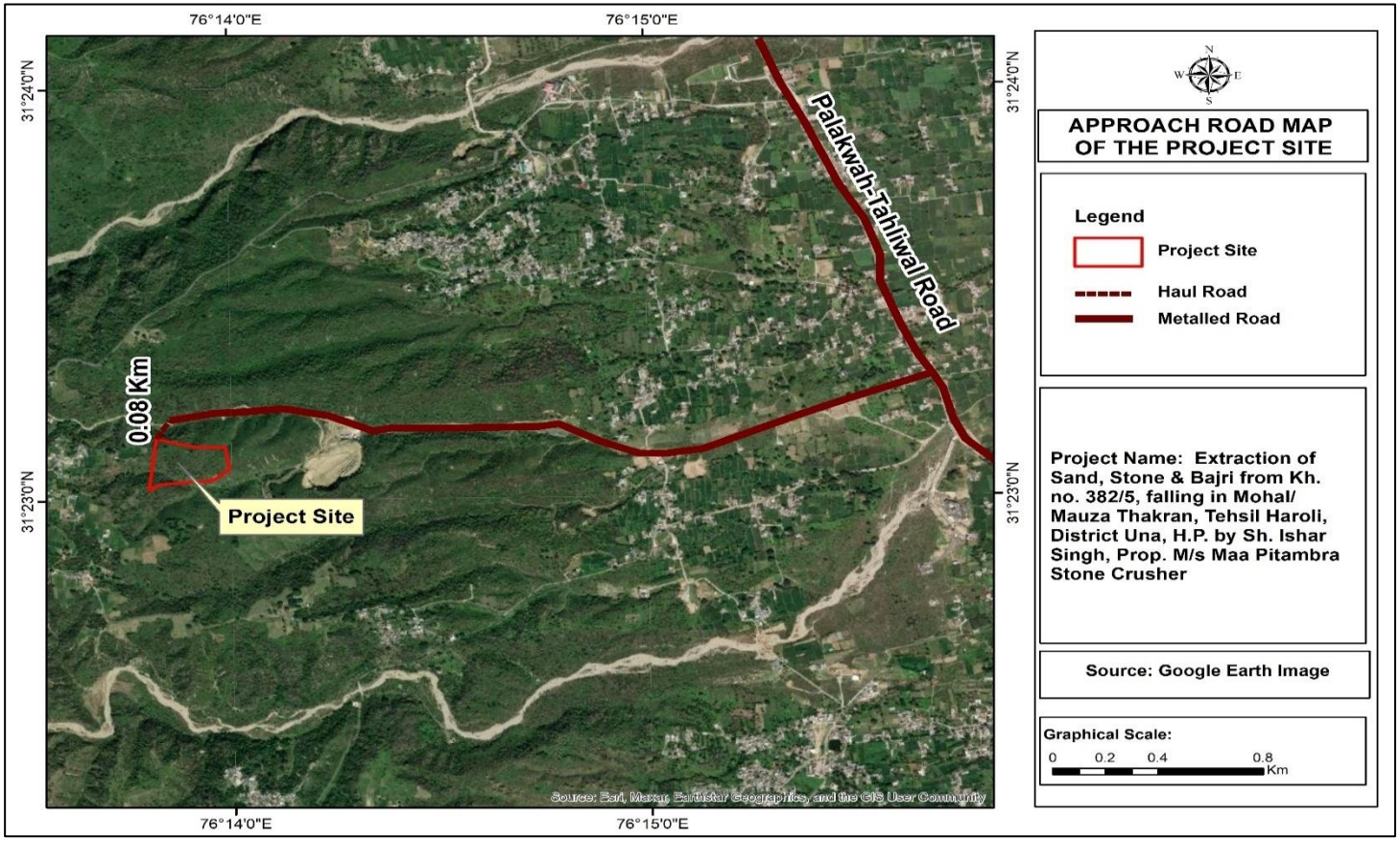
Location Map (From India Map to Local Map)



(Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Google map)

Figure- 1.2

Approach Road to the Mining Area

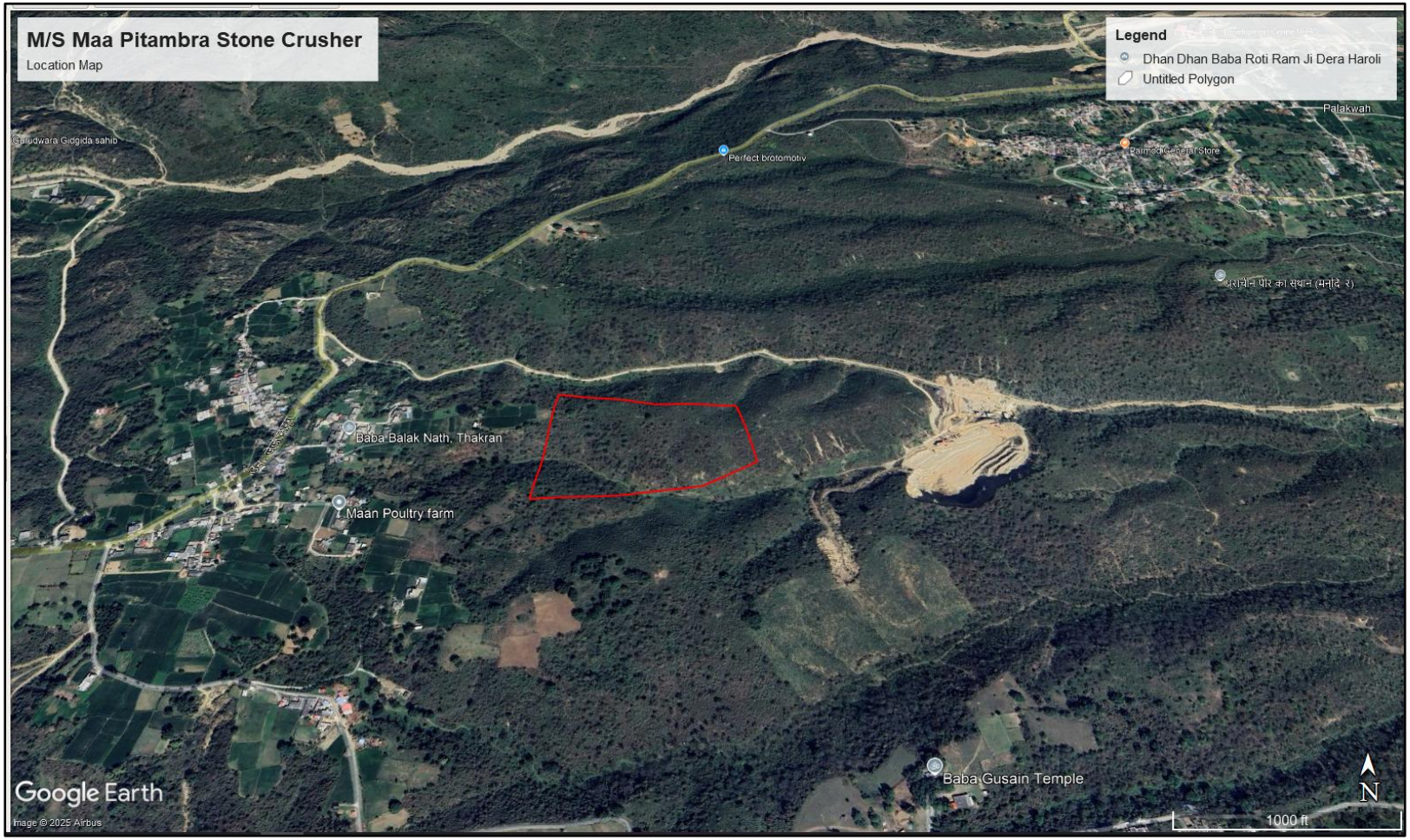


(Source: Google Earth Image)

The applied mining lease area is located near the village Thakran of Tehsil Haroli, District Una, H.P., and is approachable via the Palakwah–Lalri road. The lease area is situated at a distance of approximately 5 Km from Lalri, with the last 1.03 Km accessed through a kutcha road.

Figure 1.3

Google Earth map of the Mining Area



(Source: Google Earth Image)

1.6 SCOPE OF THE STUDY:

This study contains various information on the Environmental factors viz-a-viz contribution of pollution by the proposed unit. These factors include air, water, noise, health, socio economic, land use and agricultural pattern, hydrological conditions, geomorphological and physiographicalstudy It discusses the predicted impact of the proposed plant activities on these factors. Broadly under the scope it is envisaged:

- To assess the present status of air, water, land, noise, biological & socio-economic hydrological components of environment.
- To identify, quantify & evaluate positive or negative impacts of various operations on different environmental components.
- To evaluate proposed pollution control measures and to suggest additional control strategies, if any, to mitigate the adverse effects.
- To identify risk factors & suggest their mitigation including occupational health of the workers.
- To prepare Environmental Management Plan for utilization and adoption of safety measures.
- To delineate future Environmental quality monitoring programme.
- To identify the needs of the study area and suggest supportive measures under Corporate Social Responsibility.

1.6.1 Methodology:

Various steps involved in Environmental Impact Assessment study of the proposed project are divided into the following phases:

- Identification of significant environmental parameters and to study the existing status within the impact zone with respect to air, water, noise, soil and socio-economic and hydrological components of the environment
- Study of various activities of the proposed project for manufacture of final product and to identify the area's leading to impact/change in environmental quality.
- Identification/prediction of impacts for the identified activities and to study levels of impacts on various environmental components.
- Evaluation of final levels of various parameters after superimposing the predicted impacts over the baseline quality.
- Formulation of Environmental management plan for implementation in the proposed project.

1.7 IMPORTANCE TO THE COUNTRY OR REGION:

The mine lease area is the part of Hill-Slope. Due to rapid infrastructure development in India, the

demand of construction material has increased. The operation of project will provide demand & increased employment to the surrounding people, thereby improving the socio-economic status of area.

- **Demand and Supply:** The demand of this basic material is fast growing due to boost in the infrastructure of country. The minerals are used mainly in the construction activities like buildings, bridges etc. The requirement for the mineral is always high in the nearby cities and towns. There is therefore, a good demand of mineral in the domestic market.
- **Domestic/ Export market:** The demand of Stone is limited to local domestic market and it has no potential for export.
- **Export possibility:** There is no proposal for the export of mined minerals as the same will cater to the indigenous demand which is increasing each passing day.

CHAPTER-2.0

PROJECT DESCRIPTION

2.1 GENERAL:

Sh. Ishar Singh, Proprietor M/s Maa Pitambra Stone Crusher, have proposed a new project of non-coal mining for obtaining E.C from the concerned authority having production capacity approx. 96400 MT/Annum. The project itself falls in **category B2, however due to cluster situation, the project is categorized as Category B1 as per EIA Notification, 2006 amended till date.** In this project, mining of minor minerals will be semi-mechanized in the Hill Slope having an area of 04-70-61 hectares. The mining plan has been prepared by registered H.P.R.Q.P. and approved by Industry Department of Himachal Pradesh. Description of mine development and information associated with this project has been furnished in this chapter.

2.2 YEAR WISE PRODUCTION PROGRAMME:

The mining lease is located on hilly terrain where suitable material is available for crushing. The mining operations would be carried out upto a depth of 4 meters from the surface level.

Details of the production of the stone, silty sand and top soil for various benches from first to fifth year are given below in table 2.1.

Table: - 2.1

Showing year-wise production programme of mining

Year	Bench Level (in m)	Opening reserves of useable material (Stone & Bajri)	Useable material consumed from the bench	Closing reserves of the bench (M.T.)	Sub-grade material including silty sand & soil
1st Year	530,526	126000	96400	29600	41213
2nd Year	526,522	154340	96400	57940	41656
3rd Year	522,518	214495	96400	118095	41365
4th Year	518	118095	96400	21695	41263
5th Year	518,514	203135	96400	106735	40939
Total		**816065**	**482000**	**334065**	**206437**

Thus, during five-year total production of minerals will be approx. ***4,82,000 metric tons.***

2.3 DEVELOPMENT AND PRODUCTION:

The mineable reserves have been estimated by the cross- sectional area method and 02 numbers of cross-sections A-A' & B-B' were plotted at 140.00 meters intervals. The specific gravity of the

conglomerate has been taken as 2.25 for calculating the mineable reserves. Details of mineable reserves are tabulated in 2.2:

Table 2.2: Showing estimated mineable reserves in Tonnes

Reserves in MT	Reserves in tonnes
Mineable (Useable + Wastage)	6,88,437
Useable (Mineable – Wastage)	4,82,000
Wastage (Mineable – Useable)	2,06,437

2.3.1 Development and production at the end of 1st Year:

An estimated 96400 metric tonnes of minerals (stone and bajri) are produced annually, with 126000 MT of total usable reserves.

The production of minerals for the first year is given below in table 2.3.

Table: 2.3 Showing the production details for the 1st Year

Year	Bench Level (in m)	Opening reserves of useable material (Stone & Bajri)	Useable material consumed from the bench	Closing reserves of the bench (M.T.)	Sub-grade material including silty sand & soil
1st Year	530	45360	45360	0	19440
	526	80640	51040	29600	21773
	Total	**126000**	**96400**	**29600**	**41213**

2.3.2 Development and production at the end of 2nd Year:

During the 2nd year, the remaining material from benches at 526 and new bench at 520 M.R.L shall be opened with total reserves of 1,54,340 MT.

The production of minerals for the second year is given below in table 2.4.

Table: 2.4

Showing the production details for the 2nd Year

Year	Bench Level (in m)	Opening reserves of useable material (Stone & Bajri)	Useable material consumed from the bench	Closing reserves of the bench (M.T.)	Sub-grade material including silty sand & soil
2nd Year	526	29600	29600	0	12788
	522	124740	66800	57940	28868
	Total	**154340**	**96400**	**57940**	**41656**

2.3.3 Development and production at the end of 3rd year:

During the 3rd year, material from bench at 522 M.R.L and new bench at M.R.L. shall be opened with total usable reserves of 214495 MT.

The production of minerals for the third year is given below in table 2.5.

Table: 2.5

Showing the production details for the 3rd Year

Year	Bench Level (in m)	Opening reserves of useable material (Stone & Bajri)	Useable material consumed from the bench	Closing reserves of the bench (M.T.)	Sub-grade material including silty sand & soil
3rd Year	522	57940	57940	0	24592
	518	156555	38460	118095	16773
	Total	**214495**	**96400**	**118095**	**41365**

2.3.4 Development and production at end of 4th year:

During this year, the remaining material from benches at 518 shall be opened with total reserves of 118095 MT.

The production of minerals for the fourth year is given below in table 2.6.

Table: 2.6

Showing the production details for the 4th Year

Year	Bench Level (in m)	Opening reserves of useable material (Stone & Bajri)	Useable material consumed from the bench	Closing reserves of the bench (M.T.)	Sub-grade material including silty sand & soil
4th Year	518	118095	96400	21695	41263
	Total	**118095**	**96400**	**21695**	**41263**

2.3.5 Development and production at end of 5th year:

During this year, the remaining material from benches at 518 and new bench at 434 M.R.L shall be opened with total useable reserves of 203135 MT.

The production of minerals for the fifth year is given below in table 2.7.

Table: 2.7

Showing the production details for the 5th Year

Year	Bench Level (in m)	Opening reserves of useable material (Stone/Boulder & Bajri)	Useable material consumed from the bench	Closing reserves of the bench (M.T.)	Sub-grade material including silty sand & soil
5th Year	518	21695	21695	0	9058
	514	181440	74705	106735	31882
	Total	**203135**	**96400**	**106735**	**40939**

2.4 END USE OF MINERAL:

The extracted material will be processed in the already established stone crusher unit adjacent to the mining site for manufacturing grit and manufactured sand.

2.5 GEOLOGY:

The geology of the Applied Lease Area

The applied lease area is located in the Shivalik foothill region of District Una, Himachal Pradesh, and forms part of the Outer Himalayan geological domain. The area is underlain by formations belonging to the Upper Siwalik Group, which are widely exposed in the surrounding region.

Geologically, the lease area is characterized by Quaternary alluvial and fluvio-colluvial deposits, consisting mainly of boulders, cobbles, pebbles, gravel and sand, embedded in a sandy–clayey matrix. These deposits have originated from the erosion and weathering of Higher and Lesser Himalayan rocks.

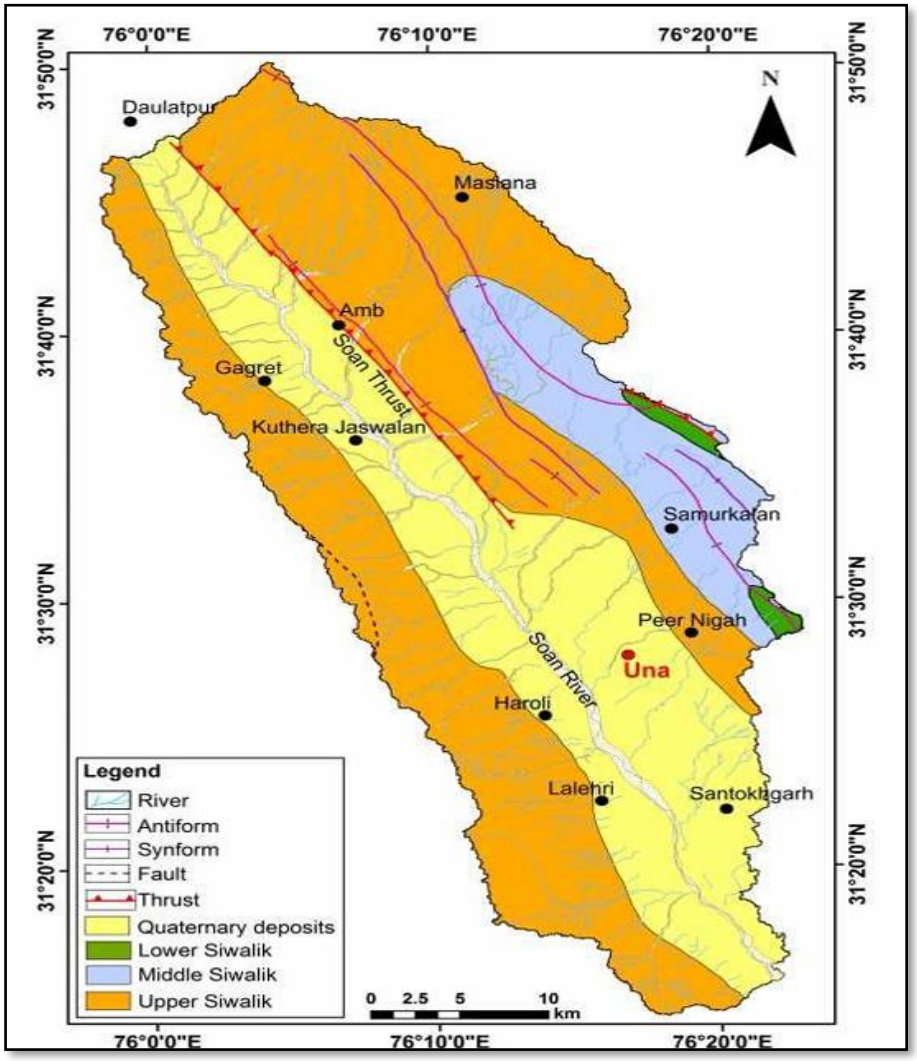
The mineral deposit within the lease area mainly comprises hard rock fragments such as sandstone and limestone. These materials are mechanically strong, durable and suitable for use as construction aggregates. The thickness of the mineralized zone varies across the lease area depending on local topography and depositional conditions.

No major geological structures such as faults, thrusts or folds are observed within the applied lease area. The strata are generally unconsolidated to semi-consolidated and gently disposed. The area is geologically stable and does not fall within any known fault zone. However, regionally the area lies in Seismic Zone IV as per BIS classification.

No occurrence of any major or atomic minerals has been reported within the lease area. The geology of the site supports safe and systematic extraction of minor minerals without any anticipated adverse geological impact.

Fig. 2.1

Geological map of District Una



Source- DSR, Una

2.6 ESTIMATE OF GEOLOGICAL RESERVES OF EACH MINERAL:

An average specific gravity i.e., 2.25 is taken into consideration for the calculation of mineral potential in the area mining for mining purpose. The geological reserves have been estimated by the cross- sectional area method 02 nos. of cross sections A-A' & B-B' were plotted at 140 meters intervals. As no exploration works by way of drilling have been carried out but, it is implied from the field observations that a similar kind of rock is available along the hill and is easily visible all along the surface as well. In view of the above, the 100% reserves are kept in the proved category. The details of the geological reserves of the rock are as mentioned in the table 2.8:

Table 2.8

Showing Geological reserves in metric tonnes

SECTION LINE	CROSS-SECTIONAL AREA (IN SQM)	SECTION INTERVAL (IN Mtrs.)	RESERVES OF THE ROCK (IN CUM)		RESERVES OF THE ROCK (IN MT)	
			PROVED	POSSIBLE	PROVED	POSSIBLE
A-A'	**2800**	140	392000	235200	882000	529200
B-B'	**1800**	140	252000	151200	567000	340200
TOTAL					**1449000**	**869400**

2.7 RECLAMATION PLAN:

Best possible terracing of hill slope: The mining is suggested in a way so that there is best possible terracing of the hill slopes.

Aesthetic: Proper mining will form terraces in the hillslopes so that they are able to bear systematic cultivation of agricultural /horticultural crops, thus enhancing the aesthetic look. The proper management of the landscape will add to the aesthetic look of the area.

2.8 GENERATION OF SUB-GRADE MATERIAL:

During mining operation, low grade mineral like silty sand and top soil will be generated which will be partly used for the maintenance of road and part of this mineral can be stacked at proper place for utilization of this material during road construction or some other use as a filling material. The top soil will be spread over the benches developed after mining for growing plantation. The year wise generation of silty sand/ Top soil is shown in the table 2.9:

Table 2.9

Showing year wise generation Sub-grade mineral

S. No.	Year	Quantity of Sub-grade material (MT)
1.	**1st Year**	41213
2.	**2nd Year**	41656
3.	**3rd Year**	41365
4.	**4th Year**	41263
5.	**5th Year**	40939
Total		**206437**

2.9 TOPSOIL UTILIZATION:

The top soil will be spread over the benches developed after mining for growing plantation.

2.10 PREVENTIVE RETAINING STRUCTURES:

A 570-meter-long retaining wall, with a height of 1.5 meters and a width of 1.0 meter, is proposed

along the lease boundary. The wall will be constructed in stages, with an estimated cost of ₹34 lakhs for construction and maintenance.

2.11 PLANTATION WORK:

Plantation helps in reducing the pollution as they absorb both the gaseous and particulate pollutants, improves the aesthetic value of the local environment and enhancing the natural environment. In Hill-Slope mining, the plantation shall be done on the exhausted/excavated benches and the applied mining lease area after leaving the safety zone.

The year-wise area proposed for plantation is shown in the year-wise working maps. Year-wise details of area proposed for plantation with number and species of trees to be planted is given in the table 2.10 and 2.11

Table: 2.10

Details of plantation

Year	Area to be covered (in Sq. meter)	Number of trees to be planted
First	9000	1080
Second	9000	1080
Third	9000	1080
Fourth	9000	1080
Fifth	9000	1080
Total	**45000**	**5400**

Table: 2.11

Species to be planted

Common name	Botanical name	Family	Habitat
Sahtoot	*Morus Alba*	Moraceae	Tree
Mango	*Magnifera indica*	Anacardiaceae	Tree
Poplar	*Populus sp.*	Salicaceae	Tree
Amla	*Emblica officinalis*	Phyllanthaceae.	Tree

The total cost of plantation including its maintenance for five years will be approx. 30.0 Lakhs. The cost includes cost of plants, manure and other labor activities. The estimated ***survival rate proposed to be achieved shall be 80%.***

2.12 MANPOWER REQUIREMENT:

The manpower required for the mining process will be around 85-90 persons. The details of the same is given in table 2.12 below:

Table: 2.12

Manpower Details

Designation	Numbers
Mining Engineer	01
Geologist	01
Foreman	01
Operator/Driver	23
Labour	64
Total	**90**

2.13 TYPE OF MINING & MINING METHOD:

The method of mining will be semi-mechanized. The mining operations shall be carried out in the mining lease area after leaving 5.0 meters buffer/safety zone.

The following conditions have been taken into consideration:

- The mining method adopted is of open cast mining.
- The mineral excavation starts from 534 mR.L. and upto the level of 514 mR.L. onwards by preparing 4 X 4 meters (Height X Width) benches (05 nos.).
- No blasting is required /undertaken.
- The angle of repose has been kept at 40° to 45°.
- For safety wire crate/ Gabion structure shall be constructed along the lower side of the applied mining lease area to stop any rolling down of debris/rocks.
- The mining operations in the lease area are confined to day light hours, from 9:00 A.M. to 6:00 P. M.

2.14 WATER REQUIREMENT:

Water will be sourced from IPH water supply at crusher site (Adjacent to mining site) through water tanker facilities. A water storage tank of appropriate capacity shall be provided. Affidavit of the same is attached as Annexure- VIII (a).

Table: 2.13

Water Requirement Details

Purpose	Water requirement (in KLD)	Source
Domestic Purpose	4.0	*Will be supplied through* IPH *water supply at crusher site (Adjacent to mining site)*
Dust suppression	2.0	
Greenbelt development	2.0	
Total	**8.0 KLD**	

Figure - 2.2
Surface and Geological Feature Map

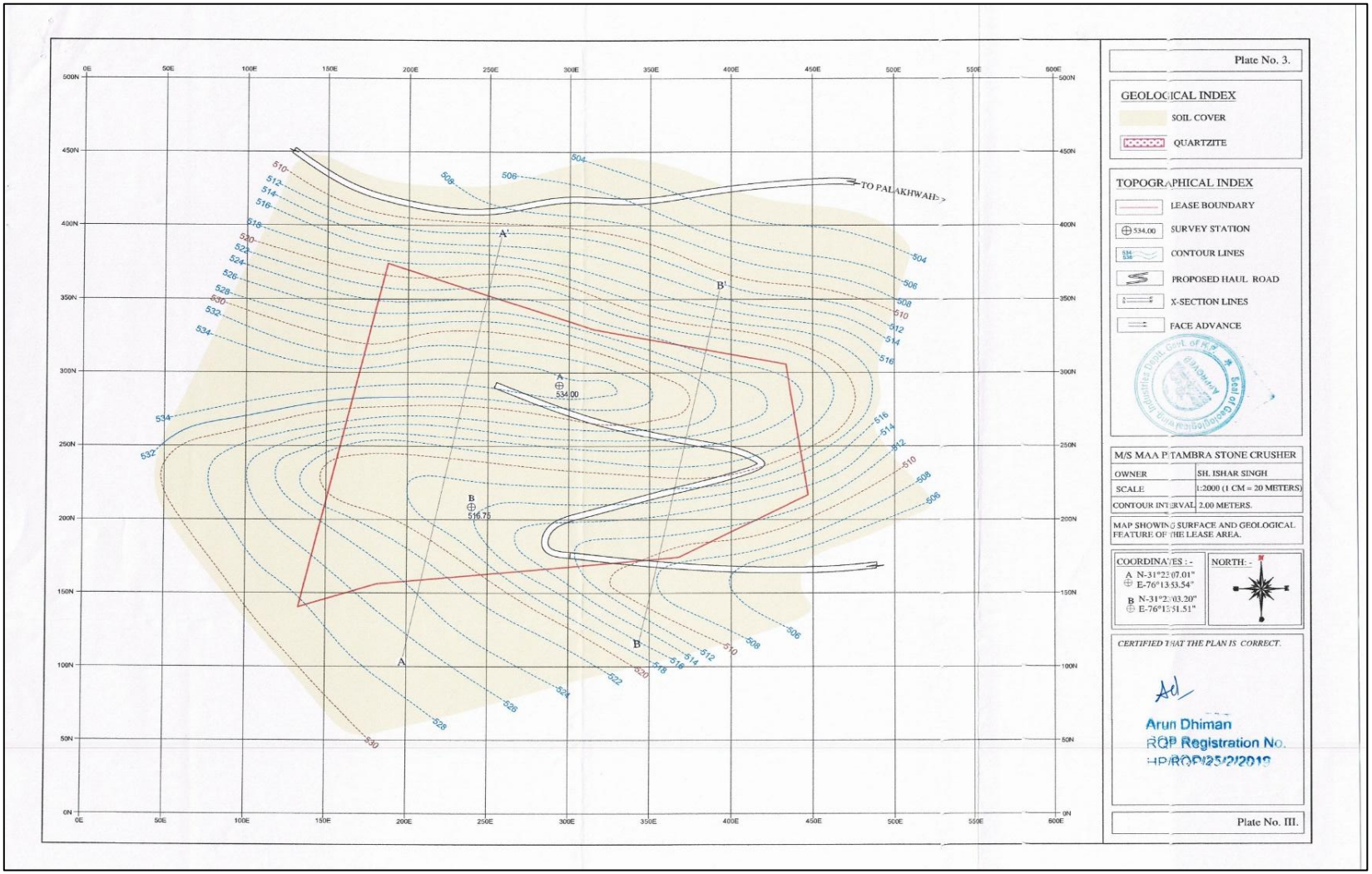


Figure -2.3

Pit Plan for the 1st Year

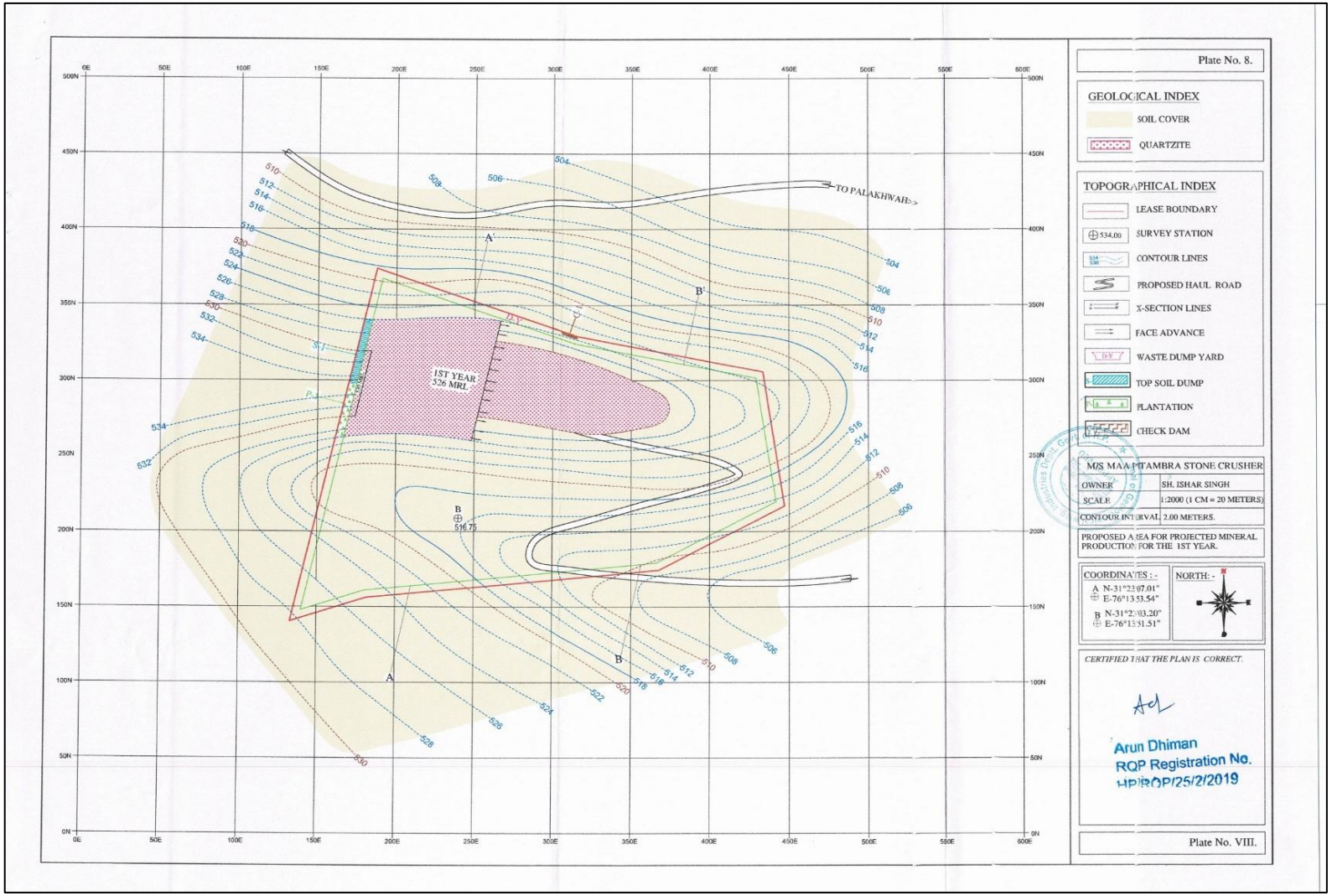


Figure- 2.4

Pit Plan for the 2nd year

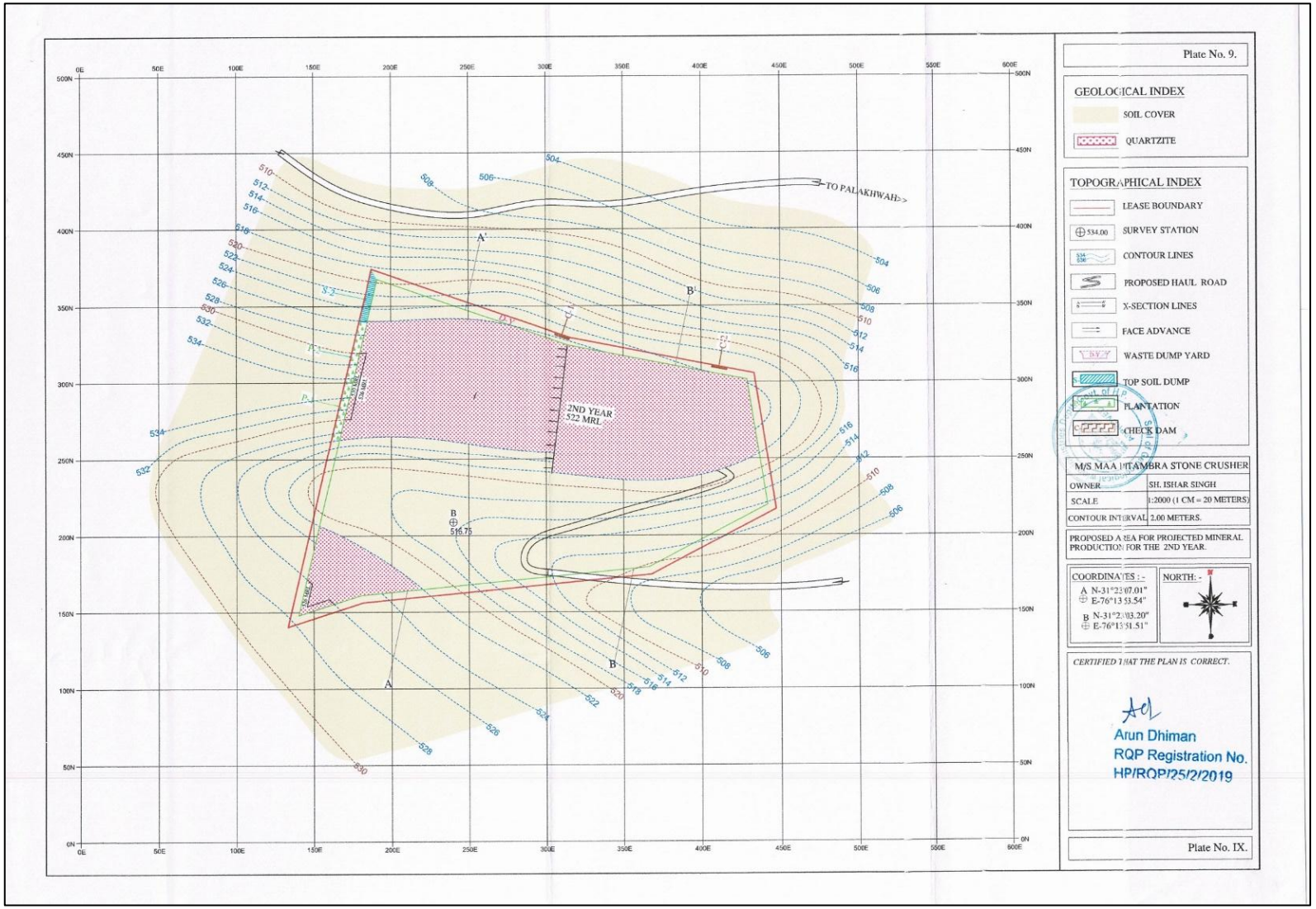


Figure - 2.5

Pit Plan for the 3rd Year

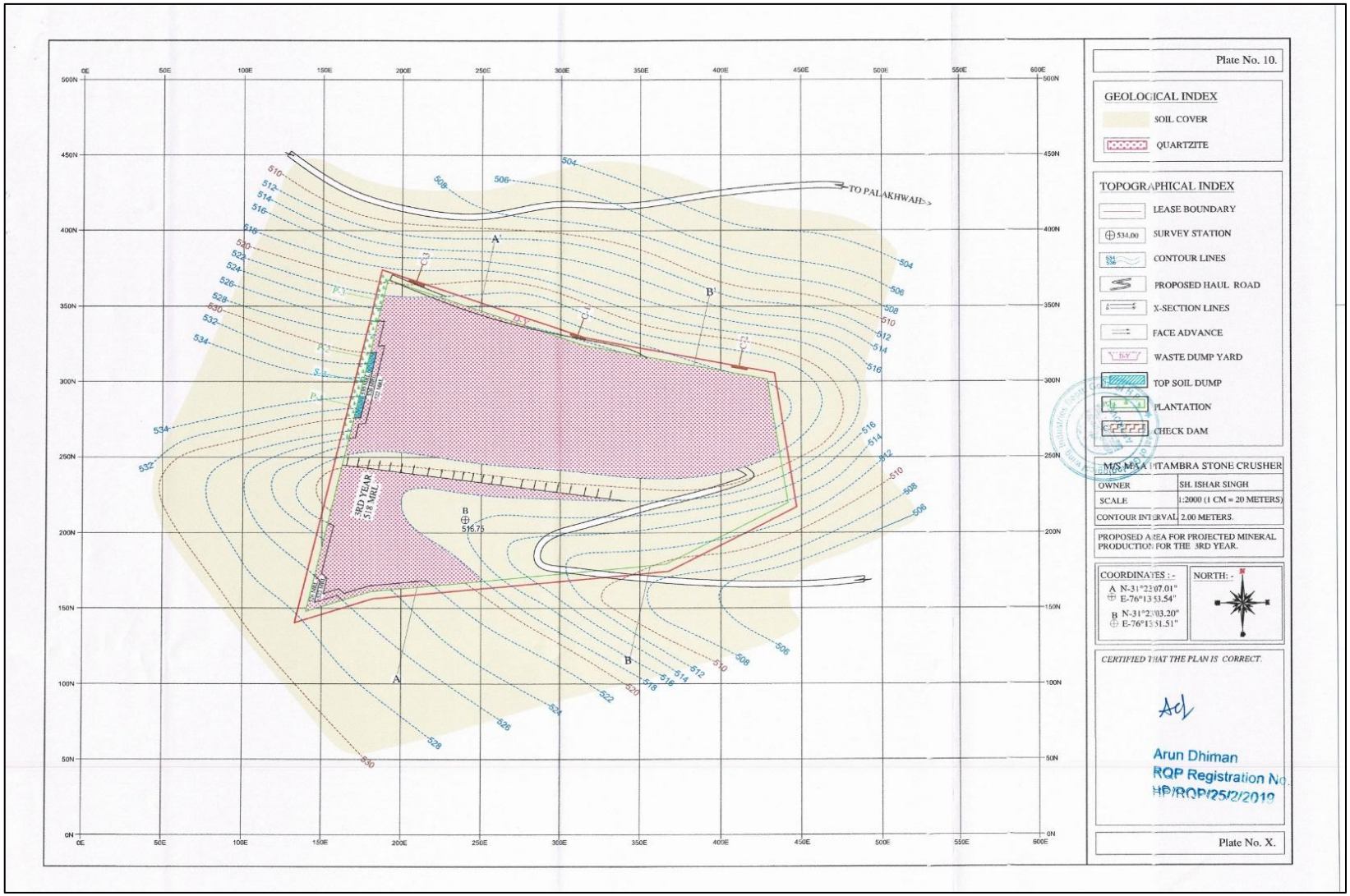


Figure 2.6

Pit Plan for the 4th Year

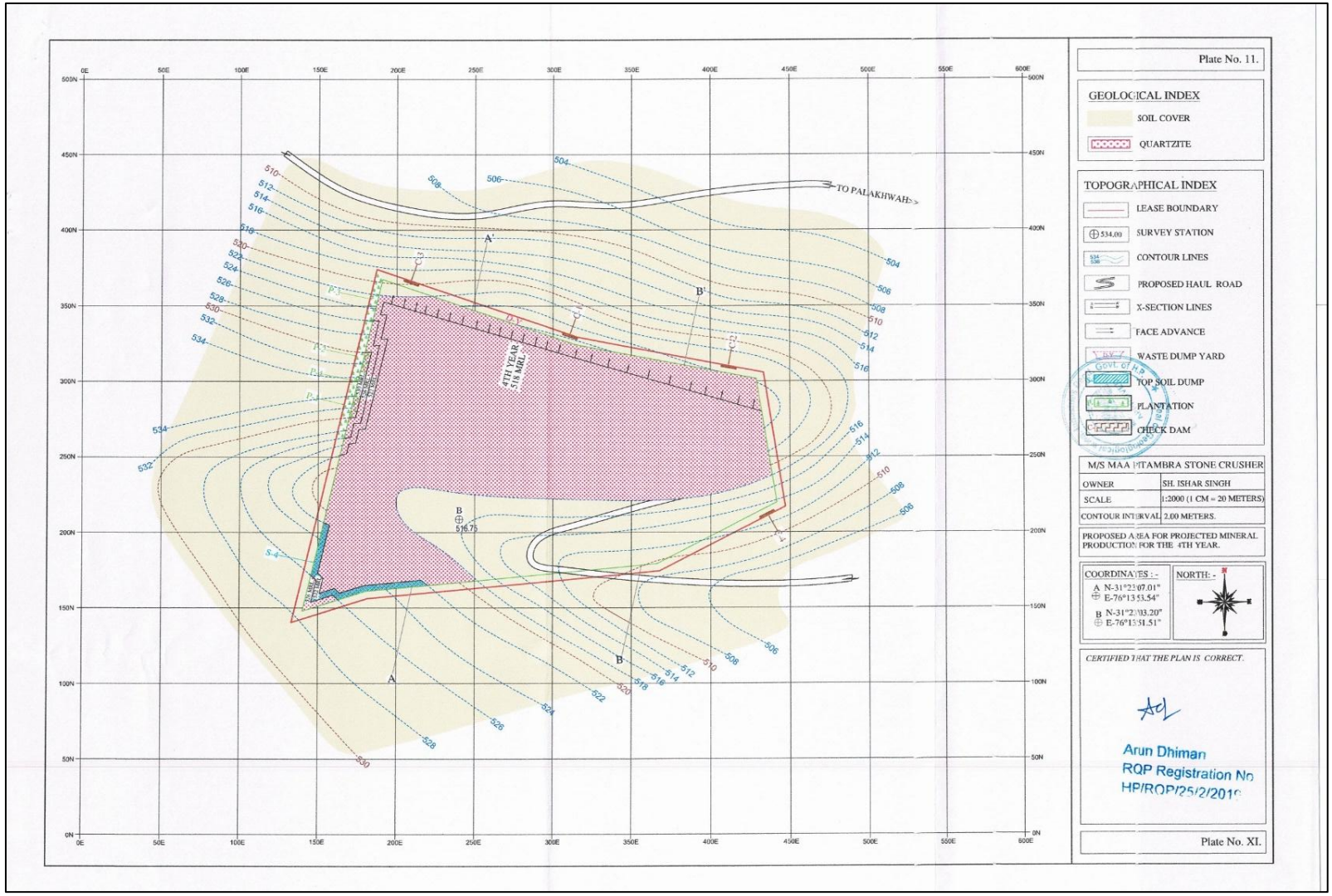


Figure- 2.7

Pit Plan for the 5th Year

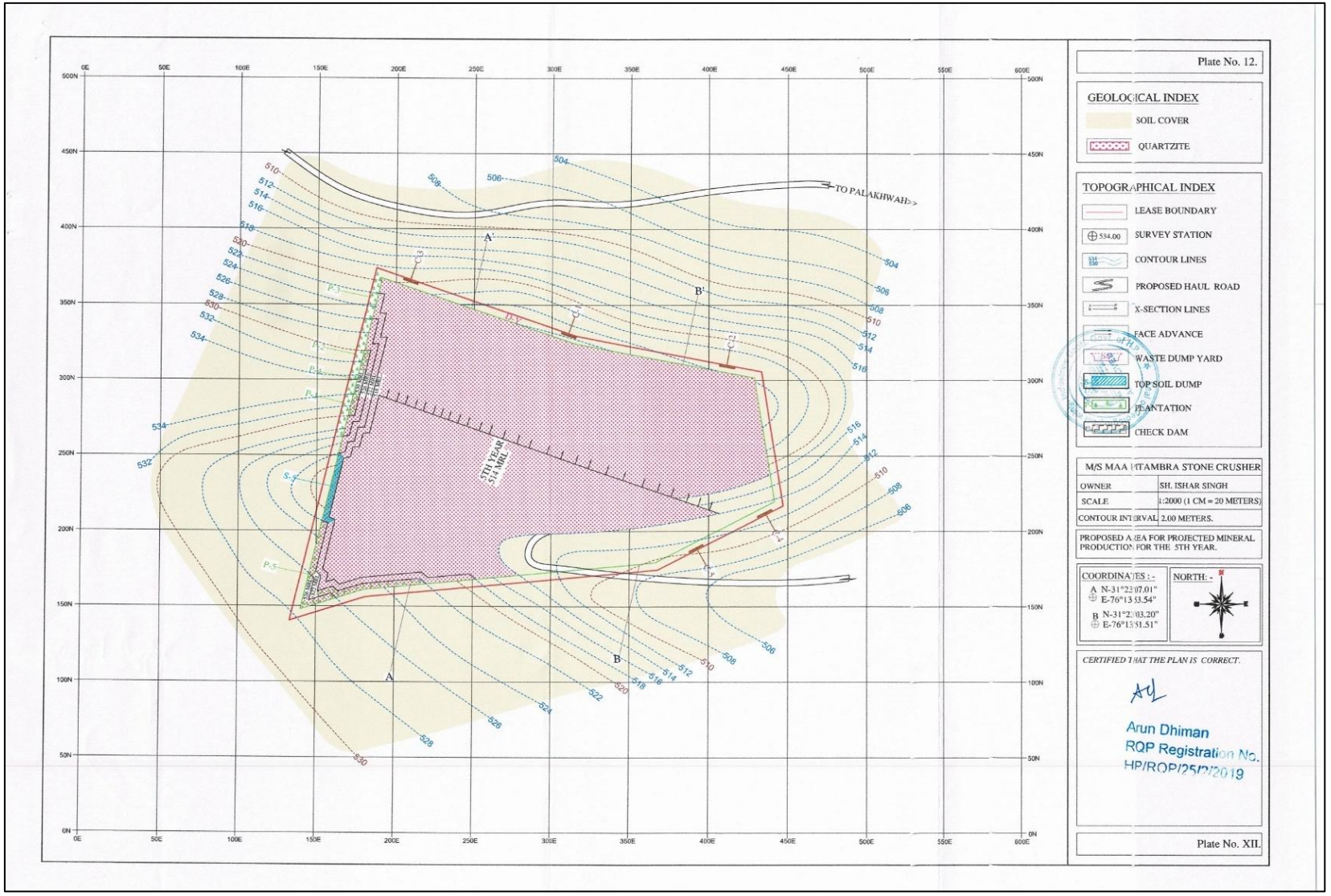


Figure 2.8

Post Reclamation Plan

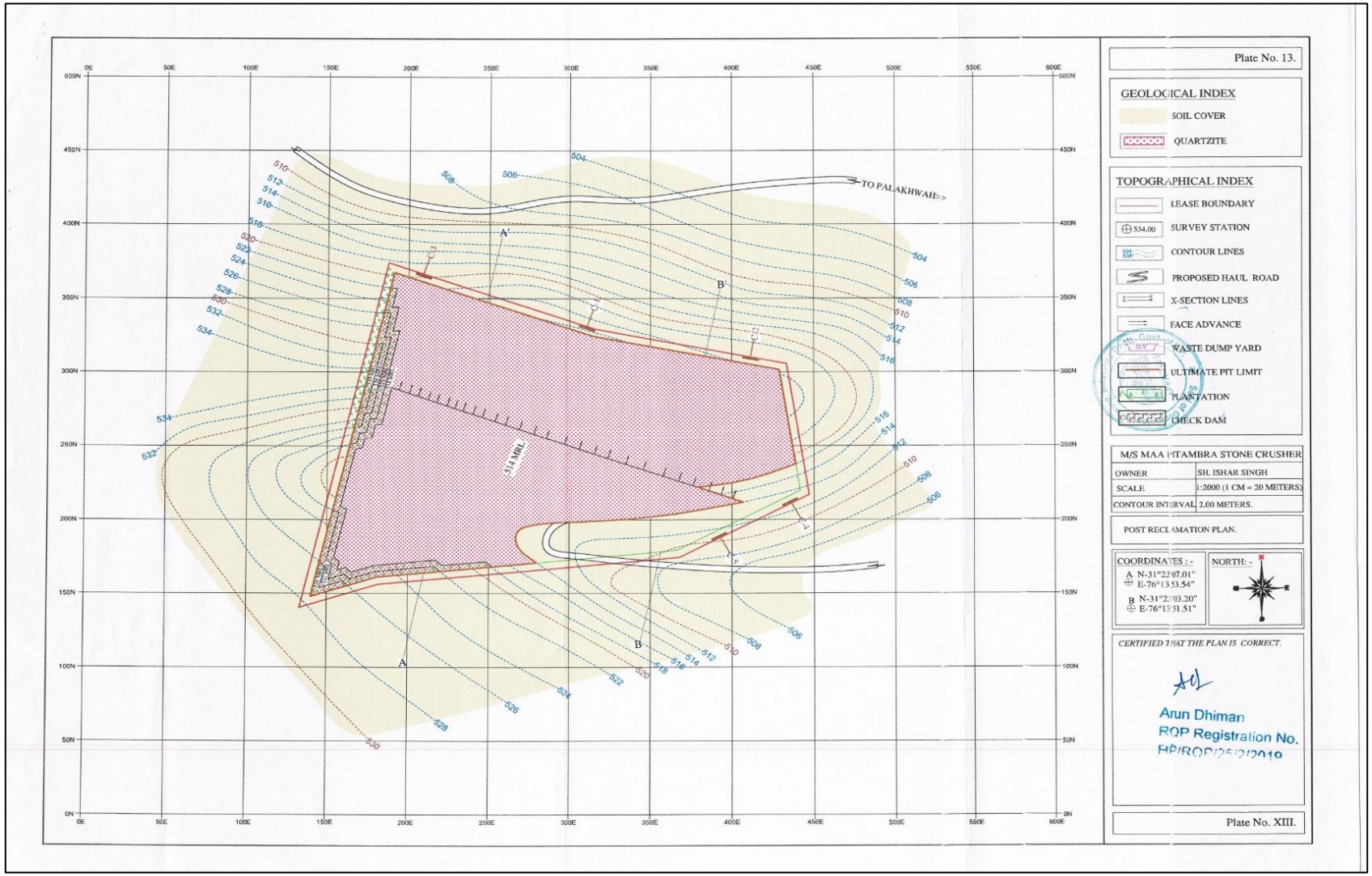


Figure-2.9

Ultimate Pit Plan

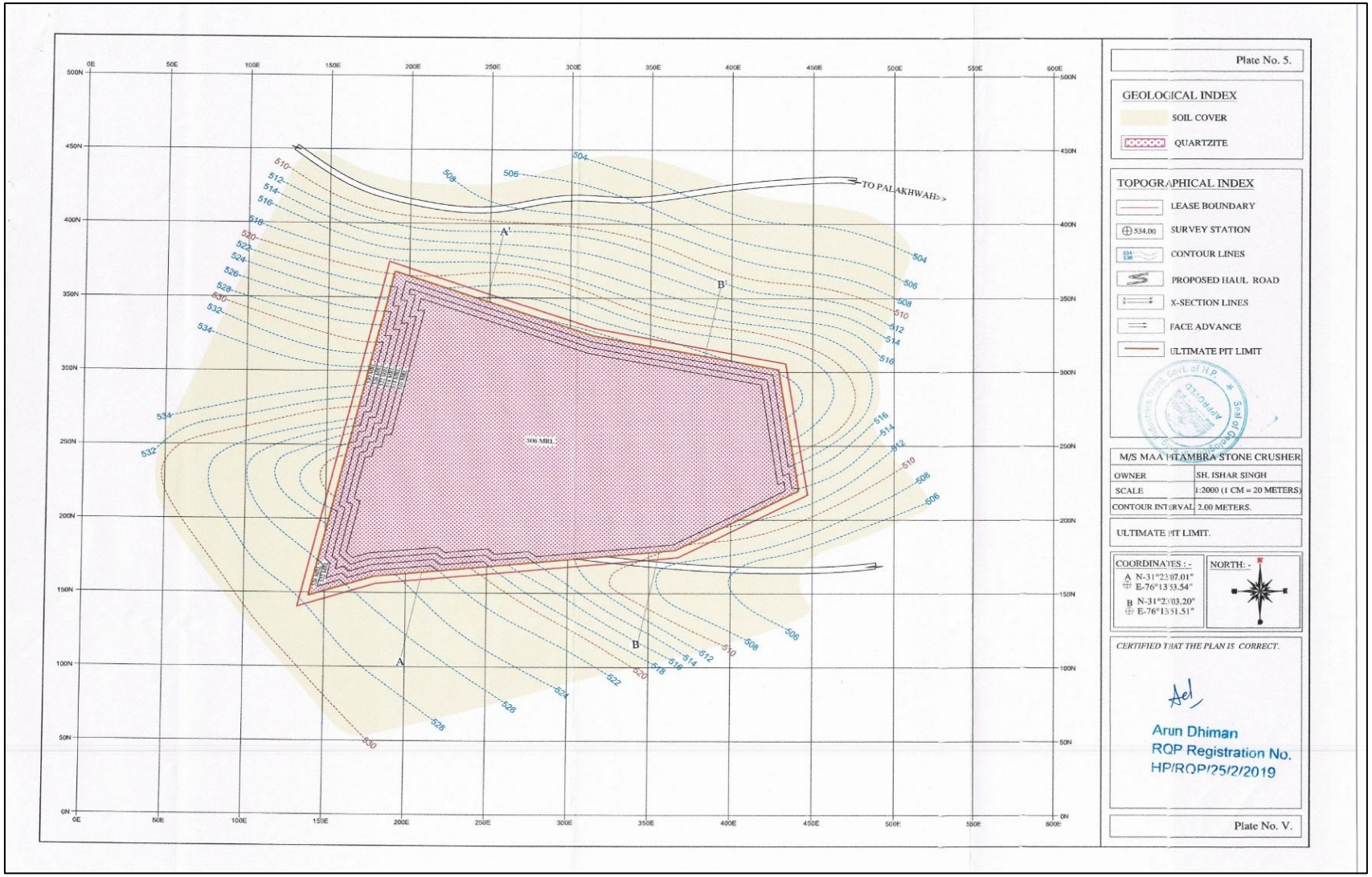


Figure- 2.10
Slice Plan

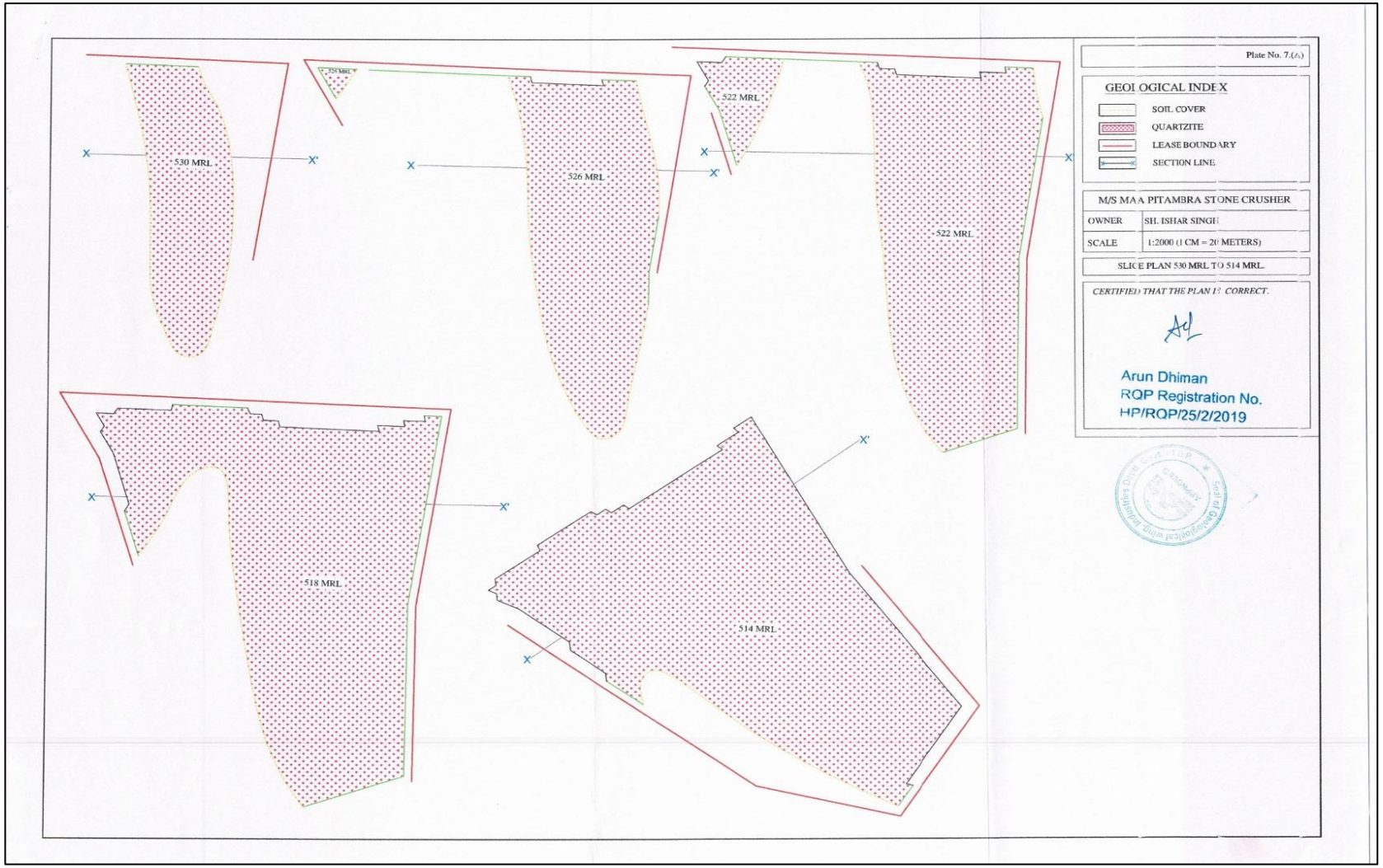


Figure- 2.11

Cross Section Map

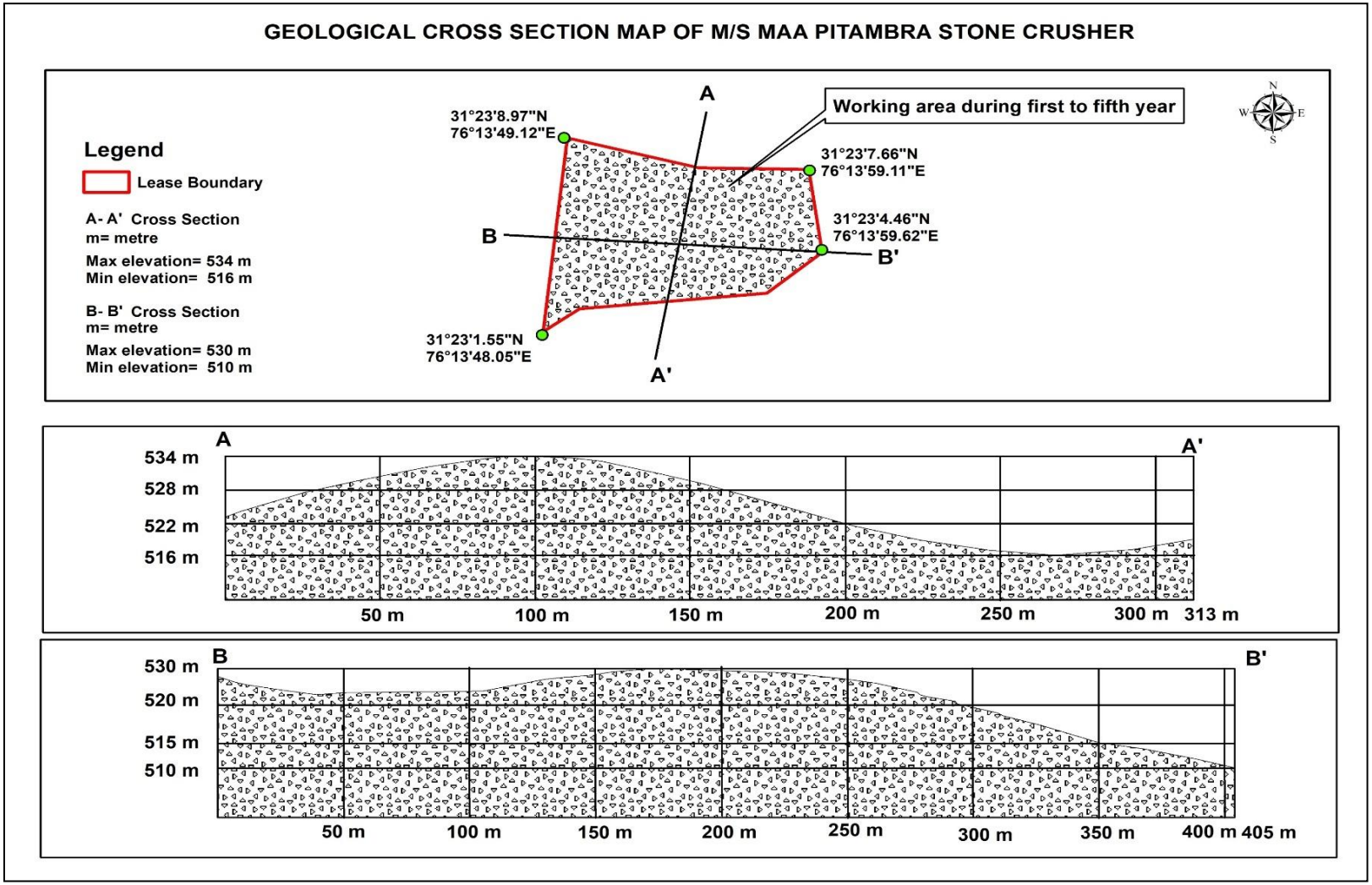


Figure- 2.12

Cross-section map - Along the course of Mining Area

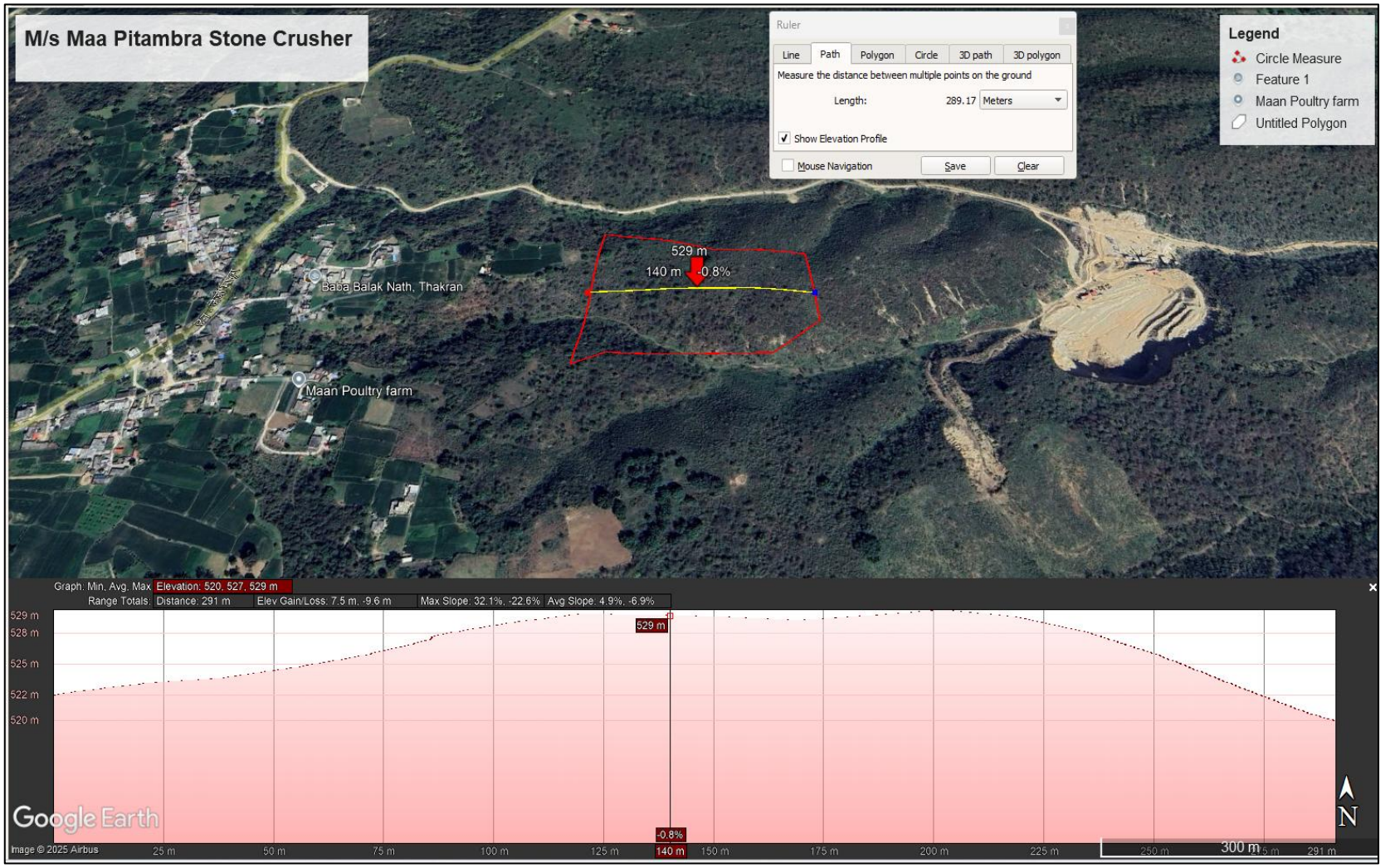
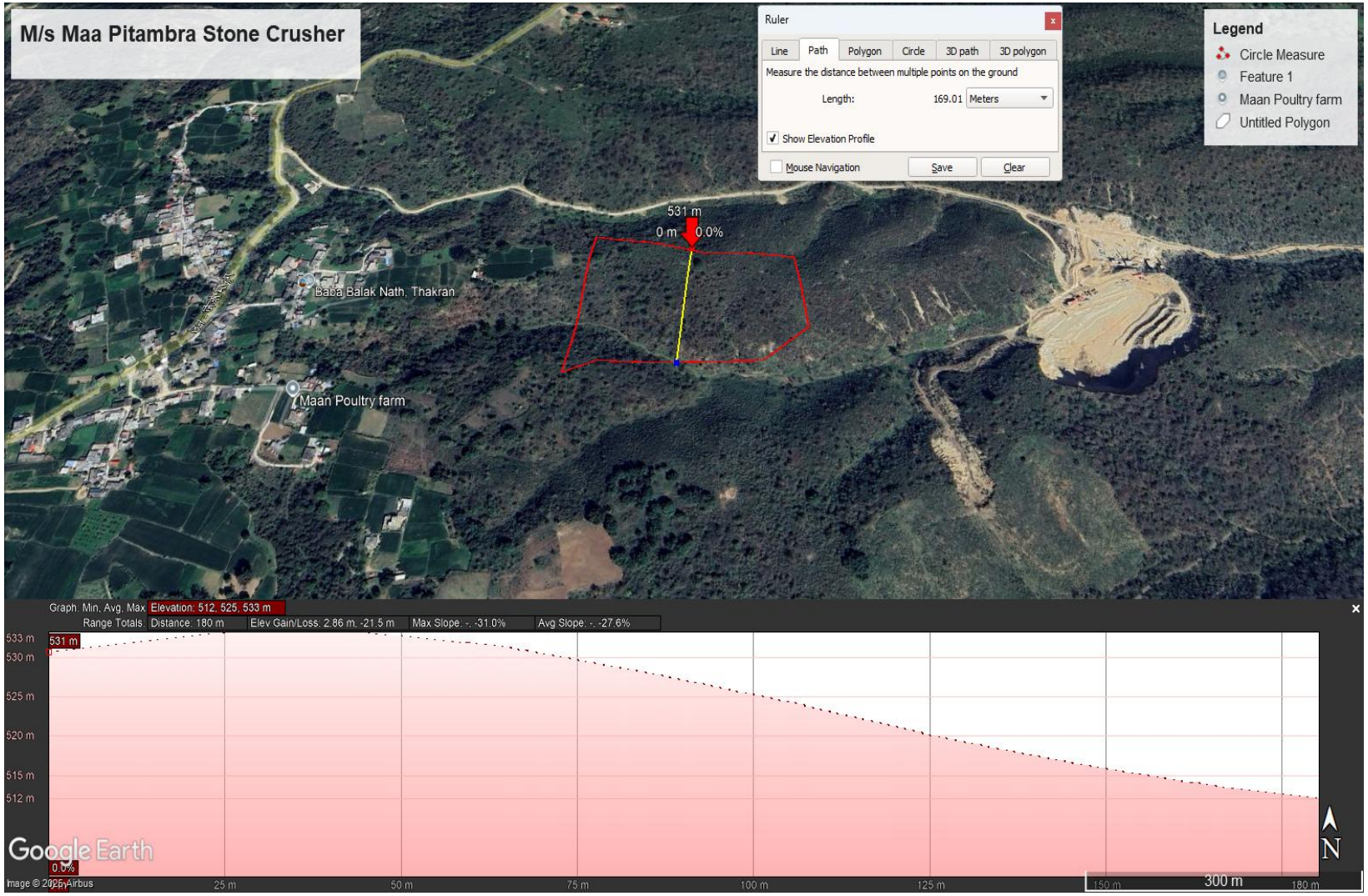


Figure -2.13

Cross-section map - Across the course of Mining Area



CHAPTER-3.0
BASELINE SETTINGS

3.1 INTRODUCTION:

This chapter outlines the existing environmental conditions related to land, air, water, biological, and socio-economic aspects. The proposed mining activity is limited in both area and scale; therefore, its zone of influence is expected to be confined primarily to the surrounding fields adjacent to the leased area.

To assess the potential environmental impacts, monitoring of key environmental parameters has been carried out within the core zone (the lease area) and the buffer zone (surrounding area). This monitoring has been conducted in accordance with the Terms of Reference (ToR) and the guidelines for the Environmental Impact Assessment (EIA) issued by the Ministry of Environment, Forest and Climate Change, Government of India.

The baseline data serves as a critical input for informed decision-making related to project planning, design, implementation, and operation from an environmental perspective. **The data was collected through both primary and secondary sources**. Primary data collection was carried out via direct environmental monitoring conducted by **M/s Chandigarh Pollution Testing Laboratory, Mohali—a NABL-accredited and MoEF&CC-recognized laboratory (NABL Certificate No. TC-6728, valid up to 08.11.2028) and also taken a baseline study of Previews EIA report of M/s Lakhwinder Singh Stone Crusher & Screening Plant from (*November 2023 to January 2024) and one-month additional study of November 2025*.** Secondary data was obtained from credible published sources.

3.2 PHYSIOGRAPHY OF THE DISTRICT:

Una district lies in the south- western of Himachal Pradesh. It bounded by Kangra district in the north and north-east, Hamirpur district in the east, Bilaspur in the south-east and Punjab in the west and south. The district lies between 31°17′52” and 31°52′0” in north latitudes and 75°58′00” and 76°28′25” in east longitudes. The district covers an area of 1,550 sq.km. the Himalayan foothill zone is bounded by the plains of Punjab in the west and Solasinghi Dhar in the east. In the western part also there is hill range whose maximum height is about 600 meters. The ranges trend in a general NW-SE direction and the area between these forms a longitudinal valley of the Swan River. The altitudes of the area vary from 350 meters to 1,200 meters on the Salasinghi Dhar. Shiwalik range experience heavy rainfall. The hill ranges are covered by scanty vegetation comprising mostly shrubs. Soan or Swan River, a tributary of river Satluj, drains the major part (80%) of the Una district. Soan

is an intermittent river and maintains base flow in the lower reaches. Soan river has about 80% catchment area in the Una district and divides the district into two parts. In general, the area is a part of the Siwalik range. The district can be divided into the following three district zones as per elevation:

1. *Above 900 m.*
2. *600-900 metres.*
3. *Less than 600 metres.*

3.3 PHYSIOGRAPHY OF THE PROJECT SITE:

The proposed project site is located on a hill slope terrain forming part of the lower to mid hill region of the area. The physiography is characterized by undulating to moderately sloping topography, with elevation gradually decreasing from the upper reaches of the lease area towards the adjoining lower land.

The slope direction generally follows the natural gradient of the hill, facilitating surface runoff during rainfall events. The terrain shows no abrupt cliffs or escarpments, however gentle to moderate slopes are present within the lease boundary. The landform has developed due to weathering and erosional processes, resulting in loose surface material over the parent rock in certain pockets.

Natural drainage is seasonal in nature, comprising small ephemeral nallahs and surface runoff channels that become active during the monsoon period. These drains ultimately merge with the regional drainage system outside the lease area. No permanent water bodies are present within the project site.

The hill slope is geologically stable, with no signs of landslides, mass movement, or slope failure observed within the lease area as per site conditions. The physiographic setting is suitable for the proposed mining activity, provided that controlled excavation, slope stability measures, and proper drainage management are maintained throughout the project life.

For spatial context and clarity:

- ***Features within 10 km radius are given in Table-3.1***
- ***Toposheet Map showing 10 km radius is given in Figure 3.1.***
- ***Pillar coordinates of the Mining land area showing in Fig. 3.2.***
- ***500-meter radius map given in figure 3.3.***

Table 3.1

Salient Features of The Project

S. No.	Particulars	Details			
1.	**Location**				
a)	**Mauza/ Mohal**	Thakran			
b)	**Tehsil**	Haroli			
c)	**District**	Una			
d)	**State**	Himachal Pradesh			
e)	**Lease Area Co-ordinates**	**Pillar No.**	**Latitude**	**Longitude**	
		P1	31°23'1.03"N	76°13'47.45"E	
		P2	31°23'9.32"N	76°13'48.28"E	
		P3	31°23'8.24"N	76°13'54.62"E	
		P4	31°23'2.77"N	76°13'57.74"E	
		P5	31°23'8.17"N	76°13'57.82 "E	
		P6	31°23'4.52"N	76°14'1.19 "E	
2.	**Elevation**	Highest 534 meters above MSL. Lowest 506 meters above MSL.			
3.	**Climatic Conditions**				
i.	**Temperature Min/Max**	**Winter (°C)**		**Summer (°C)**	**Rainy (°C)**
		Min 2.4	Min 20.7	Min. 19.2	Min 2.4
		Max.15.9	Max. 32.7	Max. 28.2	Max.15.9
ii.	**Rainfall: Average,**	Approx. 1090.0 mm			
iii.	**Relative Humidity, % (average annually)**	Lowest 39 %, Highest 85.0 %.			
iv.	**Wind speed**	1.89 m/s (approx.)			
4.	**Nearest highway/road**	MDR-39 (Una Jaijon Road) 1.03 Km			
5.	**Nearest railhead/ Railway station**	Naya Nangal Railway Station 11 Km			
6.	**Nearest airport**	Chandigarh Airport lies at a distance of 95.63 Km from project site.			
7.	**Nearest Major City**	Una (15.0 Km)			
8.	**Nearest Major Settlement.**	Una (15.0 km)			
Features within 10 kms					
i.	**Archaeological important places**	Nil			
ii.	**Wild life/ Elephant & Tiger Reserves & sanctuaries**	Nil (***12.90 Kms from Nangal Wildlife Sanctuary***)			
iii.	**Industries**	Nil			
iv.	**State boundary**	Punjab			

S. No.	Particulars	Details
v.	**Mining type**	Shamlat land - Hill Slope
People & Culture		
vi.	**Major Religions**	Hindu and Sikh.
vii.	**Language Spoken**	Punjabi, Hindi and Pahari
viii.	**Culture**	Traditional and Pahari

Figure- 3.1

Location Map on 10 Km Toposheet

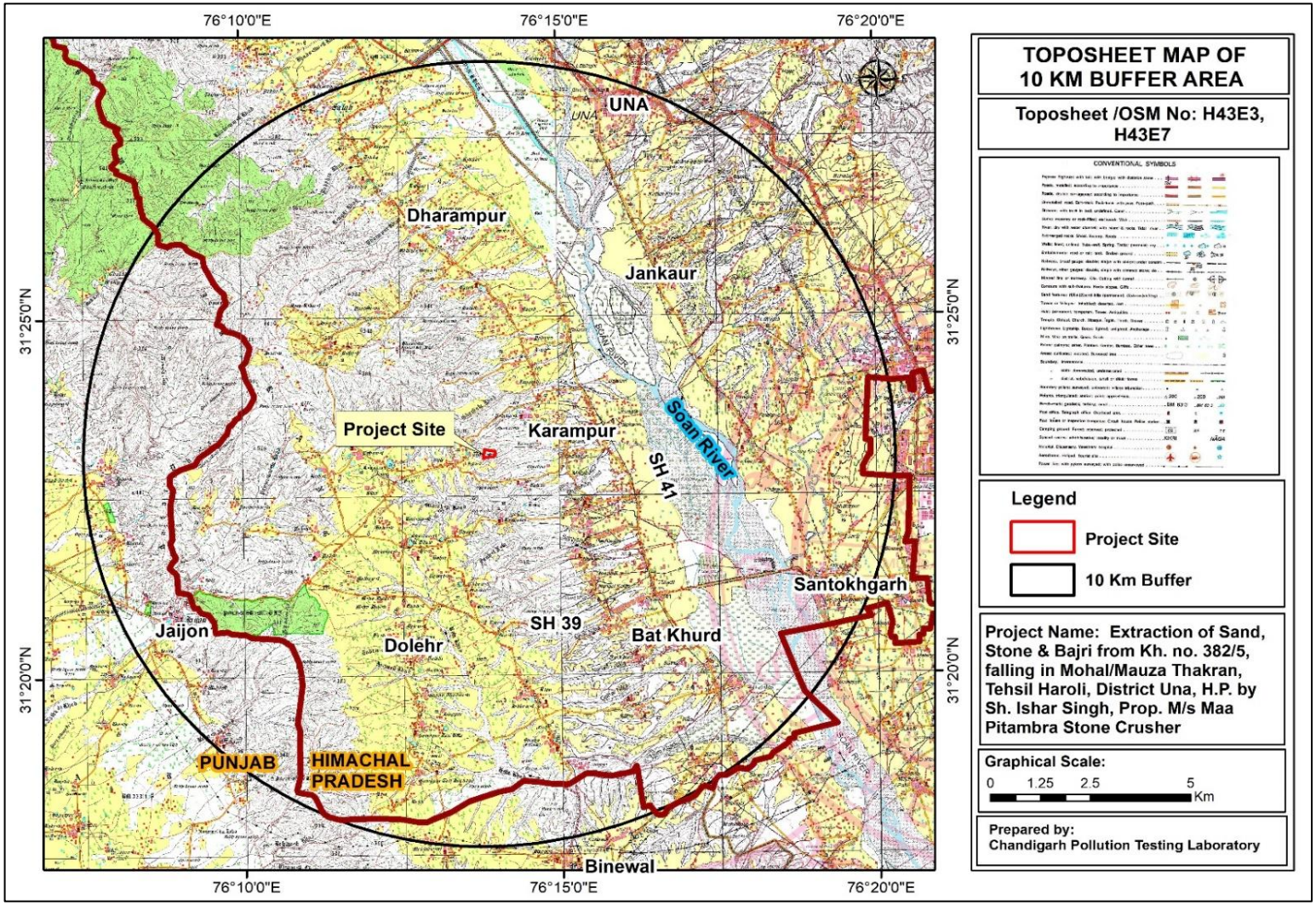


Figure- 3.2

Pillar Co-ordinates Map

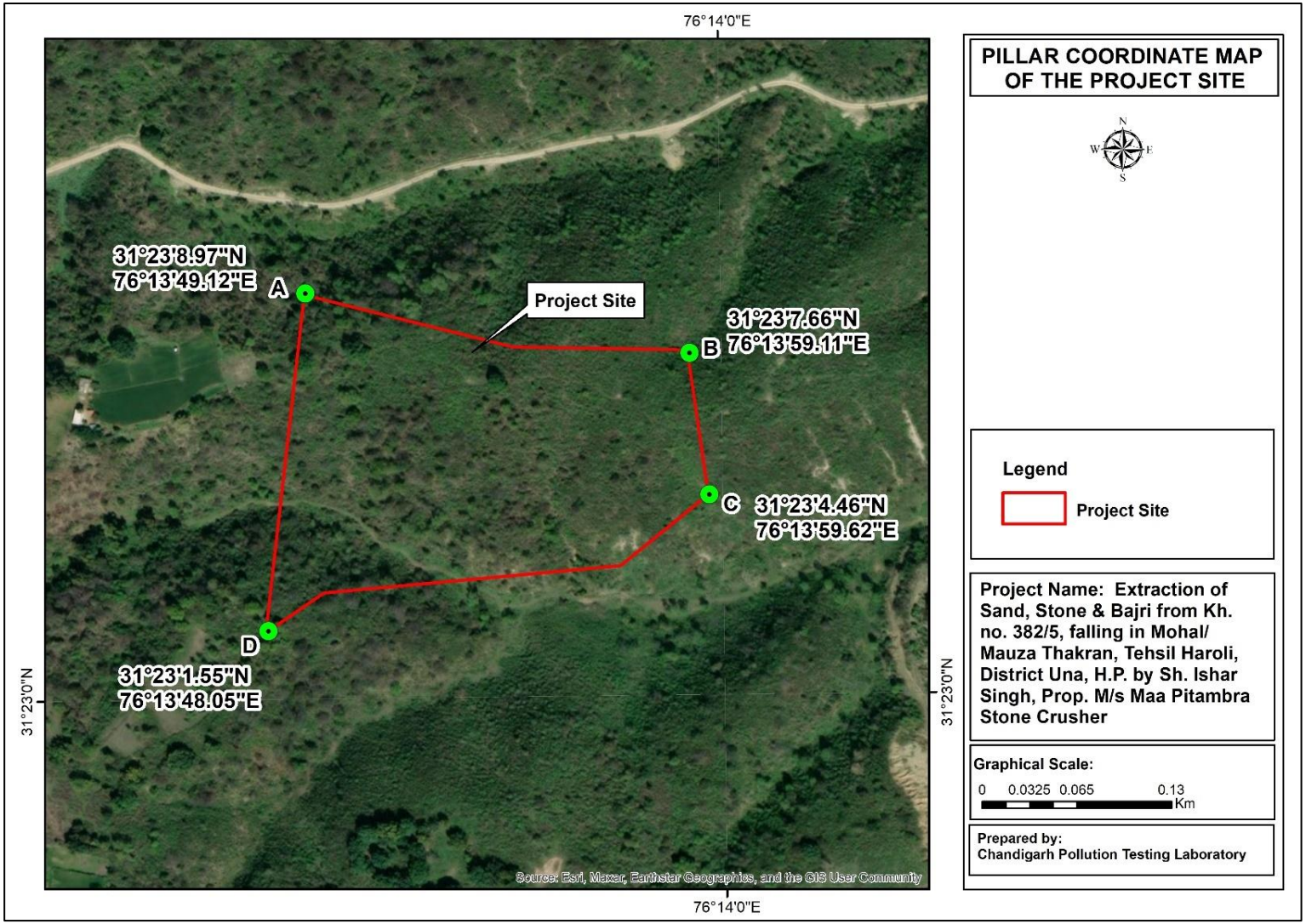
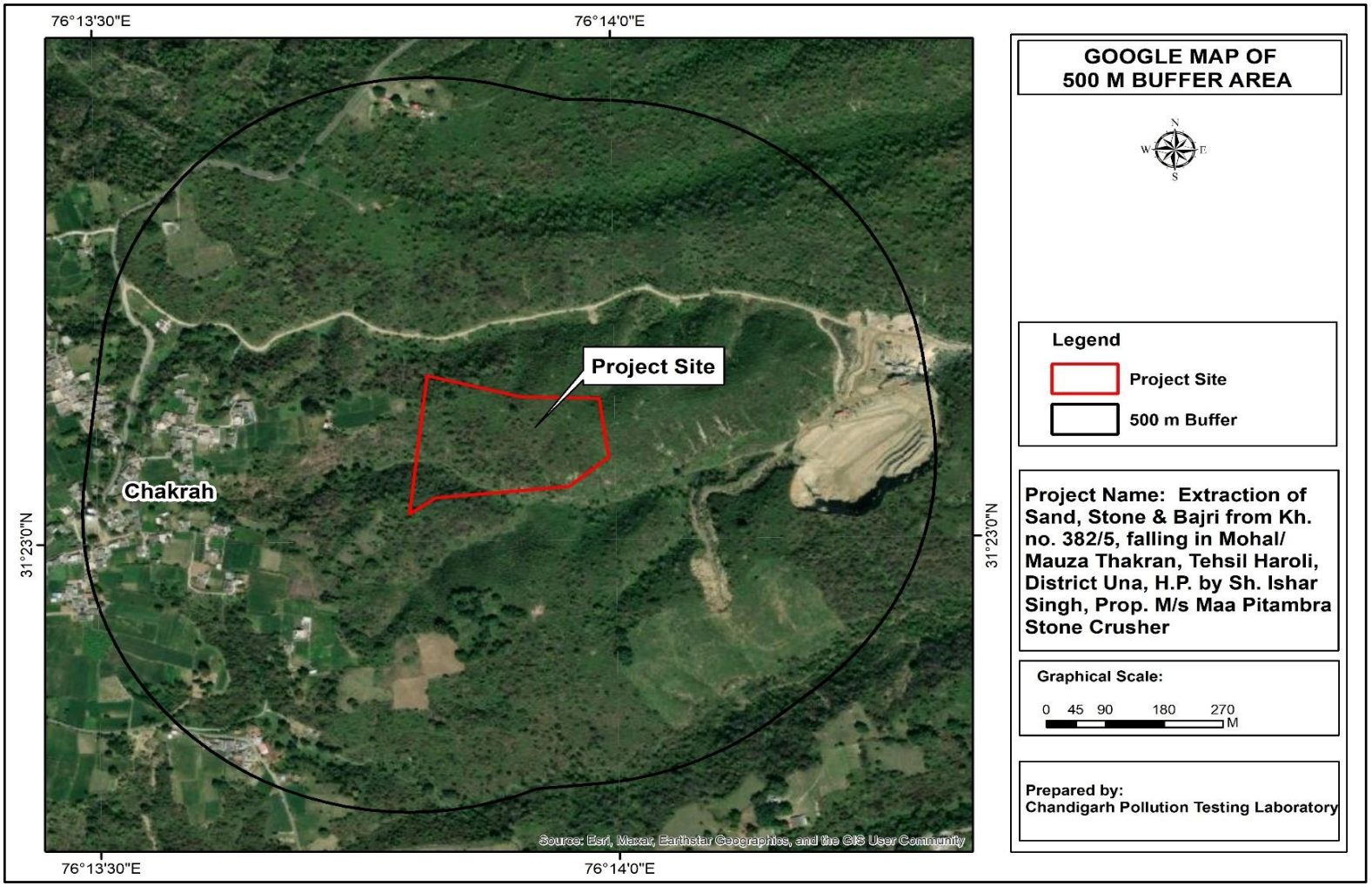


Figure- 3.3

500m Radius Map



3.4 STUDY PERIOD:

The environmental monitoring for the EIA study, for the project has been conducted for the post-monsoon season. Initially, a reconnaissance survey of the study area was carried out and then field monitoring for measuring meteorological parameters, ambient air quality, water quality, soil quality and noise levels was carried out for a nearby unit namely, **M/s Lakhwinder Singh Stone Crusher and Screening Plant from November, 2023 to January, 2024**. As per **OM dated 08.06.2022**, this baseline data shall be considered, subject to the condition that it is revalidated for three years at the time of submission. In the view of said OM, **one-month additional study** has been conducted for the proposed project from **1st November, 2025 to 30th November, 2025**. In addition, certain aspects like land area, socio-economic status, past meteorological conditions, etc., have been analyzed based on secondary information available from sources like district census reports, district gazetteers, Indian meteorological department, etc. The baseline status of various environmental components is described in the succeeding sections.

3.4.1 Components of Study:

This chapter contains information on existing environmental scenario for the following parameters:

1. *Land Environment*
2. *Meteorology*
3. *Air Environment*
4. *Noise Environment*
5. *Water Environment*
6. *Soil Environment*
7. *Biological Environment*
8. *Socio-economic Environment*

3.4.2 Methodology:

For the present study, all the sampling locations are marked with the help of Google maps and site visits. The land use/ land cover map has been generated on 1:50,000 scale using Satellite imagery and ground truth information. The baseline environmental quality has been assessed during the period from **1st November, 2025 to 30th November, 2025**. Samples of Air, Water, Noise and Soil from the site and nearby areas has been collected and analyzed for the study of existing condition. Primary and secondary data collection has been done by the Ecology and Biodiversity team for the study of flora and fauna in the study area. The baseline data is generated through field study within the impact zone for various components of the environment viz. Air, Noise, Water, Land, Ecology

and Socioeconomic. While generating the baseline status of physical and biological environment of the study area, the concept of impact zone has been considered. The impact zone selection is based on preliminary screening and modeling studies. The methodologies for various environmental facets are as follow:

I. Ambient Air Quality

The ambient air quality monitoring was done to assess the ambient air quality in one season. The guidelines for selections of ambient air monitoring stations given in IS – 5182 part 14, 2000 and 'Guidelines for Ambient Air Quality Monitoring' by CPCB were followed.

II. Water Quality

To assess the water quality of the proposed area, sampling was done as per the standard practice. Grab sampling was done for ground and surface water. Water samples were taken as per the standard methods (IS 10500: 2012 & APHA, 23rd Edition). Necessary precautions were taken for preservation of samples. The physical parameters viz. pH, temperature and conductivity were measured at site.

III. Ambient Noise Quality

At each station noise levels were monitored for day and night time once in a season.

IV. Soil Quality

For soil, augur method was used and samples were collected at 15-25 cm depth after removing the upper crust.

V. Land Use

The land use/ land cover map has been generated on 1:50,000 scale using Satellite imageryand ground truth information.

VI. Biological Environment

Primary and secondary data collection has been done by the Ecology and Biodiversity teamfor the study of flora and fauna in the core and Buffer Zone.

VII. Socio-Economic Environment

For demography and socioeconomics, block wise data has been collected and used for the assessment of impacts.

VIII. Micro-Meteorological Data

Meteorology is the key to understand the air quality. The essential relationship between

meteorological condition and atmospheric dispersion involves the wind speed and direction in the broad sense. Other factors such as variation in temperature, humidity, cloud cover, atmospheric stability etc. also play a direct role in dispersion and dilution of pollutants. Wind fluctuations over a wide range of time, accomplish dispersion and strongly influence other processes associated with them.

3.5 ENVIRONMENTAL BASELINE DATA COLLECTION:

Baseline data for the proposed plant was collected immediately after the monsoon season. Primary data has been collected by monitoring & surveying various environmental components/ parameters in the core zone during the study period, details of which are given here.

PRIMARY DATA

S. No.	Parameters	Description
1.	**Meteorology**	Meteorological parameters on hourly basis at project site. **Parameters: *Temperature, Relative humidity, Wind Speed & Wind Direction.***
2.	**Air**	Ambient air quality monitoring (24 hourly), twice a week. **Parameters are *PM_{10}, $PM_{2.5}$, SO_2, NO_2 & CO.*** **No. of Locations: 8 locations in core and buffer zone.**
3.	**Noise**	Noise level monitoring ***(Day & Night time)***, once in a season. **No. of Locations: 8 locations in core and buffer zone.**
4.	**Water**	Ground water & surface water sampling, once in a season. No. of Locations: 1 location in core zone and 8 locations in buffer zone (***for groundwater***), 1 location in buffer zone (***for surface water***). ***Tested for physical and chemical parameters.***
5.	**Soil**	Soil sampling, once in a season. **No. of Locations: 8 locations in core and buffer zone.**
6.	**Biological Factors**	Biodiversity survey, once in a season. **Location: Core and buffer zone.**
7.	**Socio-economic Environment**	Socio-economic survey, once in a season. **Location: Core and buffer zone.**

3.6 METEOROLOGY:

Meteorology plays a vital role in affecting the dispersion of pollutants. Since meteorological factors show wide fluctuations with time, meaningful interpretations can be drawn only from long term reliable data. The source of such data is the Indian meteorological Department (IMD), which maintains a network of meteorological stations at several important locations. The nearest stations of the study are Una.

3.6.1 Climate:

The climate of the district is sub- tropical in the valley and tends to be temperate in the hilltops. There are four major seasons: The summer season commences from Nov to Feb & ends in March; summer season extends from March to June followed by the monsoon period extending from July to September. Maximum precipitation occurs during the months from July to September. In Summer season precipitation as snowfall also occurs in the higher reaches up to 1000m elevation and as rainfall in low hills and valleys of the district. The hottest months are May and June when temperature usually hover around 37-.38°C and sometimes for few days jumping to above 40°C, the nights are comparatively cooler. The climate of Una District is shown in table 3.2.

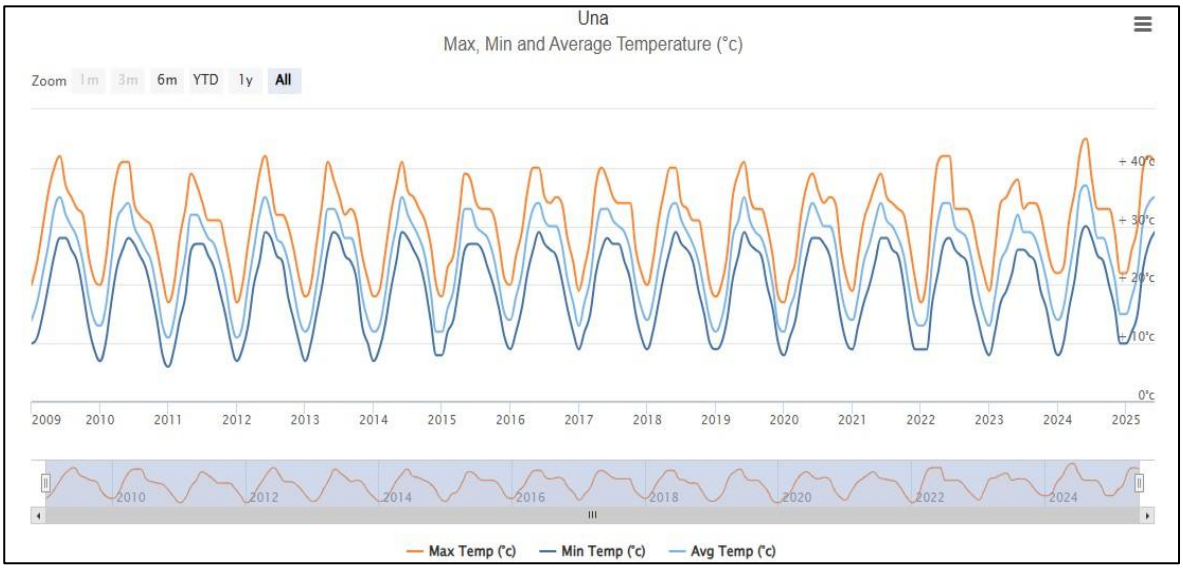
Table 3.2(a): Climate of Una District, Himachal Pradesh

Climate	Winter	Summer	Rainy
Period	Oct-Mid-March	Mid. March-June	**July-September**
Weather	**Cool**	**Hot**	**Humid**

3.6.2 Temperature:

The temperature of the district varies from the Dun valley registering as low as 2.4°C as minimum in winter months of December/ January and as high as 32.7°C in summer month of June.

Fig 3.4 Average Temperature data (°C)



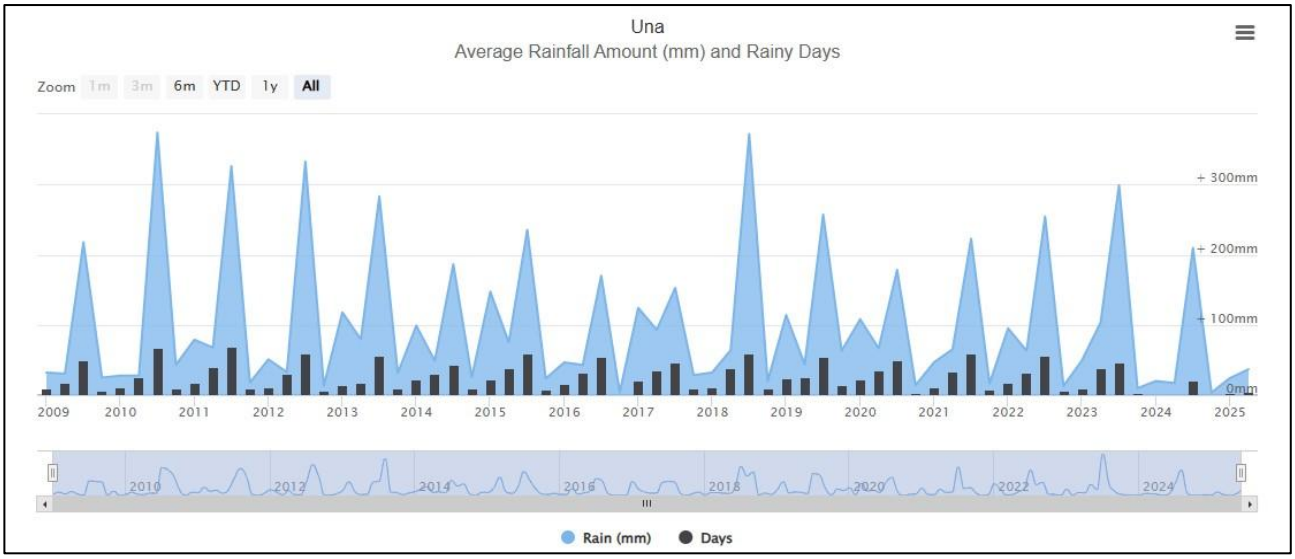
(Source: https://www.worldweatheronline.com/en-in/una-weather-averages/himachal-pradesh/in.aspx)

3.6.3 Rainfall:

The rainfall in the zone is caused by the Southwest monsoon. It starts in the month of July and extends up-to the end of September. During this period the monsoon rain-fall contributes about 70 to 80% of

the total annual rainfall. The average annual rainfall is in the range of 1010mm. The annual numbers of rainy days on an average are about 62 in a year, out of which about 30 falls in the monsoon period of July to September. Annual weather averages in given in Table 3.1

Fig. 3.5 Average Rainfall data (mm)



(Source: https://www.worldweatheronline.com/en-in/una-weather-averages/himachal-pradesh/in.aspx

3.6.4 Humidity:

In summer months of April, May and June, which is the driest part of the year, the afternoon humidity comes down to around 19 % to 22 % while the relative humidity during monsoon months goes up to 55 % to 98 %.

3.6.5 Cloudiness:

During monsoon season skies are over cast with moderate to heavy clouds. During rest of the year, the sky is mostly clear. It is lightly clouded occasionally during winter season.

3.6.6 Micro Meteorology at Site:

Meteorological station was set-up at site to record surface meteorological parameter during the study period. Summary of the micro-meteorology at site is given in table 3.2:

Table 3.2(b)

Micro-Meteorology at site

Month	Temperature (°C)		Relative Humidity (%)		Pressure (mbar)	
	Max.	Min.	Max.	Min.	Max.	Min.
November 2023	30	9	100	32	1021	1011
December 2023	34	4	100	44	1024	1013

Month	Temperature (°C)		Relative Humidity (%)		Pressure (mbar)	
	Max.	Min.	Max.	Min.	Max.	Min.
January 2024	22	2	100	53	1024	1013
November 2025	30	5	100	21	1023	1006

(Source- https://www.timeanddate.com/weather/india/Una/historic?month=3&year=2024) and Weather by Custom Weather, 2026

3.6.7 Winds:

The Wind direction in the area is mostly from North-West to South-East. During January to May the winds are quite strong while July to October is calm months. The general trends of various meteorological data from meteorological observatory are used to draw Wind Rose Diagram. The diagram is given in figure 3.4.

Wind Rose Pattern:

- A wind rose diagram is a graphical tool used to visualize the distribution and frequency of wind directions at a specific location over a given period of time. This diagram consists of a circular plot divided into segments that represent different wind directions (e.g., north, south, east, west) around the compass. The length of each segment corresponds to the proportion of time the wind blows from that direction, while color shading or concentric circles may indicate wind speed ranges.
- Wind speed and wind direction data recorded during the study period is useful in identifying the influence of meteorology on the air quality of the study area. Based on the collected meteorological data, relative percentage frequencies of different wind directions are calculated and plotted as wind rose for twenty-four hourly durations.

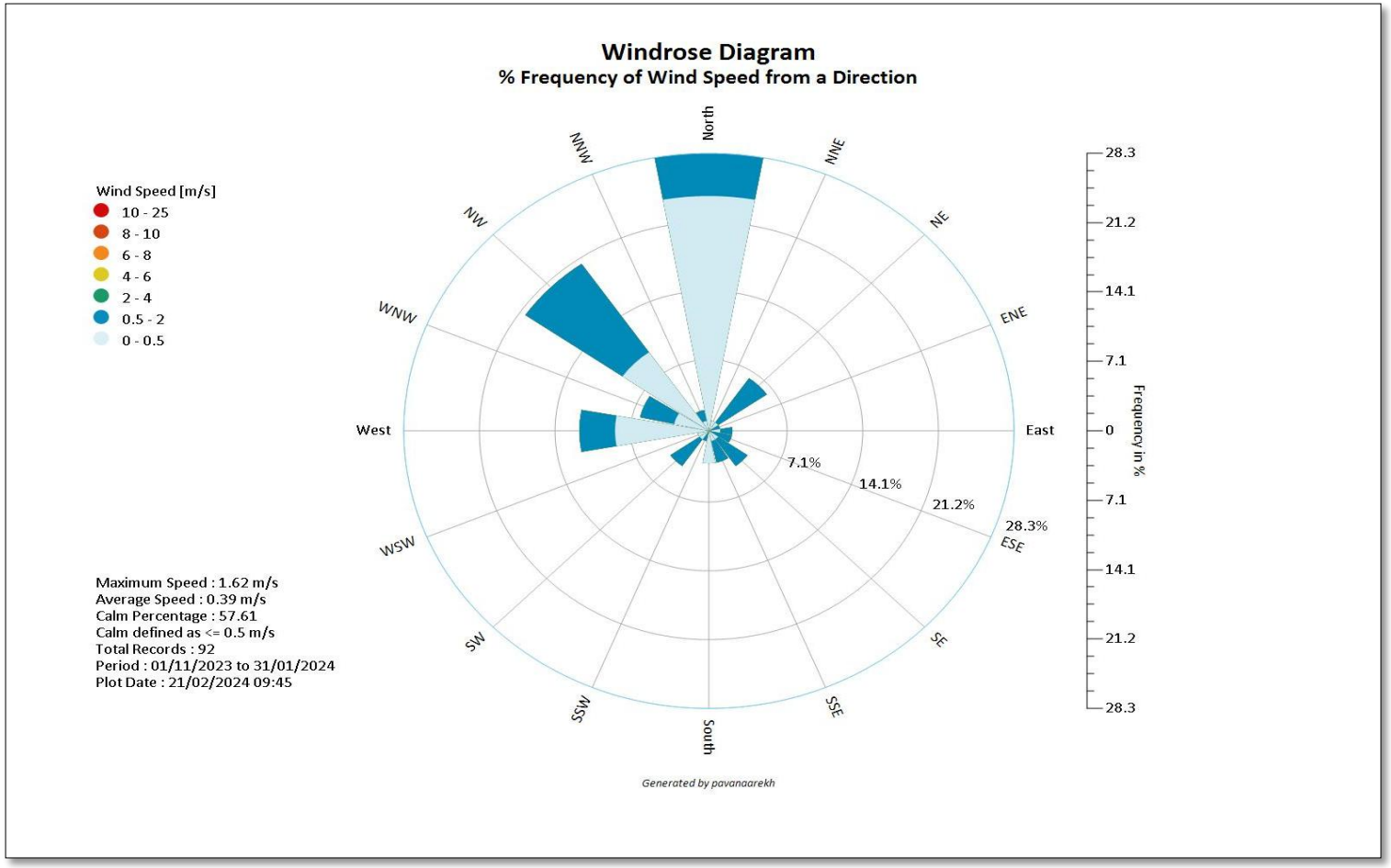
Table: 3.3

Summary of site-specific wind pattern

Particulars	Details
Season	Winter season
First Predominant Wind Direction	N & NW
Avg. Wind Speed (m/s)	0.39 m/s
Maximum Speed	1.62 m/s
Calm Percentage	57.61
Period	01.11.2023 to 31.01.2024
Additional Study Month	
Season	Winter season
First Predominant Wind Direction	N & NW
Avg. Wind Speed (m/s)	0.58 m/s
Maximum Speed	1.89 m/s
Calm Percentage	43.33
Period	01.11.2025 to 30.11.2025

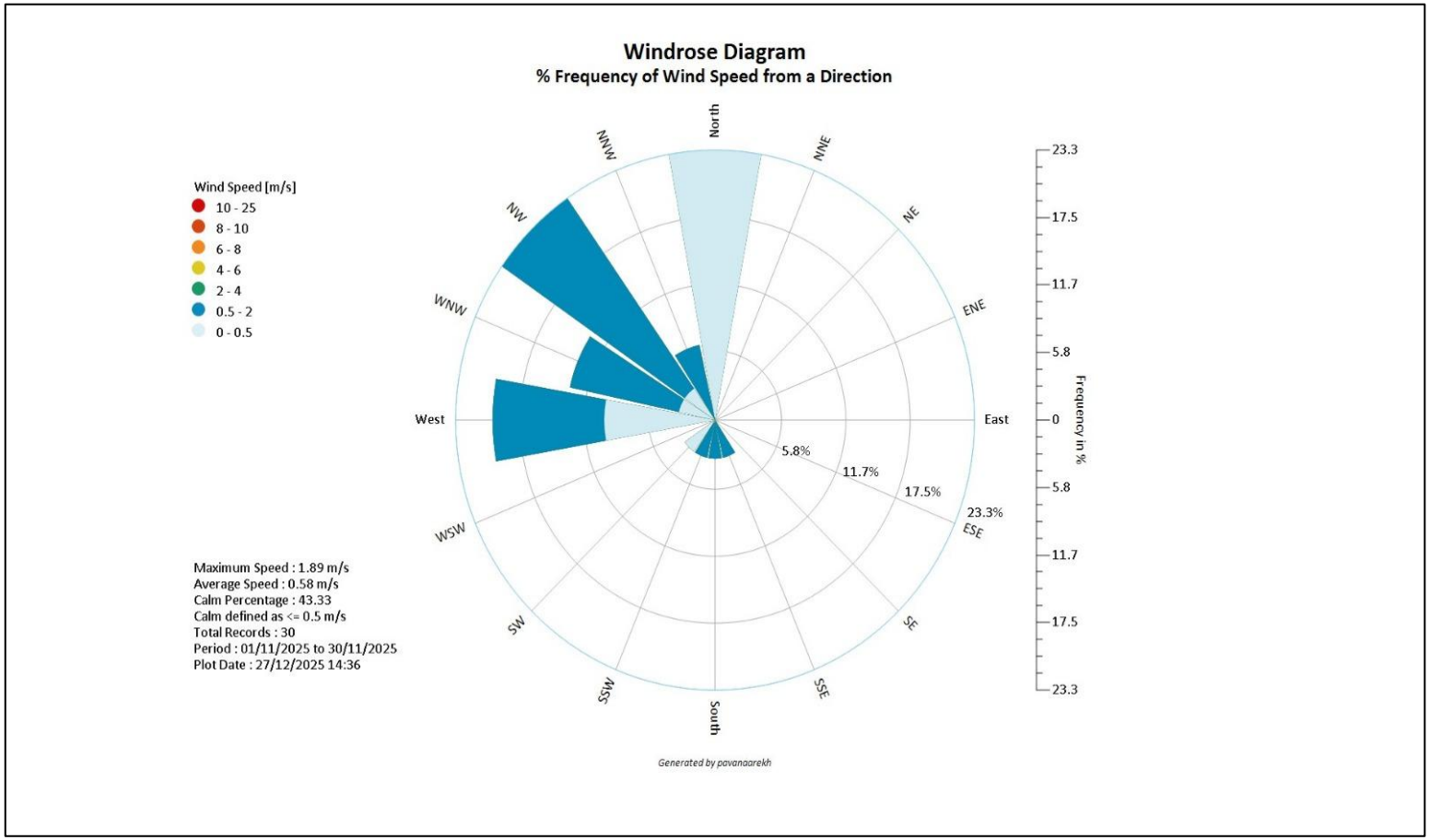
Figure- 3.6 (a)

Wind Rose Diagram (November, 2023 to January, 2024)



(Source- Pavanaarekh Software)

Figure- 3.6 (b)
Wind Rose Diagram (1st November, 2025 to 30th November, 2025)



(Source- Pavanaarekh Software)

3.7 AMBIENT AIR QUALITY:

The ambient air quality monitoring was done to assess the current status of air quality in the study area. Monitoring was carried out at eight stations for a nearby unit namely M/s Lakhwinder Stone Crusher and Screening Plant from November, 2023 to January, 2024. Same 8 locations have been monitored during 1st November, 2025 to 30th November, 2025 as one -additional month study for the proposed project. The guidelines for selections of ambient air monitoring stations given in IS – 5182 part 14, 2000 and 'CPCB guidelines for air quality monitoring' were followed. These guidelines state that, "when the objective of air sampling is to identify the contribution from specific sources of pollution, the sampling locations should be located in upwind and the downwind direction of such sources".

The location of air quality monitoring stations has been selected considering:

1. The site should be representative of the area selected;
2. Certain physical requirements should be satisfied at the site.

Methodology:

The prime objective of the baseline study with respect to ambient air quality is to establish the present air quality and its conformity to National Ambient Air Quality Standards. This data has been further used during impact assessment to predict the final air quality. This section describes the sampling locations, frequency of sampling and methodology adopted for monitoring ambient air quality.

To quantify the impact of the project on the ambient air quality, it is necessary at first to evaluate the existing ambient air quality of the area. The existing ambient air quality, in terms of Particulate Matter- 10(PM10), Particulate Matter-2.5 (PM2.5), Sulphur-dioxide (SO2), Oxides of Nitrogen (NO2), and Carbon Monoxide (CO), has been measured through a planned field monitoring.

Sampling Stations:

To select the air sampling locations, meteorological data with respect to temperature, relative humidity, wind speed and direction plays a vital role. Predominant wind direction plays an important role in determining location of monitoring stations. The monitoring stations were located in areas that were downwind from the source. List of Air sampling stations are given in Table 3.4 and Location of Air Sampling Stations are given in Figure 3.3

Table 3.4

Ambient Air Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction	Upwind/ Downwind	Co-ordinates	Observation
1.	AAQ-1	**Project site**	**0**	--	31°23'4.40"N 76°13'50.75"E	Monitoring conducted within the proposed project site
2.	AAQ-2	**Palakwah**	1.70 (NE)	Crosswind	31°23'45.76"N 76°14'40.32"E	Monitoring conducted near Primary Health Center, Palakwah.
3.	AAQ-3	**Beeton**	4.99 (S)	Downwind	31°20'20.90"N 76°14'9.01"E	Monitoring conducted near Govt. Senior Secondary School, Beeton
4.	AAQ-4	**Tahliwal**	4.19 (SE)	Crosswind	31°21'10.71"N 76°15'24.65"E	Monitoring conducted near Baba Nag Ji Mandir, Tahliwal.
5.	AAQ-5	**Haroli**	3.66 (N)	Upwind	31°25'1.09"N 76°13'27.49"E	Monitoring conducted at PWD guest house Haroli.
6.	AAQ-6	**Kutharbeet**	4.11 (SW)	Crosswind	31°22'0.78"N 76°11'34.24"E	Monitoring conducted at Govt Primary Health Center, Kutharbeet.
7.	AAQ-7	**Dhugge**	3.40 (S)	Crosswind	31°21'16.03"N 76°13'19.17"E	Monitoring conducted in the village Dhugge.
8.	AAQ-8	**Bathu**	7.26 (SE)	Crosswind	31°19'41.31"N 76°16'8.66"E	Monitoring conducted near the house

- **Monitoring Schedule:**

Ambient air quality monitoring was carried out twice a week with a frequency of 24 hours for 12 weeks.

- **Methods of Sampling and Analysis:**

Sampling was done as per guidelines laid down in IS – 5182 part 14, 2000 and respective IS- methods for the analysis of various air pollutants. The instruments/ equipment's used for sampling are

calibrated by NABL approved instructions. In addition, collated sampling was undertaken one each for upwind, downwind & crosswind direction to project site, the result of which reveals that the air quality is quite satisfactory both in terms of NAAQ standards and the overall AQI for that period and station.

Fine particulate Sampler APM-550 & RDS APM-460 were used for monitoring of Particulate Matter (PM2.5 and PM10); gaseous pollutants like SO2, and NO2 were collected by Gaseous attachment. The analysis was done as per methods mentioned below:

Table 3.5

Method of sampling and analysis

S. No.	Parameters and units of measurement	Analysis Method
1.	PM_{10} µg/m^3	IS:5182:P-23:2006(RA-2022)
2.	$PM_{2.5}$ µg/m^3	IS:5182:(P-24):2019
3.	SO_2 µg/m^3	IS:5182:(P-2/sec1):2023
4.	NOx µg/m^3	IS:5182:P-6:2006(RA-2022)
5.	CO mg/m^3	IS:5182:P-10:1999:(RA-2019)

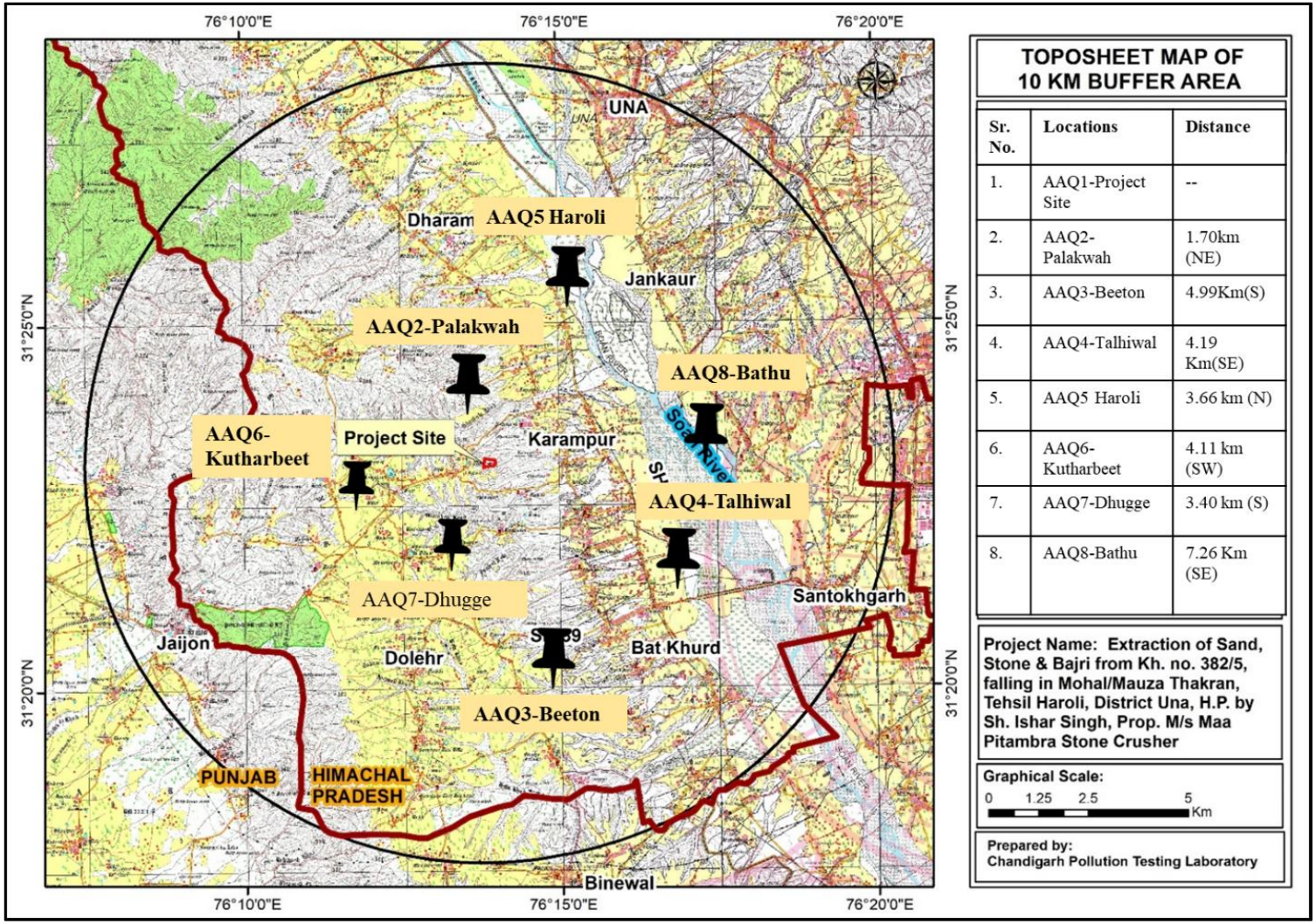
- **Sample Transportation and Sample Preservation:**

Proper preservation of samples was done after sampling. The Gaseous samples were preserved in an ice box (below 4°C) and transported to the laboratory for analysis. The filter papers were collected using forceps and stored in polythene bags and stored in dry containers during transportation.

- **Results:**

The results given in Table-3.6(a) for study period of November, 2023 to January, 2024 and Table 3.6(b) for one-month additional study period of 1st November to 30th November, 2025 and compared with National Ambient Air Quality Standards (NAAQS) for "Industrial, Residential, Rural and Other Areas" show that the individuals values of ambient air quality parameters are well within the stipulated limit.

Figure- 3.7 (a)
Locations of Air Monitoring Stations



Sr. No.	Locations	Distance
1.	AAQ1-Project Site	--
2.	AAQ2-Palakwah	1.70km (NE)
3.	AAQ3-Beeton	4.99Km(S)
4.	AAQ4-Talhiwal	4.19 Km(SE)
5.	AAQ5 Haroli	3.66 km (N)
6.	AAQ6-Kutharbeet	4.11 km (SW)
7.	AAQ7-Dhugge	3.40 km (S)
8.	AAQ8-Bathu	7.26 Km (SE)

Table- 3.6(a)

Ambient Air Quality Monitoring Results (November, 2023 to January, 2024)

Locations	PM_{10} (µg/m^3)			$PM_{2.5}$ (µg/m^3)			SO_2 (µg/m^3)			NO_x (µg/m^3)			CO (mg/m^3)		
	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.
AAQ1-Project Site	71.5	64.4	67.95	38.6	31.5	35.05	6.8	5.4	6.1	11.4	9.1	10.25	ND	ND	ND
AAQ2-Palakwah	66.4	61.5	63.95	36.5	32.2	34.35	6.8	4.8	5.8	11.6	9.2	10.4	ND	ND	ND
AAQ3-Beeton	69.9	61.4	65.65	38.9	34.1	36.5	6.8	4.6	5.7	10.9	9.1	10	ND	ND	ND
AAQ4-Tahliwal	68.1	62.6	65.35	39.8	34.4	37.1	8.4	5.4	6.9	10.9	8.3	9.6	ND	ND	ND
AAQ5-Haroli	75.0	64.4	69.7	39.5	34.4	36.95	6.9	4.5	5.7	11.6	9.1	10.35	ND	ND	ND
AAQ6-Kutharbeet	69.6	64.3	66.95	39.9	34.5	37.2	6.9	5.4	6.15	10.9	9.4	10.15	ND	ND	ND
AAQ7-Dhugge	69.8	64.3	67.05	39.5	34.4	36.95	6.9	4.5	5.7	11.8	9	10.4	ND	ND	ND
AAQ8-Bathu	69.8	64.4	67.1	39.7	34.7	37.2	7.4	4.6	6	10.8	9	9.9	ND	ND	ND
P98	68.2			37.2			6.45			10.05			ND		
CPCB Standards	**100**			**60**			**80**			**80**			**4**		

Table- 3.6(b)

Ambient Air Quality Monitoring Results (1st November to 30th November, 2025)

Locations	PM_{10} (µg/m³)			$PM_{2.5}$ (µg/m³)			SO_2 (µg/m³)			NO_x (µg/m³)			O3 (µg /m³)			CO (mg/m³)		
	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.
AAQ1-Project Site	70.4	63.4	66.9	35.4	32.5	34	5.5	5.2	5.4	9.8	7.6	8.7	21.6	20.1	20.85	0.55	0.51	0.53
AAQ2-Palakwah	69.3	61.4	65.4	33.8	31.3	32.6	5.5	5.1	5.3	8.9	5.8	7.4	21.4	20.2	20.8	0.54	0.51	0.5
AAQ3-Beeton	66.4	62.5	64.5	34.6	31.3	33	6.2	5.3	5.8	9.3	6.1	7.7	22.2	20.2	21.2	0.55	0.5	0.53
AAQ4-Tahliwal	64.4	59.7	62.1	32.5	30	31.3	6.6	5.9	6.3	9.8	5.4	7.6	22.2	20	21.1	0.53	0.5	0.52
AAQ5-Haroli	65.7	62.4	64.1	33.3	30.4	31.9	6.3	5.8	6.1	9.9	7.1	8.5	22.3	20.2	21.25	0.53	0.51	0.52
AAQ6-Kutharbeet	64.8	61.9	63.4	33.3	31.3	32.3	6.3	5.8	6.1	10.2	9.6	9.9	21.4	19.6	20.5	0.53	0.51	0.52
AAQ7-Dhugge	65.5	61.4	63.5	38.3	32.1	35.2	6.6	5.2	5.9	10.4	9.6	10	22.2	20.1	21.15	0.56	0.51	0.54
AAQ8-Bathu	66.6	63.5	65.1	33.8	31.7	32.8	6.5	5.5	6	8.9	6.9	7.9	22.2	20.2	21.2	0.52	0.5	0.51
P98	69.3			37.5			6.5			9.9			22.03			0.55		
CPCB Standards	**100**			**60**			**80**			**80**			**100**			**4**		

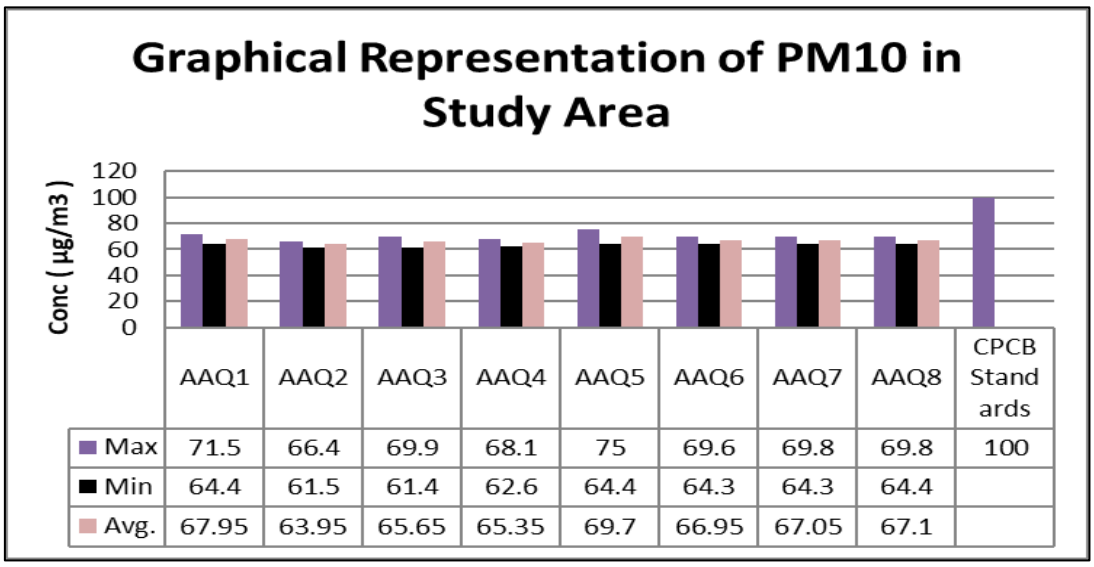
Figure-3.7(a)

Sampling Photographs

INTERPRETATION:

1. Respirable Suspended Particulate Matter (PM10) (November,2023 to January, 2024)

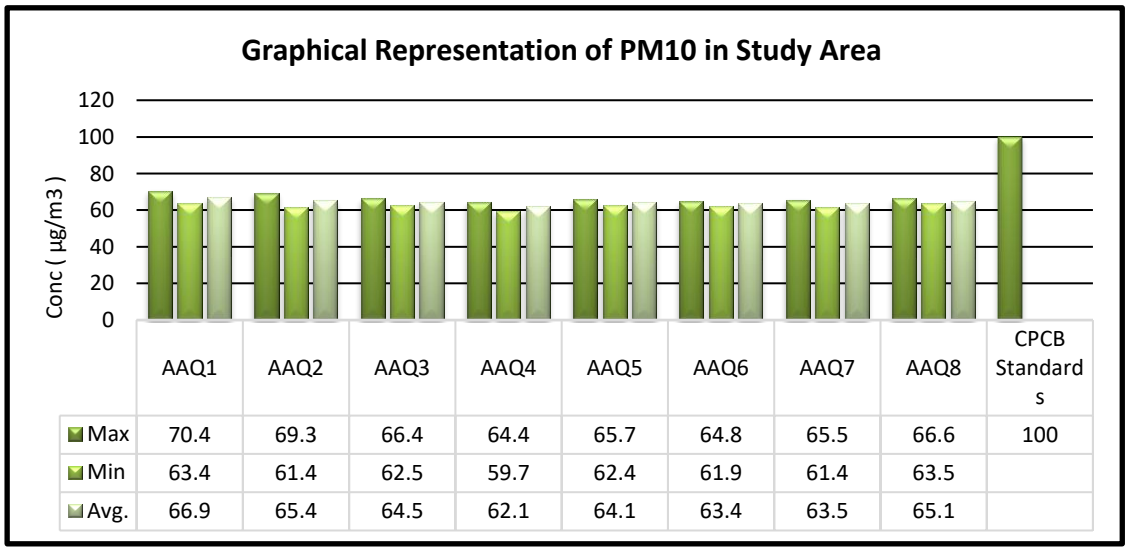
The analyzed values of the PM_{10} parameter in ambient air range from 61.4 µg/m³ to 75.0 µg/m³, which remain below the prescribed limit of 100 µg/m³ as per the National Ambient Air Quality Standards (NAAQS) notified by the MoEF&CC vide Notification dated 18.11.2009. The highest concentration was recorded at AAQ-5 in Haroli, whereas the P98 remained as 68.2 µg/m³ during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	71.5	66.4	69.9	68.1	75	69.6	69.8	69.8	100
Min	64.4	61.5	61.4	62.6	64.4	64.3	64.3	64.4	
Avg.	67.95	63.95	65.65	65.35	69.7	66.95	67.05	67.1	

➢ **In Additional month study (November 2025)**

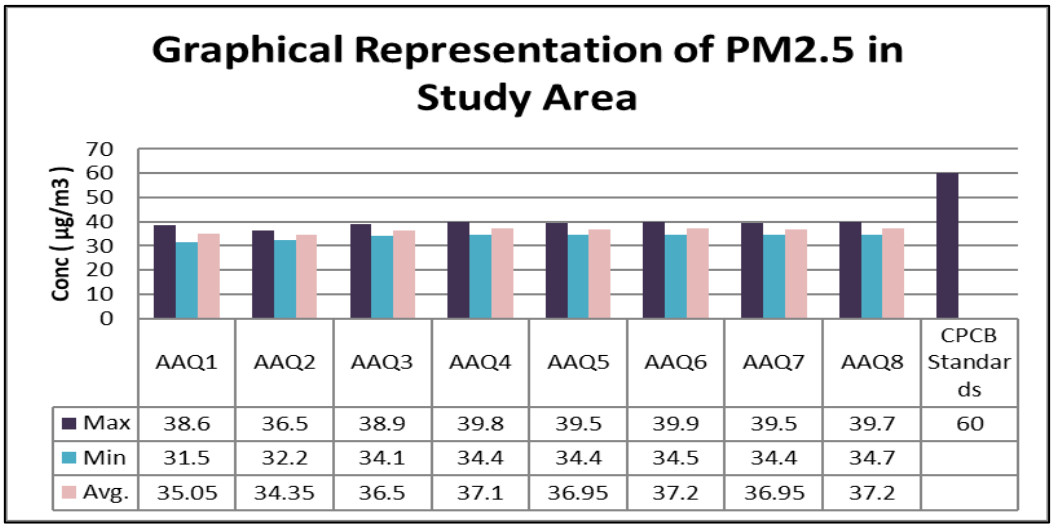
It is evident from the data, PM10 concentration observed in the study area during the study period, the lowest concentration of 59.7 µg/m³ was observed at Tahliwal village, possibly attributable to the absence of any emission-generating activities in the vicinity. However, the maximum concentration was recorded at project site, 70.4 µg/m³ likely due to the presence of other mining leases within a 500-meter radius, which contribute to air emissions.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	70.4	69.3	66.4	64.4	65.7	64.8	65.5	66.6	100
Min	63.4	61.4	62.5	59.7	62.4	61.9	61.4	63.5	
Avg.	66.9	65.4	64.5	62.1	64.1	63.4	63.5	65.1	

2. Respirable Suspended Particulate Matter (PM2.5) (November,2023 to January, 2024)

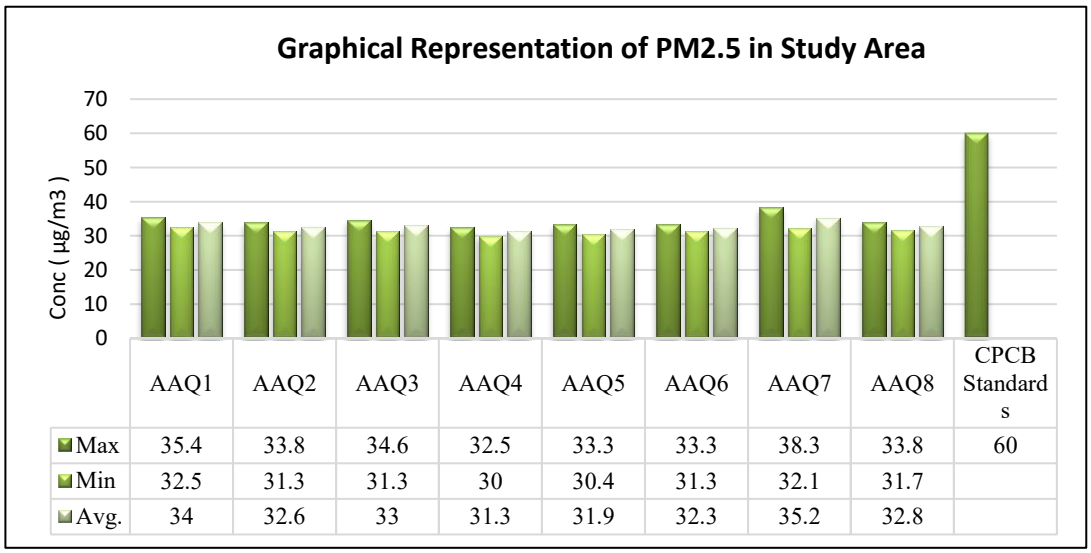
The analyzed values of $PM_{2.5}$ in ambient air during the study period, maximum $PM_{2.5}$ concentration of 39.9 µg/m³ was observed at Kutharbeet, while the minimum concentration of 31.5 µg/m³ was recorded at the project site. The P98 value remained 37.2 µg/m³ during the study period. All results were found to be satisfactory and within the limits prescribed by NAAQ standards.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	38.6	36.5	38.9	39.8	39.5	39.9	39.5	39.7	60
Min	31.5	32.2	34.1	34.4	34.4	34.5	34.4	34.7	
Avg.	35.05	34.35	36.5	37.1	36.95	37.2	36.95	37.2	

➢ **In Additional month study (November 2025)**

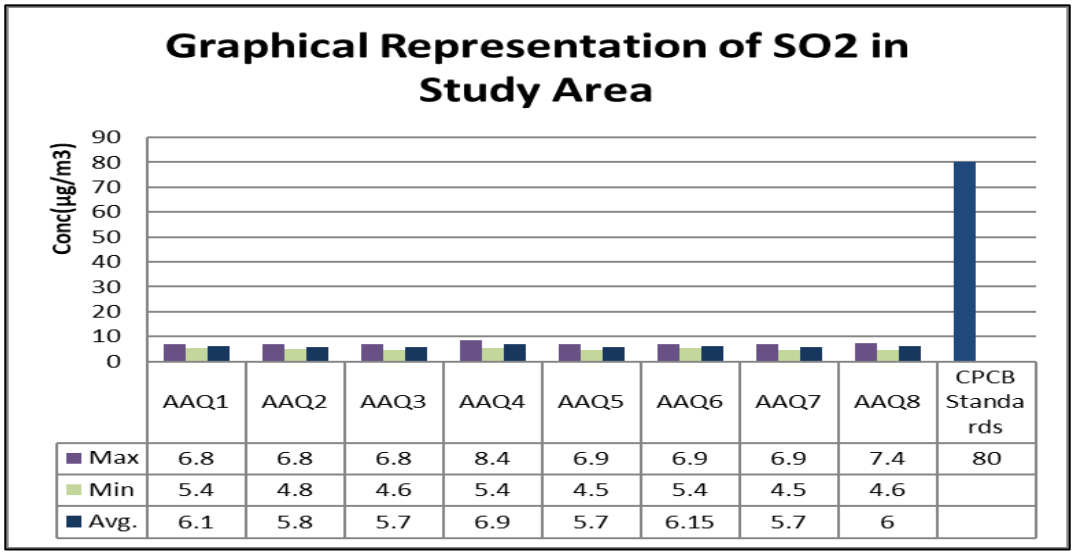
PM2.5 concentration ranged from a minimum of 30 µg/m³ at Tahliwal to a maximum of 38.3 µg/m³ at Dhugge. The P98 value was recorded as 37.5 µg/m³, which is within the prescribed limit of 60 µg/m³ as per the NAAQS. The lowest $PM_{2.5}$ concentration at Tahliwal may be attributed to relatively low levels of emission activity in the area. In contrast, the highest concentration at Dhugge is likely due to its proximity near to the state highway as well as the other mining sites present near the area, through which vehicular movement and site activity a potential source of fine particulate emissions.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	35.4	33.8	34.6	32.5	33.3	33.3	38.3	33.8	60
Min	32.5	31.3	31.3	30	30.4	31.3	32.1	31.7	
Avg.	34	32.6	33	31.3	31.9	32.3	35.2	32.8	

3. Sulphur Dioxide (SO2) (November,2023 to January, 2024)

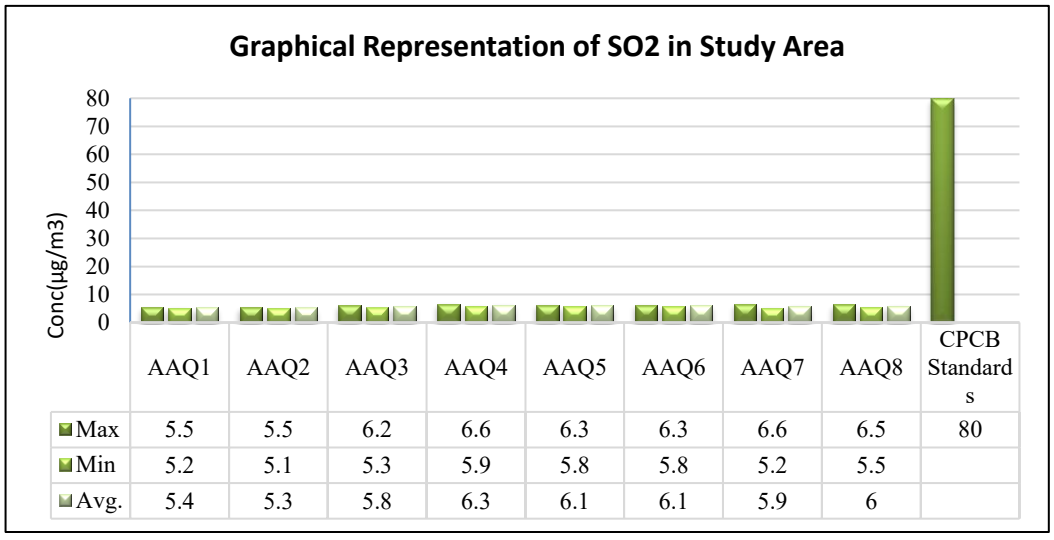
The analyzed concentrations of SO_2 in ambient air were found, the maximum concentration of SO2 is 7.4 µg/m^3, which observed at Bathu and minimum concentration of SO2 4.5 µg/m3 at Haroli. The situation in the study area as far as SO2 concentration is concerned is satisfactory. P98 remained as 6.45 µg/m^3 during study period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	6.8	6.8	6.8	8.4	6.9	6.9	6.9	7.4	80
Min	5.4	4.8	4.6	5.4	4.5	5.4	4.5	4.6	
Avg.	6.1	5.8	5.7	6.9	5.7	6.15	5.7	6	

➢ **In Additional month study (November 2025)**

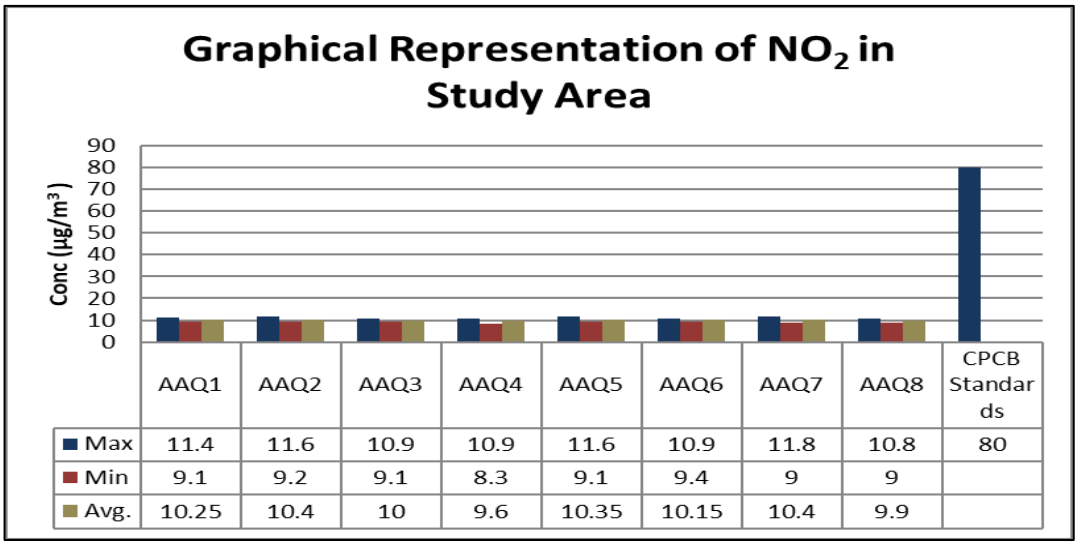
The SO2 concentration in the study area with average values ranging between 5.1 µg/m³ and 6.6 µg/m³, indicating stable and low levels of SO_2 pollution in the study area. The maximum SO_2 concentration of 6.6 µg/m³ was recorded at Dhugge and Tahliwal, while minimum concentration of 5.1 µg/m^3 at Palakwah while the P98 value during the study period was 6.5 µg/m³, which is well within the NAAQS limit of 80 µg/m³ prescribed by the MoEF&CC.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	5.5	5.5	6.2	6.6	6.3	6.3	6.6	6.5	80
Min	5.2	5.1	5.3	5.9	5.8	5.8	5.2	5.5	
Avg.	5.4	5.3	5.8	6.3	6.1	6.1	5.9	6	

4. Oxides of Nitrogen (NOx) (November,2023 to January, 2024)

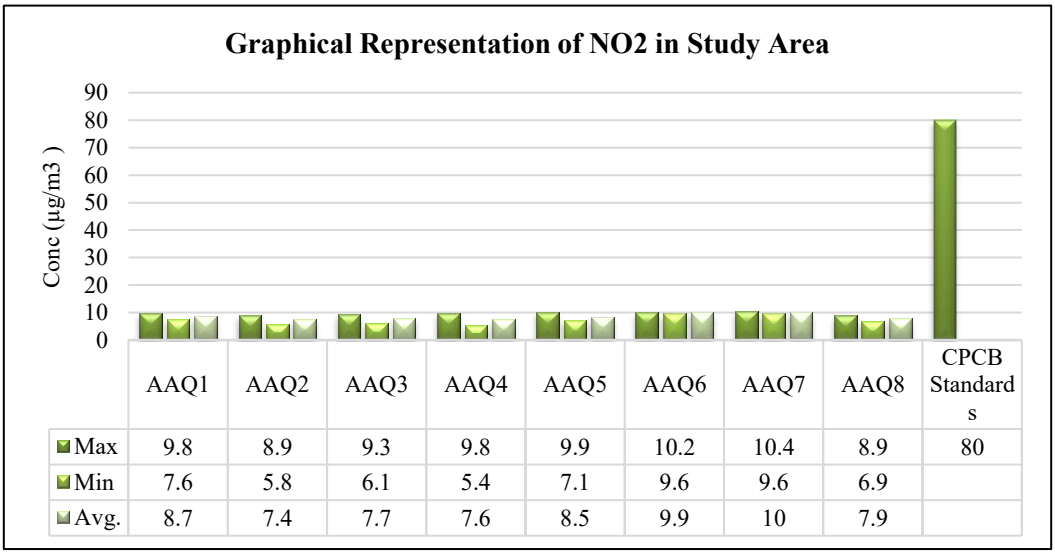
NOx concentration in the study area varied from minimum of 8.3 µg/m3 to maximum of 11.8 µg/m3. P98 remained as 10.05 µg/m3 during this period. Analysis results of all the sampling location are found within standards; therefore, it may envisage that air quality in respective of NOx pollutant is good. Furthermore, the graphical representation of sampling locations in the study area is shown here.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	11.4	11.6	10.9	10.9	11.6	10.9	11.8	10.8	80
Min	9.1	9.2	9.1	8.3	9.1	9.4	9	9	
Avg.	10.25	10.4	10	9.6	10.35	10.15	10.4	9.9	

➢ **In Additional month study (November 2025)**

The NOx concentration in the study area varied from minimum of 5.4 µg/m3 to maximum of 10.4 µg/m3. P98 remained as 9.9 µg/m3 during this period. Analysis results of all the sampling location are found within standards; therefore, it may envisage that air quality in respective of NOx pollutant is good. Furthermore, the histographic representation of sampling locations in the study area is show here.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	9.8	8.9	9.3	9.8	9.9	10.2	10.4	8.9	80
Min	7.6	5.8	6.1	5.4	7.1	9.6	9.6	6.9	
Avg.	8.7	7.4	7.7	7.6	8.5	9.9	10	7.9	

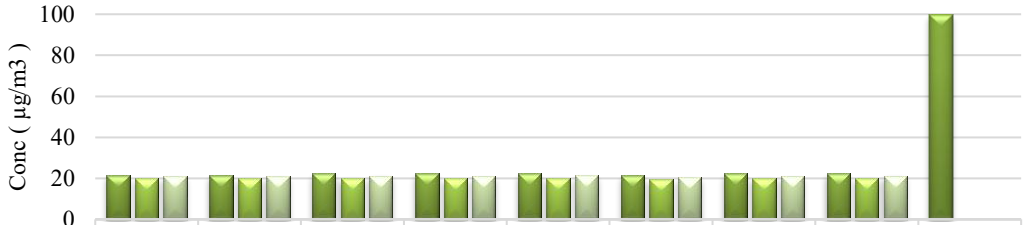
5. Ozone (November,2023 to January, 2024)

O3 concentration is not detectable.

➢ **In Additional month study (November 2025)**

O_3 concentrations during the study period ranged from a minimum of 19.6 µg/m³ at Kutharbeet to a maximum of 22.3 µg/m³ at the Haroli. The P98 value was recorded at 22.03 µg/m³, which is well below the NAAQS limit of 100 µg/m³, as specified by the MoEF&CC.

Graphical Representation of O3 in Study Area



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	21.6	21.4	22.2	22.2	22.3	21.4	22.2	22.2	100
Min	20.1	20.2	20.2	20	20.2	19.6	20.1	20.2	
Avg.	20.85	20.8	21.2	21.1	21.25	20.5	21.15	21.2	

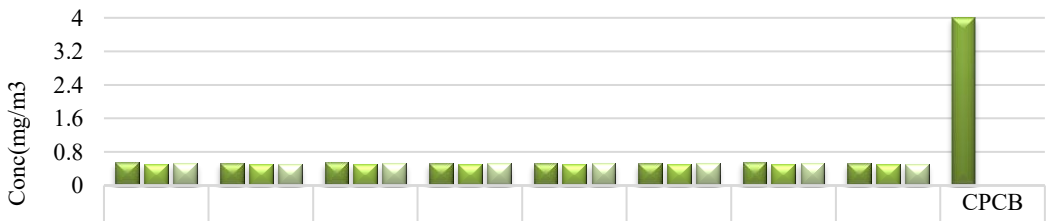
6. Carbon Monoxide (CO) (November,2023 to January, 2024)

CO concentration is not detectable.

➢ **In Additional month study (November 2025)**

The anthropogenic source of CO is incomplete combustion of carbon-containing fuels, the Maximum concentration of CO is observed to be 0.56 mg/m3 at Dhugge village (AAQ7) and minimum value of 0.50 mg/m3 observed at (AAQ3, AAQ4, & AAQ8) Beeton, Tahliwal & Bathu respectively. The average values were observed in the range of 0.5 to 0.54 mg/m3. P98 remained 0.55 mg/m3 during this period.

Graphical Representation of CO in Study Area



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	0.55	0.54	0.55	0.53	0.53	0.53	0.56	0.52	4
Min	0.51	0.51	0.5	0.5	0.51	0.51	0.51	0.5	
Avg.	0.53	0.5	0.53	0.52	0.52	0.52	0.54	0.51	

Conclusion

Concentrations of NH_3, Benzene, BaP, CO, Pb, Ni, and As were found to be below their respective detection limits during the monitoring period. On the whole the above results shows that the area enjoys calm surroundings, thick vegetation and least industrial activity and is thus environmentally quite clean.

3.8 LAND ENVIRONMENT

The objective of assessing the land use details of the area is to know the existing land use pattern of the area and enable one to know about the land that can be used for the proposed development activities in the study area. It also enables to envisage the scenario emerging due to the increase in demand for land with increase in population and the impacts arising due to the interface with the various project activities.

a) Geographical location of the study area:

The study area comprises 10 km around the project site. The study area falls in H43E3, H43E7 Survey of India Topographic sheet.

b) Data Collection and Quality Assurance

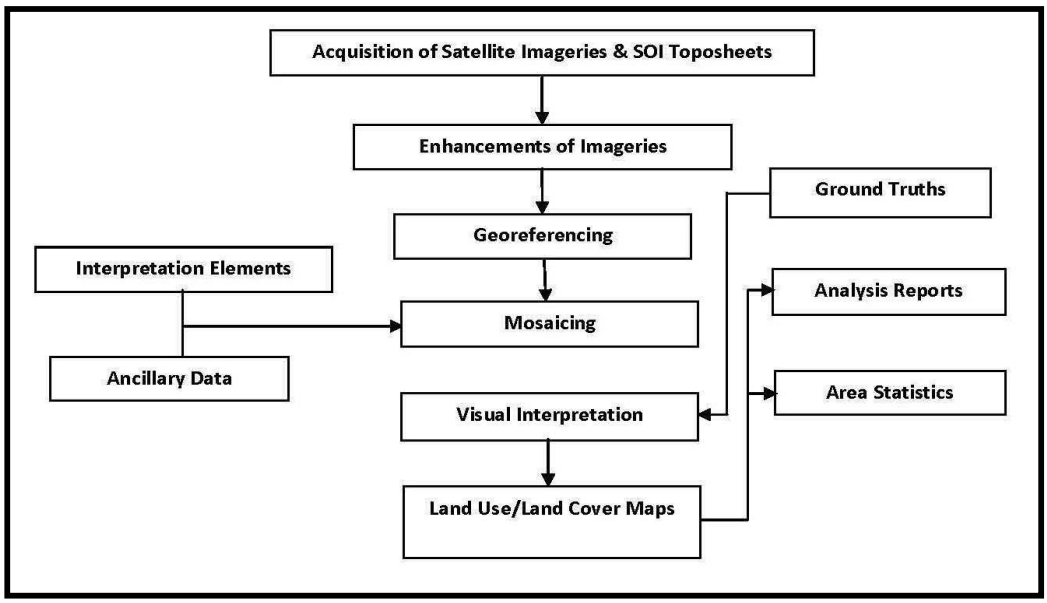
- **Satellite data:**

The Indian Remote Sensing satellite data (Landsat 8 satellite Imagery) is being used for the analysis of Land Use and Land Cover around 10 KM of the study area and a 10 Km radius False Color Composite satellite map surrounding the project site is provided in figure 3.6 and figure 3.7 respectively. The land use details of the Surrounding villages (10 km buffer area) are shown in table 3.5.

- **Methodology:**

The land use/ land cover map is prepared by adopting the interpretation techniques of the image in conjunction with collateral data such as Survey of India topographical maps and census records. Image classification has been done by using visual interpretation techniques and digital classification using ERDAS image processing 10.0 software and ARC/GIS 10.0 software. The various activities for preparation of LULC include preprocessing, rectification, enhancements and classifying the satellite data for assessing the change in land use land cover due to proposed developmental activities. The imagery is interpreted and ground checked for corrections. The final map is prepared after field check. The different land use/land cover categories in the study area have been carried out based on the NRSC land use / land cover classification system.

Flowchart showing the methodology adopted for land use/land cover mapping is provided as Fig 3.8



- **Land Use / Land Cover Study:**

Landcover data highlights the area covered by forests, wetlands, impervious surfaces, agriculture, and other land and water types. Water types include wetlands or open water. Landuse shows how people use the landscape for development, conservation or for other purposes. Therefore, its highlights the current scenario as well as predict the impact. LULC Map is prepared on the basis of primary data and secondary data.

Primary Data: The coordinates along land features of project area is collected with the help of GPS device for ground truthing. This data is primary data. On the basis of this data, landuse landcover analysis is appropriate.

Secondary Data: Satellite image (secondary data) is required to show the current land features of the project area and buffered area (10 km). Sentinel-2 Satellite image is used, which is collected from open source.

Land use landcover classification is applied on the basis of various characteristics like color, texture, shape, association etc. Built-up land, agricultural land, agricultural fallow land, open land, river, riverbed, forest and scrub land classes are prepared on the basis of satellite image. The land use land cover study has been done through digital image processing and visual interpretation technique to generate output of Land use / Land cover map of study area on 1:50,000 scale. Also, a 10 Km radius Land Use/Land Cover Map of Study Area (10Km Buffer) Fig 3.10. The land cover pattern and the respective coverage are given in Table 3.7

Table 3.7

Land Use/Land Cover Area Statistics

Land Use/Land Cover	Area (Hectare)	Area (%)
Built-up Land	1315.74	4.07
Agricultural land	8226.74	25.44
Agricultural Fallow land	9399.35	29.06
Open Land	826.89	2.56
River/Water Bodies	147.93	0.46
Riverbed	388.82	1.20
Vegetation	2.10	0.01
Scrub land	11314.50	34.98
Forest	721.16	2.23
Total	**32343.23**	**100.00**

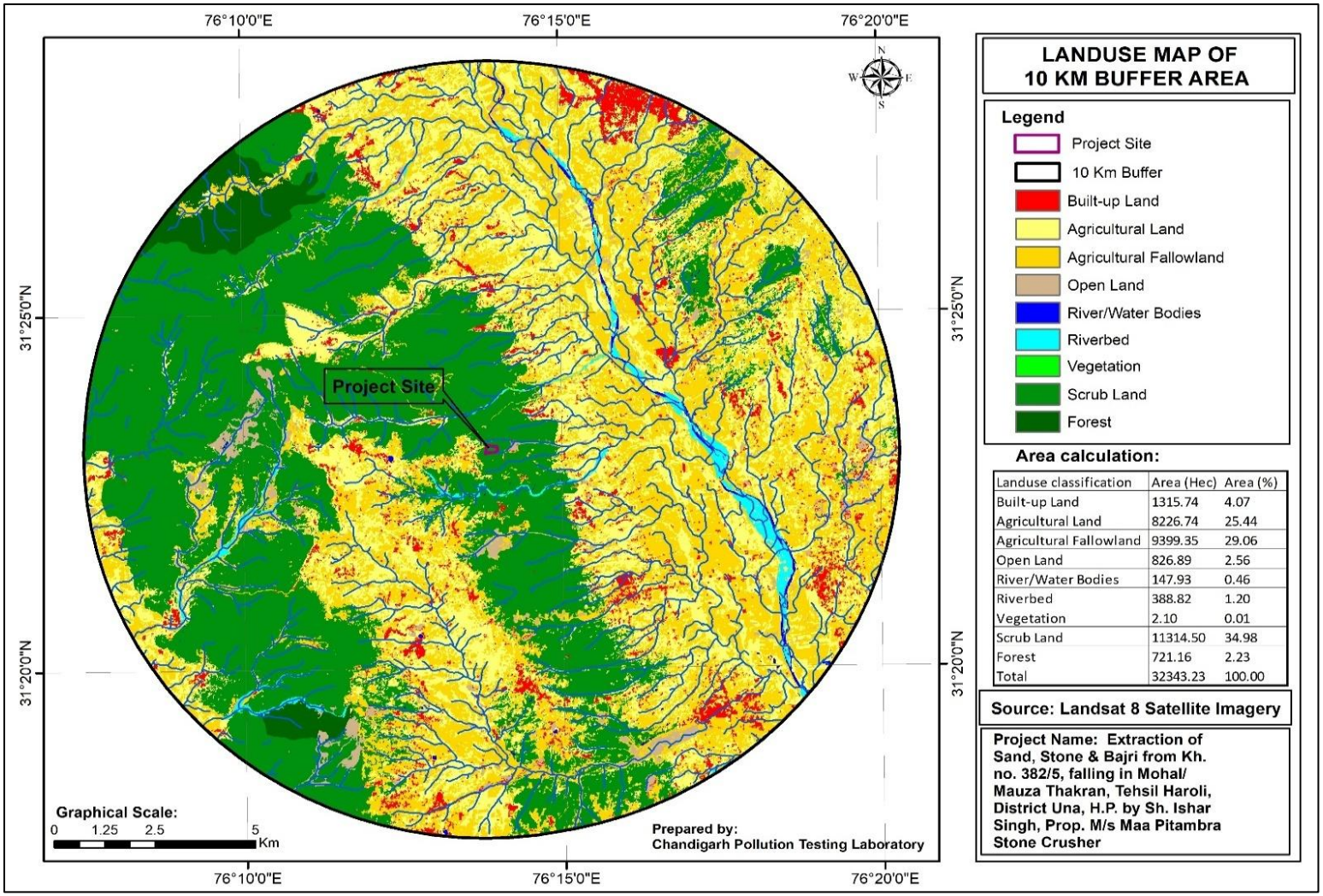
Source: LULC map

- **Interpretation of Land Use & Land Cover Map Superimposed with Drainage:**

Figure 3.9 below depicts the existing land use and land cover pattern of the study area along with the surface drainage network. The area is predominantly characterized by agricultural land, grazing land, culturable wasteland and barren land, with no forest land falling within the immediate project influence area, which is also reflected in Table 3.8. Non-agricultural land is mainly confined to village settlements, approach roads and small infrastructure pockets.

The drainage pattern in the area is dendritic to sub-dendritic, typical of hilly terrain with gentle to moderate slopes. Seasonal nalas and first-order streams originate from the hill slopes and drain towards the lower reaches, ultimately joining larger drainage channels. No major perennial river passes through the project site, indicating that surface runoff is largely rain-fed and seasonal in nature. The project site is located away from prominent drainage channels, thereby minimizing the risk of direct interference with natural water courses. Overall, the drainage network appears well distributed and structurally controlled by local topography.

Figure- 3.9
Land Use and Land Cover Map



Landuse classification	Area (Hec)	Area (%)
Built-up Land	1315.74	4.07
Agricultural Land	8226.74	25.44
Agricultural Fallowland	9399.35	29.06
Open Land	826.89	2.56
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Scrub Land	11314.50	34.98
Forest	721.16	2.23
Total	32343.23	100.00

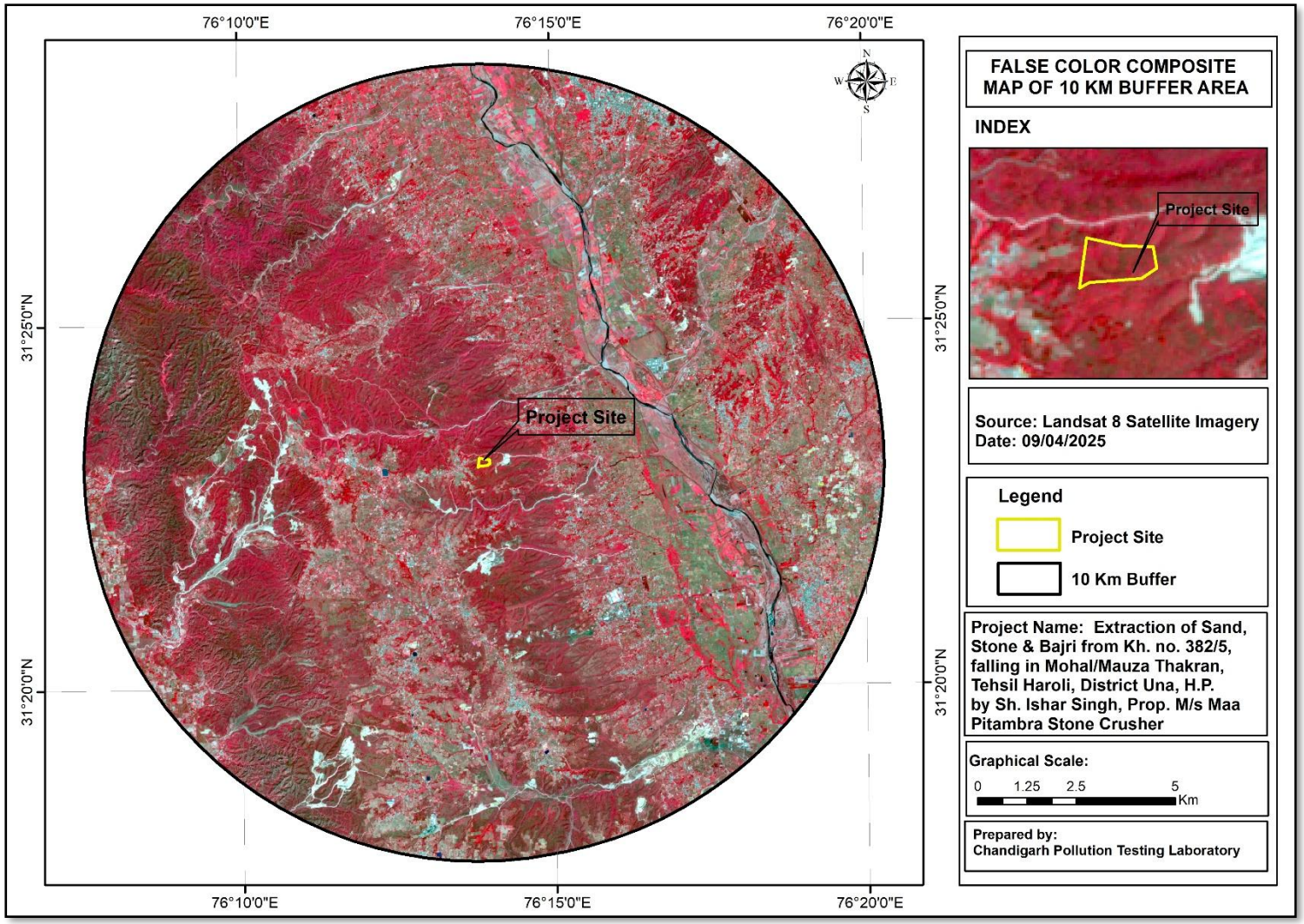
Table- 3.8

Showing Land Use Detail of Surrounding Villages

Name of village	Area (in Ha)	Forests (in Ha)	Area under non Agri cultural uses (in Ha)	Barren and unculturable land (in Ha)	Permanent Pastures and other grazing lands (in Ha)	Land under Misc. Tree Crops	Culturable wasteland	Current Fallows	Total irrigated land area	Total un-irrigated land area
Rora Baliwal	251.19	0	19.2	1.8	293	4	56	2	20	330
Haroli	437	0	59	100	57	0	100	1	5	65
Bhadauri	285.3	0	67	60	16	28	26	0	78	10.3
Palakwah	217.76	0	52.7	30.1	0	8.1	30.2	20	15	38.7
Pubowal	251.19	0	0	0	49.6	106.7	0	0	91.4	0
Kutharbeet	344.34	0	52.9	0	0	0	93.7	0	0	107.8
Polianbeet	389.06	0	0	20	71	7	197	27.1	0	67
Kungrat	319	0	27	0	11	203	51	0	0	8

Figure 3.10

10 Km Radius False Color Composite Satellite



Interpretation of False Color Composite (FCC) Satellite Image of 10 km Radius:

The False Color Composite satellite imagery of the 10 km radius area shows distinct land cover classes based on vegetation vigor and land use characteristics. Dense to moderate vegetation, mainly agricultural fields and tree-covered areas, appears in shades of red, indicating healthy vegetation cover in cultivated and plantation areas. Sparse vegetation, grazing lands and scrublands are visible in light red to pink tones, while barren land, exposed soil and rocky hill slopes appear in cyan to light grey shades.

Built-up areas corresponding to villages such as Rora Baliwal, Haroli, Bhadauri, Palakwah, Pubowal, Kutharbeet, Polianbeet and Kungrat are observed as bluish to grey patches, scattered and limited in extent, indicating a predominantly rural landscape. Linear features such as roads are clearly identifiable, showing good connectivity between settlements. No large industrial clusters or dense urban development are observed within the study area. Water bodies and drainage channels appear in dark blue to black tones and are limited in aerial extent, confirming the absence of major surface water bodies within the 10 km radius.

Conclusion:

The study area is largely rural and agriculture-dominated, with scattered settlements and limited non-agricultural land use. The drainage network is natural, seasonal and controlled by hill slope morphology. The project site is located on a private hill slope land away from major drainage channels, forest areas and sensitive land use classes. Therefore, the existing land use and drainage characteristics suggest that the proposed mining activity, when carried out with adequate mitigation measures, is unlikely to cause significant alteration to regional land use patterns or surface drainage regime.

3.9 SOIL QUALITY:

Physical Characteristics:

Soil is generally considered as the upper layer of the earth that is dug or ploughed, especially the loose material in which plants grow. It is generally unconsolidated material composed of soil particles produced by disintegration of rocks. The void spaces between the particles may contain Air, Water or both.Physical characteristics of soil influence its use and behavior towards plants growth. The plant support, root penetration, drainage, aeration, retention of moisture & plant nutrients is linked with the physical condition of soils. Normally following physical parameters are important for determining the quality of soil: -

(i) Texture

(ii) Porosity

(iii) Bulk density

(i) Texture

On the basis of texture, the study area may be classified as loamy sand, sandy loam and silty loam. According to the Indian Standard Soil Classification System (ISSCS), details of the same is given in table below:

Details showing classification of soil texture

Very coarse soils	Boulder size		> 300 mm
	Cobble size		80 - 300 mm
Coarse soils	Gravel size (G)	*Coarse*	20 - 80 mm
		Fine	4.75 - 20 mm
	Sand size (S)	*Coarse*	2 - 4.75 mm
		Medium	0.425 - 2 mm
		Fine	0.075 - 0.425 mm
Fine soils	Silt size (M)		0.002 - 0.075 mm
	Clay size (C)		< 0.002 mm

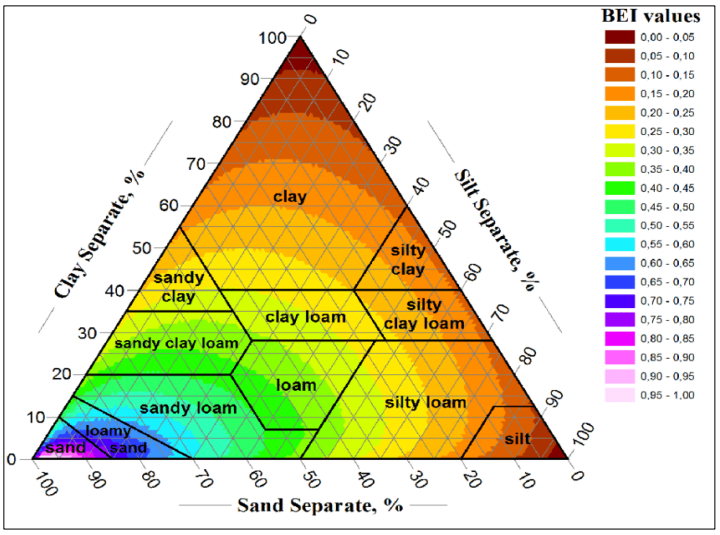
(ii) Porosity

Volume of soil mass that is not occupied by soil particles and usually occupied by air & water are known as pore space. The plant roots grow & exist in the pore spaces. Porosity, therefore, refers to that percentage of soil volume which is occupied by pore spaces.

(iii) Bulk Density

The bulk density weight of a unit of volume of soil inclusive of pore spaces is called bulk density. Generally, the soil with low bulk density has favorable physical conditions.

Balanced Entropy Index of Soil



Chemical Characteristics:

Important parameters for characterization of soil for irrigation are the primary nutrients – Nitrogen, Phosphorus and Potassium (N, P, K) and the secondary nutrients—Calcium, Magnesium and Sulphur (Ca, Mg, S). The primary and secondary nutrient elements are known as major elements. This classification is based on their relative abundance, and not on their relative importance.

Methodology for Soil Sampling:

1. Divide the field into different homogenous units based on the visual observation and farmer's experience.

2. Remove the surface litter at the sampling spot.

3. Drive the auger to a plough depth of 15 cm and draw the soil sample.

4. Collect at least 10 to 15 samples from each sampling unit and place in a bucket or tray.

5. If auger is not available, make a 'V' shaped cut to a depth of 15 cm in the sampling spot using spade. 6. Remove thick slices of soil from top to bottom of exposed face of the 'V' shaped cut and place in a clean container.

7. Mix the samples thoroughly and remove foreign materials like roots, stones, pebbles.

8. Reduce the bulk to about half to one kilogram by quartering or compartmentalization.

9. Quartering is done by dividing the thoroughly mixed sample into four equal parts. The two opposite quarters are discarded and the remaining two quarters are remixed and the process repeated until the desired sample size is obtained.

10. Compartmentalization is done by uniformly spreading the soil over a clean hard surface and dividing into smaller compartments by drawing lines along and across the length and breadth. From

each compartment a pinch of soil is collected. This process is repeated till the desired quantity of sample is obtained.

11. Collect the sample in a clean cloth or polythene bag.

12. Label the bag with information like name of the farmer, location of the farm, survey number, previous crop grown, present crop, crop to be grown in the next season, date of collection, name of the sampler etc.

Sampling Locations:

The locations for collection of representative samples were selected considering -.

1. From different types of land uses in the study area.
2. From possible polluted & comparatively controlled locations in the study area.
3. From the leeward and downward of the predominant wind direction.

List of soil monitoring station are given in Table 3.9. Result of Soil Samples of period November, 2023 to January, 2024 and one additional month study of November, 2025 are given in Table 3.10(a) and 3.10(b). Photographs of the soil sampling is shown in Figure 3.11 and Locations of soil monitoring stations are given in Figure 3.12.

Table 3.9

Soil Quality Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction	Co-ordinates	Observations
1.	**SQ-1**	Project site	0	31°23'4.40"N 76°13'50.75"E	Monitoring conducted within the proposed project site
2.	**SQ-2**	Palakwah	1.70 (NE)	31°23'45.76"N 76°14'40.32"E	Monitoring conducted near primary health center, Palakwah.
3.	**SQ-3**	Beeton	4.99 (S)	31°20'20.90"N 76°14'9.01"E	Monitoring conducted near Govt. Senior Secondary School, Beeton
4.	**SQ-4**	Tahliwal	4.19 (SE)	31°21'10.71"N 76°15'24.65"E	Monitoring conducted near Baba nag ji mandir, Tahliwal.
5.	**SQ-5**	Haroli	3.66 (N)	31°25'1.09"N 76°13'27.49"E	Monitoring conducted at PWD guest house Haroli.
6.	**SQ-6**	Kutharbeet	4.11 (SW)	31°22'0.78"N 76°11'34.24"E	Monitoring conducted at Govt primary health center, Kutharbeet.
7.	**SQ-7**	Dhugge	3.40 (S)	31°21'16.03"N 76°13'19.17"E	Monitoring conducted in the village, Dhugge. (Sample

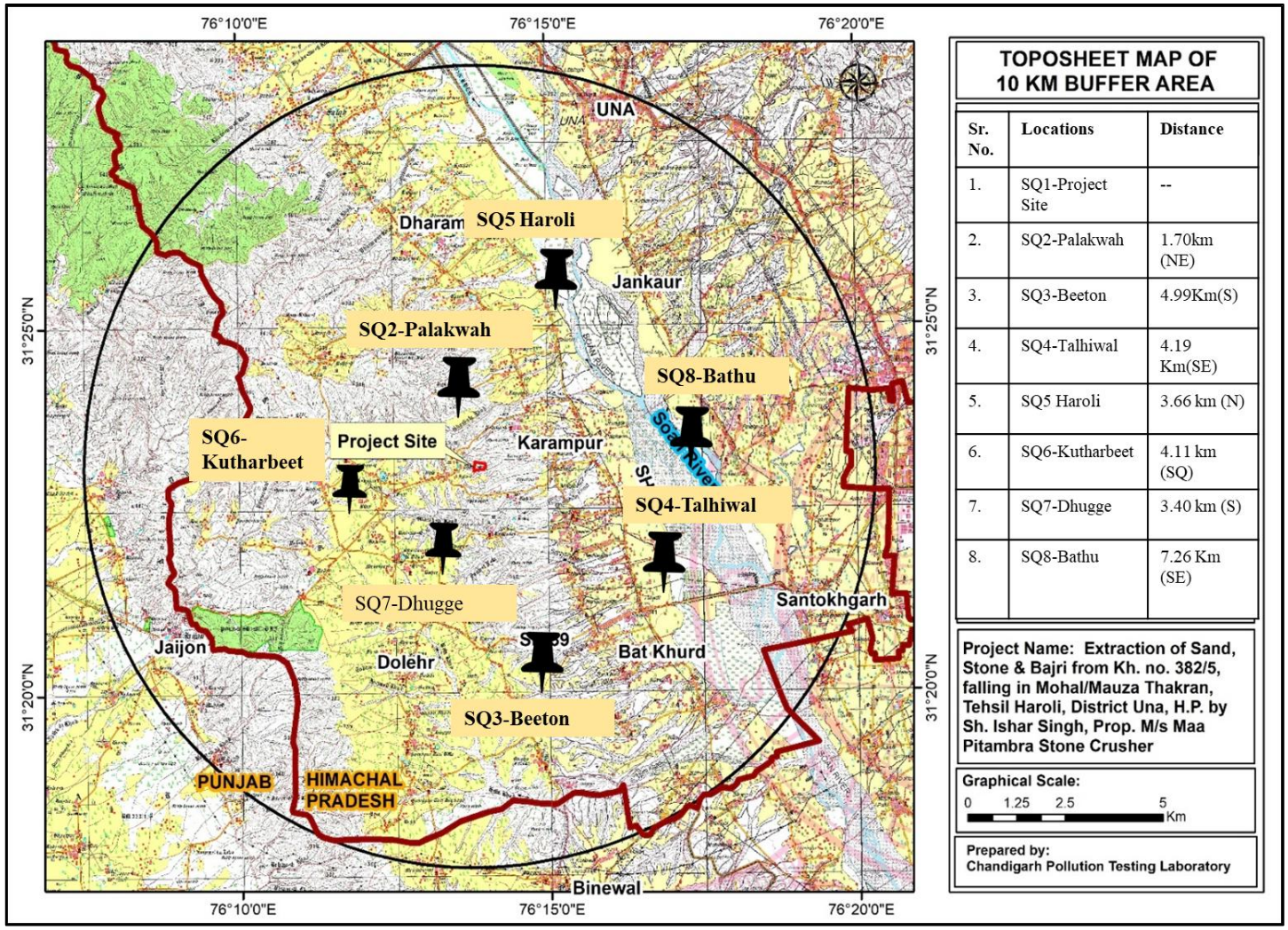
					collected from argriculture land)
8.	**SQ-8**	Bathu	7.26 km SE	31°19'41.31"N 76°16'8.66"E	Monitoring conducted near the house (sample collected from the residential area of the village)

Figure- 3.11 (a)

Soil sampling photographs

Figure -3.11(b)

Location of Soil Monitoring Stations



Sr. No.	Locations	Distance
1.	SQ1-Project Site	--
2.	SQ2-Palakwah	1.70km (NE)
3.	SQ3-Beeton	4.99Km(S)
4.	SQ4-Talhiwal	4.19 Km(SE)
5.	SQ5 Haroli	3.66 km (N)
6.	SQ6-Kutharbeet	4.11 km (SQ)
7.	SQ7-Dhugge	3.40 km (S)
8.	SQ8-Bathu	7.26 Km (SE)

Table – 3.10(a)

Result of Soil Samples (% W/W except pH) November, 2023 to January, 2024

S. No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods
1.	pH (1:2.5)	--	7.48	7.58	7.72	7.56	7.78	7.58	7.44	7.38	IS:2720(P-26),1987
2.	Electrical Conductivity (1:2)	µmhos/cm	365	325	348	333	358	336	321	318	IS:14767,2000
3.	Texture	--	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	CPTL, Lab SOP No. 58
4.	Bulk Density	(gm/cm^3)	1.45	1.38	1.15	1.58	1.32	1.28	1.46	1.33	IS 2720(P-3),1983
5.	Soil Moisture Content	%	10.6	8.8	6.6	4.5	8.8	9.9	10.2	8.8	IS 2720(P-2,1973
6.	Color	--	Brown	Brown	Light Brown	Brown	Brown	Brown	Light Brown	Brown	Handbook of Agriculture, ICAR
7.	Available Calcium (as Ca)	(mg/kg)	52.6	44.4	42.6	36.8	63.4	52.5	46.6	50.8	Handbook of Agriculture, ICAR
8.	Available Magnesium (as Mg)	(mg/kg)	18.8	16.8	22.2	18.8	28.8	26.6	22.6	24.8	Handbook of Agriculture, ICAR
9.	Available Sodium (as Na)	Kg/hac	150	132	128	142	164	152	148	138	Lab SOP No. 49: 2019

S. No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods
10.	Available Potassium (as K)	Kg/hac	38.8	28.2	36.4	30.6	34.4	40.4	36.6	38.4	Lab SOP No. 49: 2019
11.	Available Nitrogen	(%)	1.36	1.42	1.18	1.26	1.54	1.52	1.36	1.84	Lab SOP No. SP 53: 72010
12.	Organic Matter	(%)	0.41	0.38	0.42	0.38	0.52	0.44	0.39	0.46	IS 2720(P-22),2001
13.	Available Phosphorus (as P)	Kg/hac	8.8	6.6	6.8	5.6	8.9	10.4	8.6	5.6	Lab SOP No. SP 51 : 2019
14.	Cation Exchange Capacity	(meq/100gm)	0.55	0.84	0.39	0.45	0.58	0.84	0.66	0.52	CPTL, Lab SOP No. 58
15.	Iron (as Fe)	(mg/kg)	1.38	1.42	1.24	1.39	1.38	1.36	1.44	1.58	USEPA-3050-B-1996: 1996
16.	Zinc (as Zn)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
17.	Lead (as Pb)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
18.	Manganese (as Mn)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
19.	Chromium (as Cr)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
20.	Cadmium (as Cd)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996:

S. No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods
											1996
21.	Copper (as Cu)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996

Table 3.10 (b)

Result of Soil Samples (% W/W except pH) November, 2025

S. No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods
1.	pH (1:2.5)	--	7.33	7.54	7.29	7.42	7.45	7.45	7.15	7.33	IS:2720(P-26),1987
2.	Electrical Conductivity (1:2)	µmhos/cm	258	233	264	225	235	235	214	232	IS:14767,2000
3.	Texture	--	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	CPTL, Lab SOP No. 58
4.	Bulk Density	(gm/cm^3)	1.10	1.26	1.32	1.11	1.12	1.12	1.22	1.14	IS 2720(P-3),1983
5.	Soil Moisture Content	%	8.4	6.8	4.8	5.6	12.4	12.4	8.6	6.8	IS 2720(P-2,1973
6.	Color	--	Brown	Light Brown	Brown	Dark Brown	Brown	Brown	Light Brown	Brown	Handbook of Agriculture, ICAR
7.	Available Calcium (as Ca)	(mg/kg)	72.8	81.9	85.8	80.6	64.4	64.4	62.4	74.4	Handbook of Agriculture, ICAR
8.	Available Magnesium (as Mg)	(mg/kg)	18.5	25.0	19.5	20.5	22.6	22.6	16.8	18.2	Handbook of Agriculture, ICAR
9.	Available Sodium (as Na)	Kg/hac	85.6	66.2	54.2	55.6	72.8	72.8	58.8	50.8	Lab SOP No. 49: 2019
10.	Available Potassium (as K)	Kg/hac	110	120	120	90.0	98.6	98.6	84.8	86.5	Lab SOP No. 49: 2019

S. No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods
11.	Available Nitrogen	(%)	5.6	4.8	6.8	8.8	4.5	4.5	5.6	4.9	Lab SOP No. SP 53: 72010
12.	Organic Matter	(%)	0.61	0.55	0.56	0.52	0.53	0.53	0.48	0.41	IS 2720(P-22),2001
13.	Available Phosphorus (as P)	Kg/hac	42.4	54.2	38.2	45.6	42.4	42.4	54.2	38.2	Lab SOP No. SP 51: 2019
14.	Cation Exchange Capacity	(meq/100 gm)	13.8	10.4	12.4	10.2	10.4	10.4	12.6	14.2	CPTL, Lab SOP No. 58
15.	Iron (as Fe)	(mg/kg)	48.9	59.6	42.6	38.9	58.9	58.9	58.6	44.6	USEPA-3050-B-1996: 1996
16.	Zinc (as Zn)	(mg/kg)	10.2	8.8	10.2	8.8	8.2	8.2	10.8	7.8	USEPA-3050-B-1996: 1996
17.	Lead (as Pb)	(mg/kg)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	USEPA-3050-B-1996: 1996
18.	Manganese (as Mn)	(mg/kg)	42.0	32.0	28.2	26.0	8.8	12.6	10.8	8.8	USEPA-3050-B-1996: 1996
19.	Chromium (as Cr)	(mg/kg)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	USEPA-3050-B-1996: 1996
20.	Cadmium (as Cd)	(mg/kg)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	USEPA-3050-B-1996: 1996

S. No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods
21.	Copper (as Cu)	(mg/kg)	14.6	16.4	10.2	8.8	12.8	18.6	12.4	13.8	USEPA-3050-B-1996: 1996

Interpretation:

The analytical results of the soil samples collected during the study period are summarized below:

- **During November, 2023 to January, 2024**

The important property of the soil is a pH; vegetation cannot grow in low and high pH value soils. Based on the pH range of 7.38 to 7.78, the soil in the study area can be classified as slightly alkaline to neutral. Based on the electrical conductivity, the soils are classified into four groups (Normal, Critical for germination, Critical for growth of the sensitive crops, Injurious to most crops). Based on the electrical conductivity (EC) values ranging from 338 to 368 µmhos/cm, the soil in the study area can be classified as "Critical for germination". However, suggesting that the soil conditions are suitable for seed germination. The other important parameters for characterization of soil for irrigation are:

- The primary nutrients Nitrogen, Phosphorus and Potassium (N, P, K) and the secondary nutrients— Calcium, Magnesium and Sulphur (Ca, Mg, S). The primary and secondary nutrient elements are known as major elements. his classification is based on their abundance in the soil, rather than their importance for plant growth.
- ***Nitrogen*** encourages the vegetative development of plants by imparting a healthy green color to the leaves. The available Nitrogen as N in the study area is varying from 1.18 to 1.84 %. Phosphorus influences the vigor of plants and improves the quality of crops. In the study area available, Phosphorus was found in varying quantities of 5.6 to 10.4 kg/ha.
- ***Potassium*** enhances the ability of the plants to resist diseases, insect attacks, cold and other adverse conditions. The available potassium in the study area varies between 28.2 to 40.4 Kg/ hac. This is deficient for crops.
- Organic Matter in the study area ranges from 0.32% to 0.52%. This is average to sufficient for the crops.

- **During one-month additional Study of period November, 2025**

The pH of the soil is an important property; vegetation cannot grow in low and high pH value soils. Based on the pH range of 7.54 to 7.15, the soil in the study area can be classified as slightly alkaline to neutral. Based on the electrical conductivity, the soils are classified into four groups (Normal, Critical for germination, Critical for growth of the sensitive crops, Injurious to most crops). Based on the electrical conductivity (EC) values ranging from 214 to 264 µmhos/cm, the soil in the study area can be classified as "Critical for germination". However, suggesting that the soil conditions are

suitable for seed germination. The other important parameters for characterization of soil for irrigation are:

- ***Nitrogen*** encourages the vegetative development of plants by imparting a healthy green color to the leaves. The available Nitrogen as N in the study area is varying from 4.5 at Haroli to 8.8 % at Tahliwal, indicating a moderate to high level of nitrogen, which is beneficial for plant growth and leaf development.
- ***Phosphorus*** influences the vigor of plants and improves the quality of crops. In the study area available, Phosphorus was found in varying quantities of 38.2 at Beeton to 54.2 kg/ha at Palakwah, showing a moderate level of phosphorus, which is essential for plant vigor and crop quality.
- ***Potassium*** enhances the ability of the plants to resist diseases, insect attacks, cold and other adverse conditions. The available potassium in the study area varies between 82.6 kg/hac at Bathu to 120 Kg/ hac at palakwah and Beeton. This is deficient for crops.
- ***Organic Matter*** in the study area ranges from 0.41% to 0.61%. This is average to sufficient for the crops.

Conclusion:

As per physical data, the study area's soils exhibit a course to moderately fine texture, predominantly sandy loam, with a modular structure, moderate bulk density, and moderately good water-holding capacity, rendering them moderately good too good for agricultural purposes.

3.9.1 Geomorphology & Soils:

The project site is located on private hill-slope land and forms part of the denudational hill terrain of the Siwalik formations. The elevation of the lease area varies approximately from 534 m to 506 m above mean sea level, with a gently to moderately sloping topography. The area does not exhibit any major geomorphological features such as cliffs, escarpments or deep gullies. Drainage is through small seasonal nalas developed along the natural slope, which ultimately join the regional drainage system. The site is not affected by riverine flooding.

The soil at the project site is predominantly non-calcic brown soil, derived from weathered hill material. The soil cover is shallow to moderately deep, loamy to sandy-loam in texture, and locally thin due to slope conditions and natural erosion. Overall, the geomorphology and soil characteristics of the project site are typical of hill-slope terrain and are suitable for the proposed mining activity

with appropriate slope stabilization and reclamation measures.

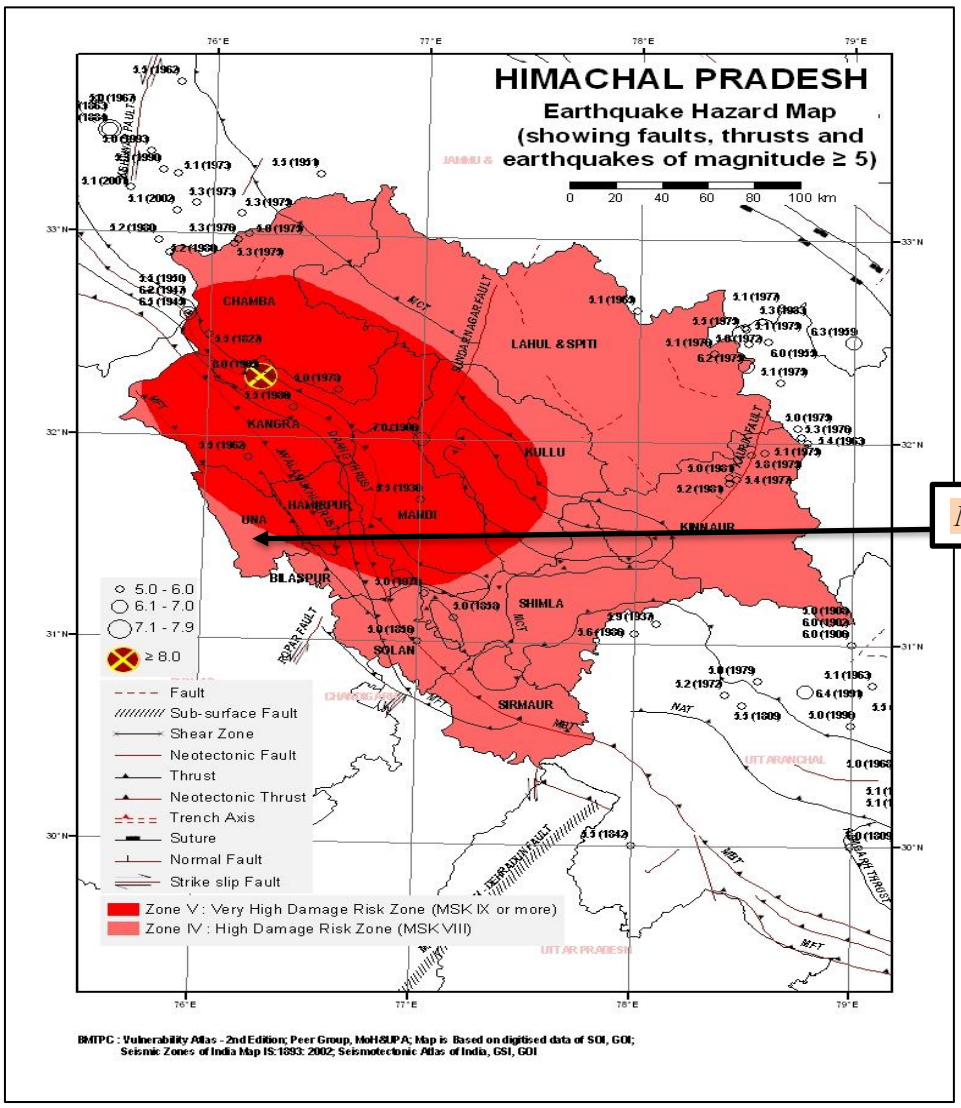
3.9.2 Seismicity:

Himachal Pradesh falls in Zone IV and V. And five districts, namely Chamba (53.2%) Hamirpur (90.9%), Kangra (98.6%), Kullu (53.1%), Mandi (97.4%) have 53 to 98.6 percent of their area liable to the severest design intensity of MSK IX or more, the remaining area of these districts being liable to the next severe intensity VIII. Two districts, Bilaspur (25.3%) and Una (37.0%) also have substantial area in MSK IX and rest in MSK VIII. The project site is located in the seismically active Himalayan region and falls under Seismic Zone-IV (High Damage Risk Zone) as per the Seismic Zoning Map of India (IS:1893). The area is influenced by regional tectonic features associated with the Siwalik belt and Himalayan thrust systems, which are responsible for moderate to strong seismic activity in the region.

No major active fault or lineament passes through the lease area as interpreted from site conditions. The proposed mining activity will be semi-mechanical hill-slope mining without blasting; therefore, the risk of inducing seismicity is negligible. All mine workings, benches and ancillary structures will be designed considering seismic safety norms to minimize potential risks during seismic events.

Fig. 3.12

Seismic Intensity Map of India



(Source: National Disaster Management Authority –GOI)

3.10 WATER ENVIRONMENT

Water quality assessment is one of the essential components of EIA study. Such assessment helps in evaluating the existing health of water body and suggesting appropriate mitigation measures to minimize the potential impact from development projects. Water quality of ground resources in the crusher site area has been studied for assessing the water environment and to evaluate the impact of the project. To assess the water quality of the proposed area, sampling was done as per the standard practice. Grab sampling was done for ground and surface water. Water samples were taken as per the Standard Methods (IS & APHA, 24th Edition 2023). Necessary precautions were taken for preservation of samples. The physical parameters viz. pH, temperature and conductivity were

measured at site.

SAMPLING FREQUENCY AND TECHNIQUE

Parameters for analysis of water quality were selected based on the utility of the particular source of water as per MoEF&CC guidance. Hence quality of ground water was compared with IS: 10500: 2012 for drinking purposes. As per the standard practice, one sample was taken in the study period. Sampling was done by standard sampling technique and analyzed as per the Standard Methods. Necessary precautions were taken for the preservation of samples. Sampling location of surface water & ground water are given in Figure 3.15 and list of surface & ground water sample is given in Table 3.11 & 3.14 respectively. The results surface water & ground water are given in Table 3.12 & 3.15 respectively.

a) Surface Water:

Surface water bodies in the study area are crucial for supporting local ecosystems and human activities. To assess the water quality, samples were collected from nearby streams, rivers, and other surface water sources. Surface water sample was collected, to the study area and potential impact on local water quality. Standard protocols were followed for sampling and analysis of physio-chemical parameters, providing valuable insights into the surface water quality.

Criteria for selection of surface water quality sampling locations:

While selecting a sample it is always important to take care that the sample should be representative of the selected water body. In order to remove the bias in sample selection, grab samples were collected on random basis considering the following key aspects:

- The sampling locations were selected based on upstream and downstream uses of the water body.
- Drainage Pattern of study area in general.
- Domestic discharge points from the near-by villages.

Table - 3.11

Surface Water Sampling Stations

Station	Sampling Location
SW-1	Soan River

Table - 3.12(a)
Results of surface water (November, 2023 to January, 2024)

S. No.	Parameters	Results	Test Method
1.	pH	7.36	IS:3025 (P-11): 1983
2.	Color, HU	<5	IS:3025:P-4:1983
3.	Odour	Agreeable	IS:3025:P-5:1983
4.	Turbidity, NTU	<1	IS:3025 (P-10): 1984
5.	Total Dissolved Solids, mg/l	185	IS:3025 (P-16): 1984
6.	Total Suspended Solids, mg/l	2.8	IS:3025 (P-17): 1984
7.	Total Hardness (as $CaCO_3$), mg/l	132.0	IS:3025 (P-21): 2009
8.	Total Alkalinity (as $CaCO_3$), mg/l	110.0	IS:3025 (P-23): 1986
9.	Chemical Oxygen Demand, mg/l	4.6	IS:3025 (P-58): 2006
10.	BOD (at 27°C) for 3 days, mg/l	<2	IS:3025(P-44)1993
11.	Dissolved Oxygen, mg/l	6.8	IS:3025 (P-38): 1989
12.	Calcium (as Ca^{++}),mg/l	24.6	IS:3025:P-40:1991:RA:2003
13.	Magnesium (as Mg^{++}), mg/l	14.8	IS:3025:P-46: 1994
14.	Sodium (as Na^{+}), mg/l	28.4	IS:3025:P-45:1983:RA:2003
15.	Potassium (as K), mg/l	14.0	IS:3025:P-45:1983
16.	Nitrate (as NO_3),mg/l	ND (DL-1.0)	IS:3025 (P-34): 1988
17.	Chloride (as Cl), mg/l	14.9	IS:3025 (P-32): 1988
18.	Sulphate (as SO_4), mg/l	22.6	IS:3025 P-24: 1986
19.	Iron (as Fe), mg/l	0.31	IS:3025(Part-53), 2003 & C/1, 10 Phenanthroline Method.
20.	Total Chromium (as Cr), mg/l	ND (DL-0.04)	IS:3025 (P-52): 2003
21.	Zinc (as Zn), mg/l	1.36	IS:3025 (P-49) : 1994
22.	Fluoride (as F) mg/l	ND (DL-0.001)	IS:3025 (P-60) : 2008
23.	Mercury (as Hg) mg/l	ND (DL-0.001)	IS:3025:P-48):1994:RA-2003
24.	Boron (as B),mg/l	ND (DL-0.001)	IS:3025 (P-57): 2005
25.	Aluminum (as Al) mg/l	ND (DL-0.001)	IS:3025:(P-55):2003
26.	Cadmium (as Cd), mg/l	ND (DL-0.001)	IS:3025 (P-41): 1992
27.	Fecal Coliform, MPN/100 ml	50.0	IS:1622-1981-(RA2009)
28.	Total Coliform, MPN/100 ml	110	IS:1622-1981-(RA2009)

Table - 3.12(b)

Results of surface water (November, 2025)

S. No.	Parameters	Results	Test Method
1.	pH	7.56	IS:3025 (P-11): 1983
2.	Color, HU	<5	IS:3025:P-4:1983
3.	Odour	Agreeable	IS:3025:P-5:1983
4.	Turbidity, NTU	<1	IS:3025 (P-10): 1984
5.	Total Dissolved Solids, mg/l	142	IS:3025 (P-16): 1984
6.	Total Suspended Solids, mg/l	8.4	IS:3025 (P-17): 1984
7.	Total Hardness (as $CaCO_3$), mg/l	120.0	IS:3025 (P-21): 2009
8.	Total Alkalinity (as $CaCO_3$), mg/l	80.0	IS:3025 (P-23): 1986
9.	Chemical Oxygen Demand, mg/l	10.0	IS:3025 (P-58): 2006
10.	BOD (at 27°C) for 3 days, mg/l	<2	IS:3025(P-44)1993
11.	Dissolved Oxygen, mg/l	6.5	IS:3025 (P-38): 1989
12.	Calcium (as Ca^{++}),mg/l	30.0	IS:3025:P-40:1991:RA:2003
13.	Magnesium (as Mg^{++}), mg/l	7.2	IS:3025:P-46: 1994
14.	Sodium (as Na^{+}), mg/l	14.2	IS:3025:P-45:1983:RA:2003
15.	Potassium (as K), mg/l	8.8	IS:3025:P-45:1983
16.	Nitrate (as NO_3),mg/l	ND (DL-1.0)	IS:3025 (P-34): 1988
17.	Chloride (as Cl), mg/l	12.4	IS:3025 (P-32): 1988
18.	Sulphate (as SO_4), mg/l	16.4	IS:3025 P-24: 1986
19.	Iron (as Fe), mg/l	0.24	IS:3025(Part-53), 2003 & C/1, 10 Phenanthroline Method.
20.	Total Chromium (as Cr), mg/l	ND (DL-0.04)	IS:3025 (P-52): 2003
21.	Zinc (as Zn), mg/l	1.12	IS:3025 (P-49) : 1994
22.	Fluoride (as F) mg/l	ND (DL-1.0)	IS:3025 (P-60) : 2008
23.	Mercury (as Hg) mg/l	ND (DL-0.001)	IS:3025:P-48):1994:RA-2003
24.	Boron (as B),mg/l	ND (DL-0.001)	IS:3025 (P-57): 2005
25.	Aluminum (as Al) mg/l	ND (DL-0.001)	IS:3025:(P-55):2003
26.	Cadmium (as Cd), mg/l	ND (DL-0.001)	IS:3025 (P-41): 1992
27.	Fecal Coliform, MPN/100 ml	50.0	IS:1622-1981-(RA2009)
28.	Total Coliform, MPN/100 ml	110	IS:1622-1981-(RA2009)

Table – 3.13

CPCB water Quality Criteria for Surface water as per use

S. No.	Parameters	Class A	Class B	Class C	Class D	Class E
1.	pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
2.	Dissolved Oxygen	6	5	4	4	-
3.	BOD, 3days at 27^0C, max	2	3	3	-	-
4.	Total coliform organism, MPN/100ML, max	50	500	5000	-	-
5.	Free Ammonia (as N), mg/l,max	-	-	-	1.2	-
6.	Electrical Conductivity, µmhos/cm, max	-	-	-	-	2250
7.	Sodium absorption ratio,max	-	-	-	-	26
8.	Boron (as B), mg/l, max.	-	-	-	-	2

Class A: Drinking water source without conventional treatment but after disinfection.

Class B: Outdoor bathing (organized).

Class C: Drinking water source after conventional treatment and after disinfection.

Class D: Propagation of wild life fisheries.

Class E: Irrigation, Industrial cooling, controlled waste

disposal.Below E: Not meeting A, B, C, D & E Criteria

- **Surface water quality results are summarized below:**
- ***SOAN RIVER:*** **During the period November 2023 to January, 2024-**
  - The pH was found to be 7.33, indicating neutral water conditions, suitable for aquatic life and within permissible limits.
  - Total hardness was recorded 118.0 mg/l which is considered moderately hard but acceptable for most domestic and agricultural uses.
  - Total Dissolved Solids was 168 mg/l, which is well below the IS:2296 tolerance limit of 1,500 mg/L, indicating good water clarity and low mineral content.

- Fecal Coliform was 30.0 MPN/100 ml, while Total Coliform was 70 MPN/100 ml, these values indicate a moderate level of microbial contamination.
- The Chemical Oxygen Demand was recorded at 8.8 mg/L, indicating low levels of chemical pollutants and a low organic load.
- The Biological Oxygen Demand remained less than 2.6 mg/L, which reflects very low biodegradable organic matter, indicating good water quality.
- A healthy Dissolved Oxygen of 6.6 mg/L was observed, which is well within optimal levels for supporting aquatic life.

➢ **Surface water: *SOAN RIVER* During the additional one-month study period of November 2025**

- The pH was found to be 7.56, indicating neutral water conditions, suitable for aquatic life and within permissible limits.
- Total hardness was recorded 120.0 mg/l which is considered moderately hard but acceptable for most domestic and agricultural uses.
- Total Dissolved Solids was 142 mg/l, which is well below the IS:2296 tolerance limit of 1,500 mg/L, indicating good water clarity and low mineral content.
- Fecal Coliform was 50.0 MPN/100 ml, while Total Coliform was 110 MPN/100 ml, these values indicate a moderate level of microbial contamination.
- The Chemical Oxygen Demand was recorded at 10.0 mg/L, indicating low levels of chemical pollutants and a low organic load.
- The Biological Oxygen Demand remained less than <2 mg/L, which reflects very low biodegradable organic matter, indicating good water quality.
- A healthy Dissolved Oxygen of 6.5 mg/L was observed, which is well within optimal levels for supporting aquatic life.

The water quality of Soan River meets the criteria for Class B of CPCB Designated Best Use Classification, meaning:

"Drinking Water Source without Conventional Treatment but after Disinfection".

Conclusion: -

The surface water quality of the Soan River shows neutral pH (7.56), low turbidity, low TDS (142 mg/L) and moderate hardness, indicating good physico-chemical characteristics. Low values of BOD (<2 mg/L) and COD (10.0 mg/L) reflect minimal organic and chemical pollution, while dissolved oxygen (6.5 mg/L) confirms a healthy aquatic environment. Major ions and nutrients are present in low concentrations, and heavy metals including chromium, mercury, cadmium, aluminum and boron

are below detectable limits, indicating no metal contamination.

Microbiological analysis shows moderate levels of fecal and total coliform, suggesting limited microbial contamination, which can be addressed through disinfection. Overall, the surface water quality of the Soan River complies with relevant IS standards and conforms to CPCB Class 'B' designated best use, indicating suitability as a drinking water source after disinfection and reflecting a clean baseline surface water environment in the study area.

b) Ground Water:

Groundwater has been found as an important source for the local needs of water consumption for various purposes, mainly domestic and agriculture. Keeping in view the importance of groundwater to the local population, samples of ground water were collected from the study area for the monitoring and assessment of groundwater quality.

The quality of ground water was studied by collecting 8 water samples from representative hand pumps, tube wells. Sampling points were decided using Google imagery and field survey. Standard procedures were followed for the sampling and analysis of physio–chemical parameters of water. Table 3.15 shows the details of location of water sampling stations and the results of study period November, 2023 to January, 2024 and one additional month study of November, 2025 of different parameters are given in Table 3.15 (a) and Table 3.15 (b), Figure 3.14 shows the photographs of the water sampling.

The sampling sites were selected considering the following criteria –

1. Topography of the study area Pattern.
2. Areas which may be affected due to the activity.
3. Any probable locations with open discharge of sewage or waste water.
4. Location of any solid waste dumping facility in the vicinity of the project site.

Table-3.14

Details of Ground Water Monitoring Stations

S. No.	Sample Code	Name of Location	Distance& Direction	Observation	Co-ordinates
1.	GW-1	Project site	0	Sample was collected from a residential source (house) located in the immediate vicinity of the proposed mining site	31°23'4.40"N 76°13'50.75"E

2.	GW-2	Palakwah	1.70 (NE)	Tap water sample was collected from Primary Health Center, Palakwah.	31°23'45.76"N 76°14'40.32"E
3.	GW-3	Beeton	4.99 (S)	Monitoring sample collected from a handpump near Govt. Senior Secondary School, Beeton.	31°20'20.90"N 76°14'9.01"E
4.	GW-4	Tahliwal	4.19 (SE)	Tap water sample was collected near Baba Nag Ji Mandir, Tahliwal**.**	31°21'10.71"N 76°15'24.65"E

Figure- 3.13 (a)

Ground Water Sampling Photographs

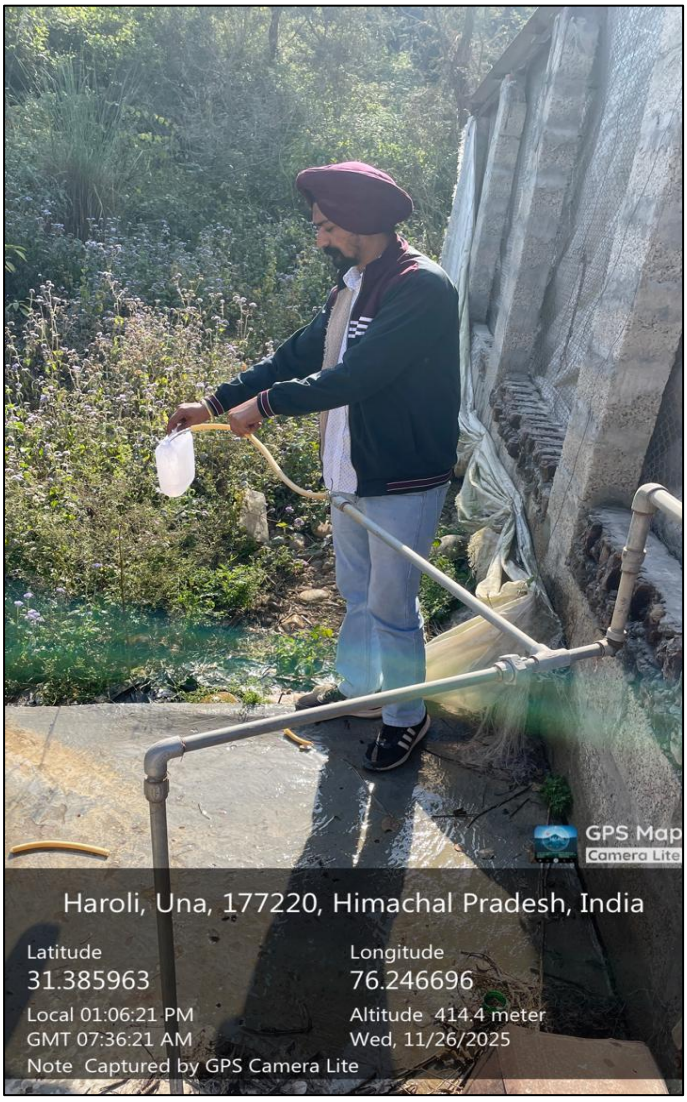


Figure - 3.13 (b)

Locations of Surface Water & Ground Water

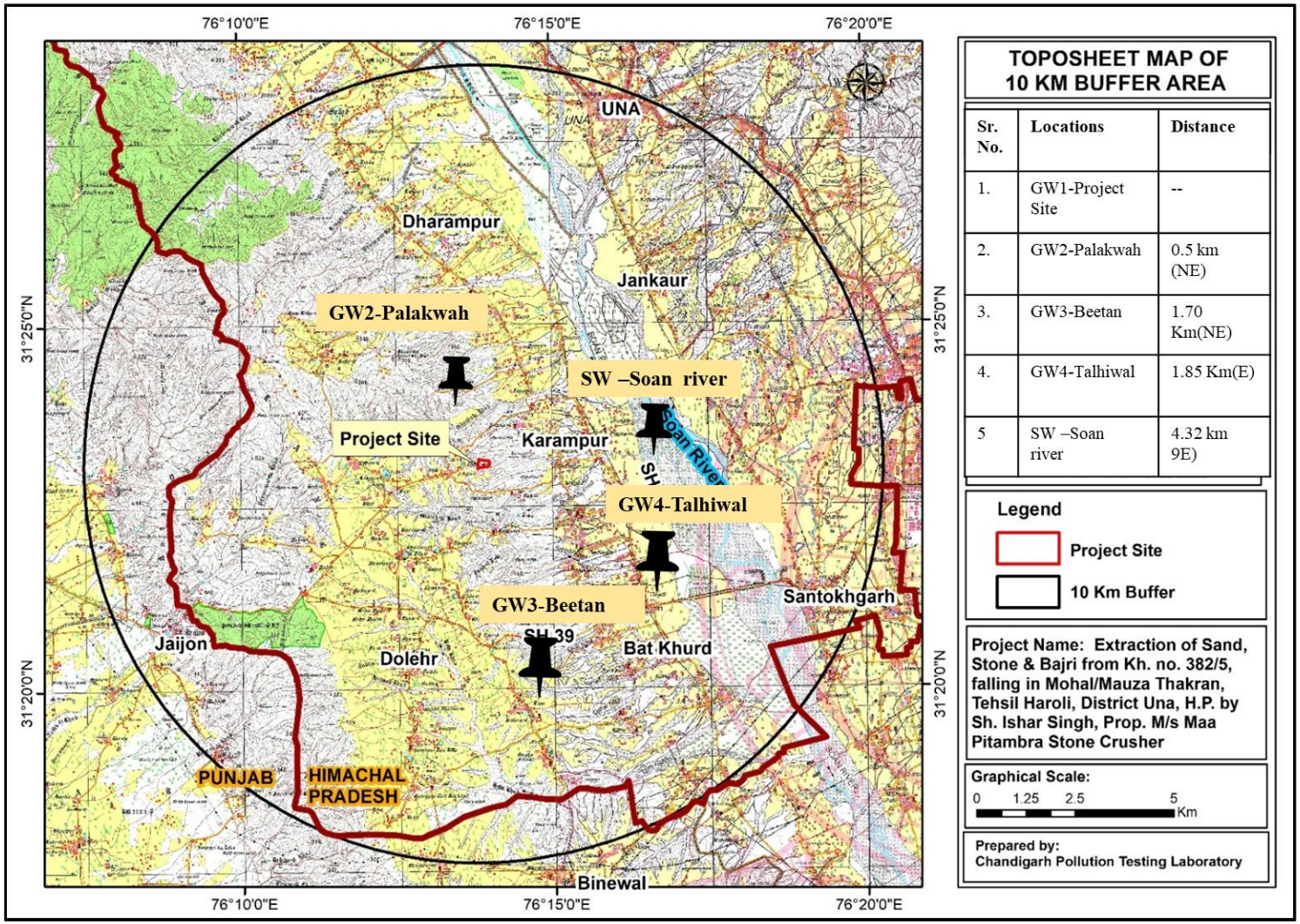


Table - 3.15 (a)

Results of Ground Water Samples (November, 2023 to January, 2024)

Parameters	GW1	GW2	GW3	GW4	GW5	GW6	GW7	GW8	Acceptable Limit	Permissible Limit
pH	7.84	7.55	7.34	7.69	7.77	7.89	7.58	7.43	6.5-8.5	No relaxation
Color, HU	<5	<5	<5	<5	<5	<5	<5	<5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity, NTU	<1	<1	<1	<1	<1	<1	<1	<1	1 Max.	5
Total Dissolved Solids, mg/l	274	282	280	268	284	270	288	260	500 Max.	2000
Total Hardness (as CaCO3), mg/l	250	245	240	250	260	260	270	240	200 Max.	600
Calcium (as Ca++), mg/l	38.2	32.4	30.2	40.4	36.6	38.8	40.4	38.8	75 Max.	200
Magnesium (as Mg++), mg/l	12.4	16.8	18.2	14.6	10.2	14.4	12.4	10.2	30 Max.	100
Total Alkalinity (as CaCO3), mg/l	240	250	230	240	250	240	220	230	200 Max.	600
Chloride (as Cl), mg/l	14.4	12.6	14.4	12.2	14.6	10.6	16.4	18.2	250 Max.	1000
Sulphate (as SO4), mg/l	18.2	16.4	10.4	18.8	22.2	24.6	28.4	22.2	200 Max.	400
Iron (as Fe), mg/l	0.11	0.10	0.11	0.11	0.13	0.12	0.12	0.10	1.0 Max.	No relaxation

Parameters	GW1	GW2	GW3	GW4	GW5	GW6	GW7	GW8	Acceptable Limit	Permissible Limit
Zinc (as Zn), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	5 Max.	15
Nitrate (as NO3), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	45 Max.	No relaxation
Chromium (as Cr), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.05 Max.	No relaxation
Manganese (as Mn), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.1 Max.	0.3
Mercury (as Hg), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.001 Max.	No relaxation
Cadmium (as Cd), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.003 Max.	No relaxation
Fluoride (as F), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	1.0 Max.	1.5
Residual Chlorine (as Cl2), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
E.coli/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Total Coliform, MPN/100ml	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	<2	<2

Table - 3.15 (b)

Results of Ground Water Samples (one-month additional study period of November, 2025)

Parameters	GW1	GW2	GW3	GW4	Acceptable Limit	Permissible Limit
pH	7.45	7.33	7.29	7.56	6.5-8.5	No relaxation
Color, HU	<5	<5	<5	<5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity, NTU	<1	<1	<1	<1	1 Max.	5
Total Dissolved Solids, mg/l	235	243	210	236	500 Max.	2000
Total Hardness (as CaCO3), mg/l	210	220	190	220	200 Max.	600
Calcium (as Ca++), mg/l	62.0	58.0	52.0	48.0	75 Max.	200
Magnesium (as Mg++), mg/l	13.2	18.0	14.4	24.0	30 Max.	100
Total Alkalinity (as CaCO3), mg/l	190	210	180	220	200 Max.	600
Chloride (as Cl), mg/l	17.5	12.4	22.4	12.5	250 Max.	1000
Sulphate (as SO4), mg/l	15.4	18.6	16.4	14.6	200 Max.	400
Iron (as Fe), mg/l	0.15	0.16	0.21	0.18	1.0 Max.	No relaxation
Zinc (as Zn), mg/l	BDL (DL-0.02)	BDL (DL-0.02)	BDL (DL-0.02)	BDL (DL-0.02)	5 Max.	15

Parameters	GW1	GW2	GW3	GW4	Acceptable Limit	Permissible Limit
Nitrate (as NO3), mg/l	BDL (DL-0.2)	BDL (DL-0.2)	BDL (DL-0.2)	BDL (DL-0.2)	45 Max.	No relaxation
Chromium (as Cr), mg/l	BDL (DL-0.005)	BDL (DL-0.005)	BDL (DL0.005)	BDL (DL-0.005)	0.05 Max.	No relaxation
Manganese (as Mn), mg/l	BDL (DL-0.09)	BDL (DL-0.09)	BDL (DL-0.09)	BDL (DL-0.09)	0.1 Max.	0.3
Mercury (as Hg), mg/l	BDL (0.0008)	BDL (0.0008)	BDL (0.0008)	BDL (0.0008)	0.001 Max.	No relaxation
Cadmium (as Cd), mg/l	BDL (DL-.001)	BDL (DL-.001)	BDL (DL-.001)	BDL (DL-.001)	0.003 Max.	No relaxation
Fluoride (as F), mg/l	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	1.0 Max.	1.5
Selenium (as Se), mg/l	BDL (DL-0.005)	BDL (DL-0.005)	BDL (DL-0.005)	BDL (DL-0.005)	0.01	No relaxation
Residual Chlorine (as Cl_2), mg/l	BDL (DL-0.03)	BDL (DL-0.003)	BDL (DL-0.003)	BDL (DL-0.003)	ND	ND
E.Coli/100ml	Absent	Absent	Absent	Absent	Absent	Absent
Total Coliform, MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent

Groundwater Quality Assessment:

➢ During November, 2023 to January, 2024

- The pH ranged from 7.34 at Beeton to 7.89 at Kutharbeet, indicating neutral to slightly alkaline water. The analyzed values are within the acceptable limit (6.5-8.5) mentioned in the IS:10500-2012.
- Total hardness varied between 240 mg/l at Beeton to a maximum of 270 mg/l at Dhugge. The analyzed values are beyond the acceptable limit (200 mg/l) but within the permissible limit (600 mg/l) as mentioned in the IS:10500-2012.
- Calcium concentration ranged from 30.2 mg/l at Beeton to 40.4 mg/l at Tahliwal & Bathu respectively, (acceptable limit is 75 mg/l as per IS:10500-2012) while Magnesium levels were between 10.2 mg/L at Haroli & Bathu, moreover, 18.2 mg/l at Beeton (within the acceptable limit i.e. 30 mg/l and below the permissible limit i.e. 100 as per IS:10500-2012).
- Total Dissolved Solids ranged from 260 mg/l at Bathu to 288 mg/l at Dhugge. The analyzed values are within the acceptable limit (500 mg/l) mentioned in the IS:10500-2012.
- Total alkalinity was recorded as 220 mg/L at Dhugge and 250 mg/L at palakwah and Haroli. These values are beyond the acceptable limits (200 mg/L) but within the permissible limits (600 mg/L) as specified in IS:10500-2012.
- Chloride concentrations varied from 10.6 mg/l at Kutharbeet to 18.2 mg/L at Bathu. The analyzed values are within the acceptable limit (250 mg/l) mentioned in the IS:10500-2012.
- Heavy metals were below detection limits (BDL) in all samples, indicating that the groundwater is generally potable.
- Microbiological analysis of the groundwater indicated that Total Coliform was <2 MPN/100ml and E. Coli was absent, confirming good microbiological quality of the sample.

➢ During an additional month study of November 2025

- The pH ranged from 7.29 at Beeton to 7.56 at Tahliwal, indicating neutral to slightly alkaline water. The analyzed values are within the acceptable limit (6.5-8.5) mentioned in the IS:10500-2012.
- Total hardness varied between 190 mg/l at Beeton to a maximum of 220 mg/l at Palakwah & Tahliwal. The analyzed values are beyond the acceptable limit (200 mg/l) but within the

permissible limit (600 mg/l) as mentioned in the IS:10500-2012.

- Calcium concentration ranged from 48.0 mg/l at Tahliwal to 62.0 mg/l at Project site, (acceptable limit is 75 mg/l as per IS:10500-2012) while Magnesium levels were between 13.2 mg/L at Project site, moreover, 24.0 mg/l at Tahliwal (within the acceptable limit i.e. 30 mg/l and below the permissible limit i.e. 100 as per IS:10500-2012).
- Total Dissolved Solids ranged from 210 mg/l at Beeton to 243 mg/l at Palakwah. The analyzed values are within the acceptable limit (500 mg/l) mentioned in the IS:10500-2012.
- Total alkalinity was recorded as 180 mg/L at Beeton and 220 mg/L at Talhiwal. These values are beyond the acceptable limits (200 mg/L) but within the permissible limits (600 mg/L) as specified in IS:10500-2012.
- Chloride concentrations varied from 12.4 mg/l at Palakwah to 22.4 mg/L at Beeton. The analyzed values are within the acceptable limit (250 mg/l) mentioned in the IS:10500-2012.
- Heavy metals were below detection limits (BDL) in all samples, indicating that the groundwater is generally potable.
- Microbiological analysis of the groundwater indicated that Total Coliform was Absent MPN/100ml and E. Coli was absent, confirming good microbiological quality of the sample.

Conclusion:

The groundwater quality in the study area shows neutral to slightly alkaline pH, TDS within acceptable limits and hardness and alkalinity within permissible limits as per IS:10500-2012. Major ions are within prescribed limits, heavy metals are below detection limits, and microbiological analysis confirms absence of E. coli and negligible total coliform. Overall, the groundwater is fit for domestic and agricultural use and represents a clean baseline condition**.**

3.10.1 Hydrogeology:

The hydrogeology of the project area is governed by hill-slope terrain, local geology and seasonal rainfall. No perennial surface water body exists within the lease area; surface runoff occurs through seasonal nalas active during the monsoon. Groundwater occurrence is limited and discontinuous, mainly confined to weathered zones and fractured rock formations. Depth to groundwater is generally deeper on upper slopes and shallow to moderate in low-lying areas. Groundwater is extracted through hand pumps and borewells for domestic use, with moderate yield depending on fracture connectivity and monsoon recharge. Recharge occurs mainly through rainfall infiltration,

though overall recharge remains moderate due to sloping terrain and higher runoff. The proposed mining involves shallow excavation only and will not intersect the groundwater table; therefore, no significant impact on the local hydrogeological regime is anticipated with proper drainage and soil conservation measures.

3.10.2 Status of Ground Water Development:

The project area falls in a hilly terrain where groundwater occurrence is limited and discontinuous. Groundwater development in the area is low to moderate, mainly through hand pumps and shallow borewells used for domestic purposes in nearby villages. There is no large-scale groundwater extraction for industrial or irrigation use within or near the lease area. Groundwater recharge is primarily rainfall-dependent and seasonal. Considering the limited abstraction, moderate recharge conditions and the fact that the proposed project does not involve groundwater extraction, the present status of groundwater development in the area is within sustainable limits.

3.11 NOISE ENVIRONMENT:

Noise is one of the most undesirable and unwanted by-products of our modern life style. It may not seem as insidious or harmful as air and water pollutants but it affects human health and wellbeing and can contribute to deterioration of human well-being in general and cause neurological disturbances and physiological damage to the hearing mechanism in particular. It is therefore, necessary to measure both the quality as well as the quantity of noise in and around the site.

- **Measurement of Noise:**

Noise levels were measured using a sound level meter with data logger. Sound intensity is expressed in decibels [dB(A)] on a logarithmic scale, which corresponds to the response of the human ear. The A-weighting filter provided in the instrument was used for measurement, and noise levels are reported in dB(A), which is internationally accepted for environmental noise assessment.

Noise monitoring was carried out during daytime (06:00 hrs to 22:00 hrs) and nighttime (22:00 hrs to 06:00 hrs) at eight locations within a 10 km radius of the study area, covering residential, commercial, industrial and silence zones.

- **Sources of Noise:**

Noise at the mining site will be generated from drilling and excavation, operation of heavy earth-moving machinery, loading and unloading of material, vehicular movement, and other associated mining activities.

- **Measurement of Vibration:**

Vibration levels for the proposed mining activity were assessed using analytical and mathematical estimation methods, as no blasting is involved. Generally, vibrations are measured using piezoelectric accelerometers based on the piezoelectric effect; however, for the present project, vibration assessment has been carried out through estimation considering vehicle movement and ground conditions.

Sources of Vibrations:

Mining will be carried out semi-mechanically on a hill slope without the use of blasting. Hence, no significant vibration-generating activity is anticipated. Minor vibrations may occur due to movement of loaded and unloaded vehicles within the mining area and on approach roads. These vibrations will be of low magnitude and short duration and are not expected to cause any adverse impact on nearby structures or habitations.

SAMPLING LOCATIONS:

A preliminary survey was undertaken to identify the major noise generating sources in the area. The noise survey was conducted to assess the background noise levels in different zones. Gazettes Notification {S.O. 123(E)} of MoEFCC dated February 14, 2000 on ambient air quality standards has different noise levels for different zones viz industrial, commercial, and residential and silence zones. Eight sampling locations were selected for the sampling of noise levels.

Noise levels recorded at each station are computed for Equivalent noise levels. Equivalent noise level is a single number descriptor for describing time varying noise levels. Location of noise monitoring station in Toposheet is given in Figure 3.17. List of noise monitoring stations are shown in Table 3.16. Noise results of period November, 2023 to January, 2024 and one additional month study of November, 2025 are given in Table 3.17 (A) and 3.17 (B), respectively. Ambient air standards in respect of noise are given in **Table 3.13**

Figure- 3.14(a)

Noise Monitoring Photograph

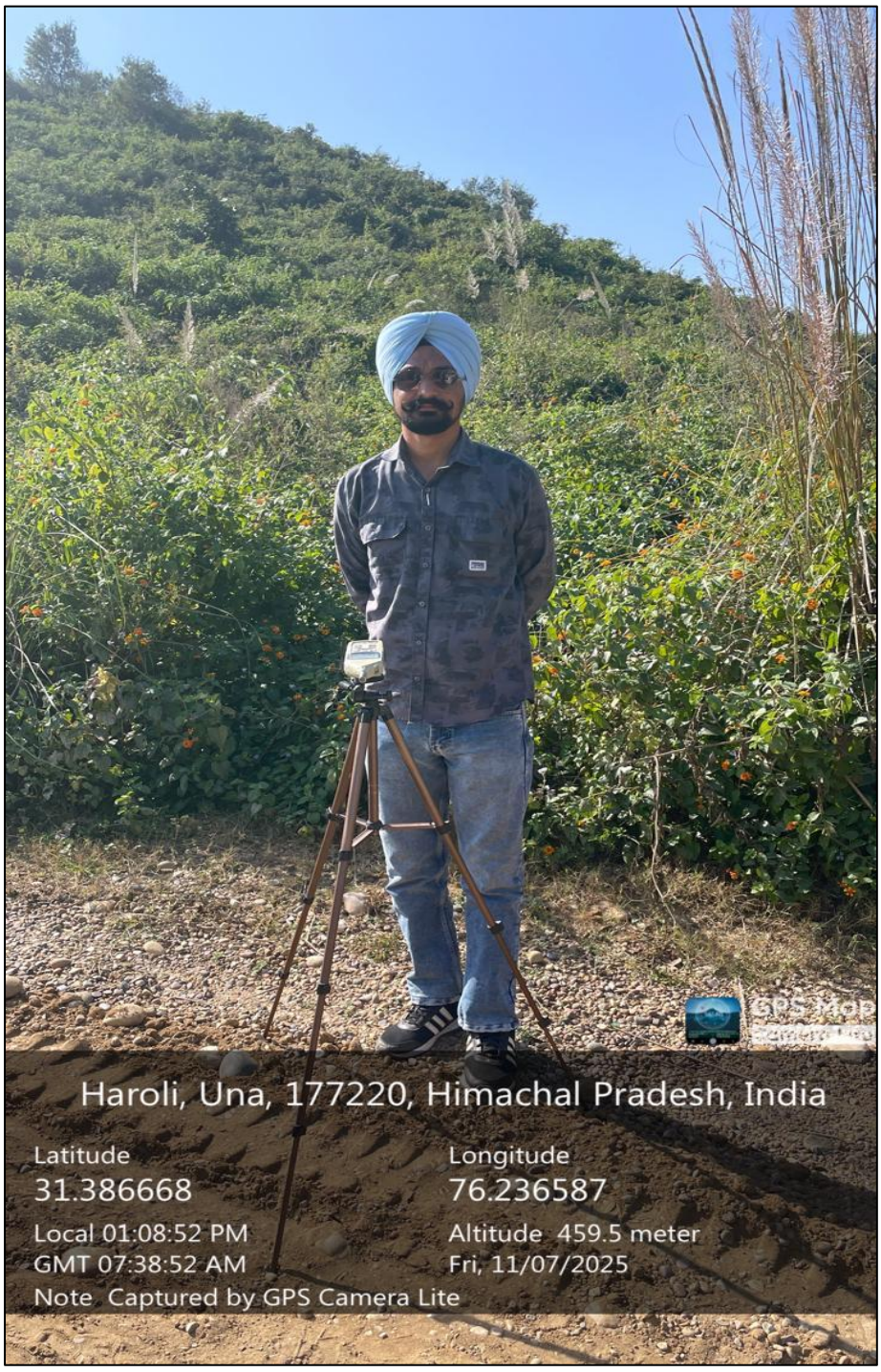
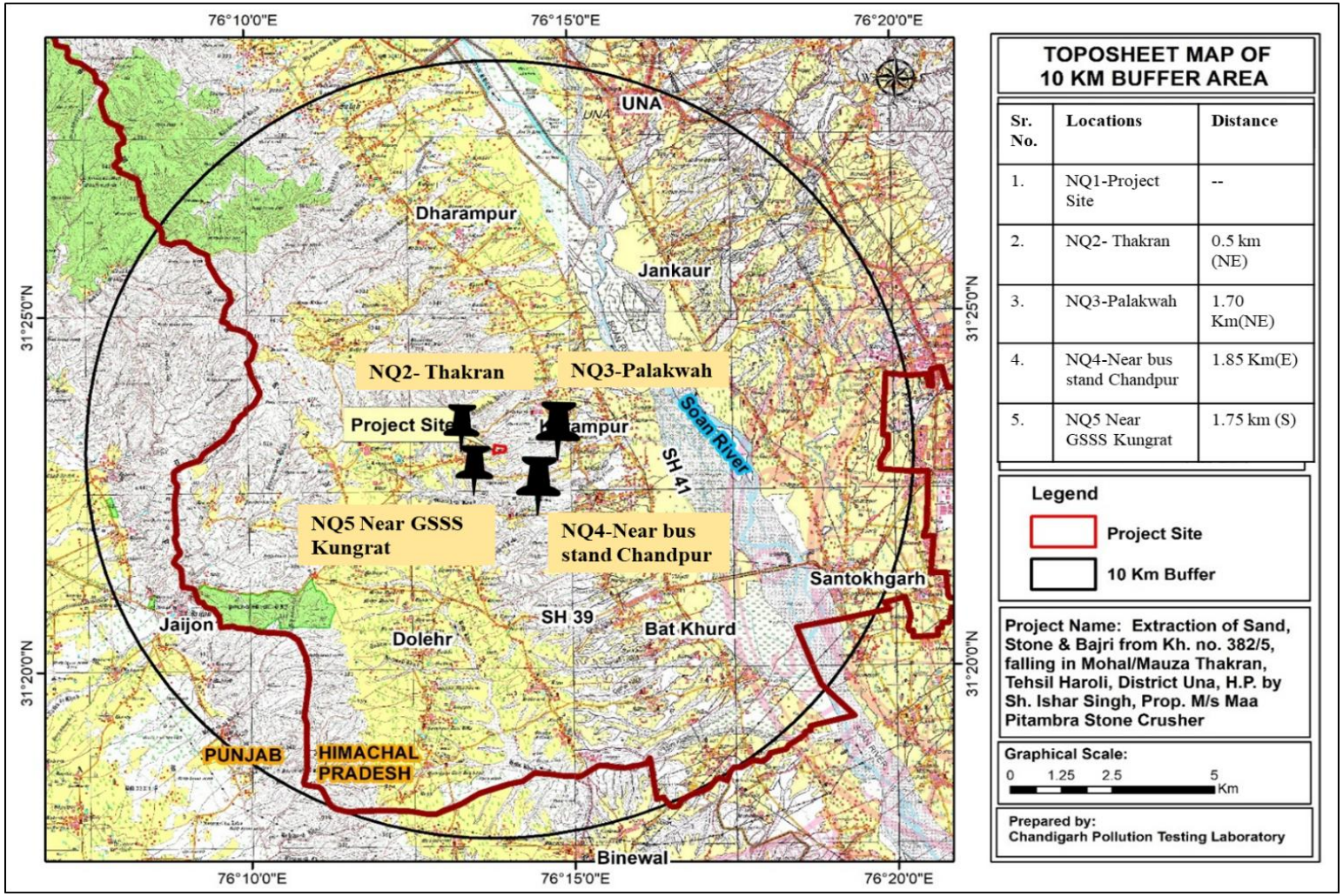


Figure - 3.14(b)

Locations of Noise Monitoring Stations



Sr. No.	Locations	Distance
1.	NQ1-Project Site	--
2.	NQ2- Thakran	0.5 km (NE)
3.	NQ3-Palakwah	1.70 Km(NE)
4.	NQ4-Near bus stand Chandpur	1.85 Km(E)
5.	NQ5 Near GSSS Kungrat	1.75 km (S)

Table 3.16

Details of Noise Monitoring Stations

S. No.	Sample Code	Name of Village	Distance & Direction	Co-ordinates	Observations (Monitoring done at)
1.	NQ-1	Project site	0	31°23'4.40"N 76°13'50.75"E	Monitoring conducted within the proposed project site
2.	NQ-2	Thakran	0.5 Km W	31°23'7.59"N 76°13'38.00"E	Monitoring conducted nearby residential areas surrounding to the project site
3.	NQ-3	Palakwah	1.70 Km NE	31°23'45.76"N 76°14'40.32"E	Monitoring done at residential area (village Palakwah)
4.	NQ-4	Near bus Stand Chandpur	1.85 Km E	31°22'57.01"N 76°15'3.51"E	Monitoring done near the bus stand Chandpur.
5.	NQ-5	Near GSSS Kungrat	1.75 Km SE	31°22'9.63"N 76°14'0.08"E	Monitoring conducted near the Govt. Senior Secondary School Kungrat.

Detailed results of noise levels are shown in **Table 3.17.** Ambient standards in respect of noise are given in **Table 3.18.**

Table 3.17(a)

Noise Level Results Leq dB (A) in and Around Project Area (November, 2023 to January, 2024)

S. No.	Locations	Value in dB(A) (Average)		Test Method
		Day Time (1 Hour)	Night Time (1 Hour)	
1.	Project Site	48.4	35.4	**IS 9989:1981(Rev.2001)**
2.	Beeton	46.5	33.5	
3.	Dhugge	45.7	31.6	
4.	Chhetran	44.8	34.2	
5.	Nangal Khurd	45.9	32.3	
6.	Palakwah	46.9	33.6	
7.	Kutharbeet	43.6	32.5	
8.	Kungrat	44.6	31.7	

Day time is reckoned as 6.00 A.M. to 10.00 pm and night time is reckoned as 10.00 pm to 6.00 A.M.

Table 3.17(b)
Noise Level Results Leq dB (A) in and around Project Area (November, 2025)

S. No.	Locations	Value in dB(A) (Average)		Test Method
		Day Time (1 Hour)	Night Time (1 Hour)	
1.	Project Site	47.9	31.5	IS 9989:1981(Rev.2001)
2.	Thakarn	49.6	32.4	
3.	Palakwah	46.5	33.8	
4.	Near bus stand chandpur	45.4	34.5	
5.	kungrat	46.2	31.3	

Table 3.18
Noise Standards

Area Code	Category of Area	Noise dB(A) Leq	
		Day Time (6.0am-10pm)	Night Time (10.0pm-6.0am)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Conclusion:

- **During November, 2023 to January, 2024**

Ambient noise monitoring was carried out at the project site and selected locations within a 5 km study area to assess the existing noise environment. The daytime noise levels recorded across the study area ranged from 43.6 dB(A) to 48.4 dB(A), while the nighttime noise levels ranged from 31.6 dB(A) to 35.4 dB(A). The maximum daytime and nighttime noise levels was 48.4 dB(A) and 35.4 dB(A) respectively, were observed at the project site.

The remaining monitoring locations, including Beeton, Dhugge, Chhetran, Nangal Khurd, Palakwah, Kutharbeet, and Kungrat, represent residential areas. The observed noise levels during both daytime and nighttime at these locations were found to be within the permissible limits prescribed by the Central Pollution Control Board (CPCB) for residential areas.

- **During an additional month study November 2025**

Ambient noise levels monitored at eight locations were found to be within the permissible limits

prescribed by CPCB. During daytime, noise levels varied from 45.4 dB(A) at Chandpur to 49.6 dB(A) at the Thakran, with relatively higher levels at the Thakran due to the presence of other active mining leases within a 500-m radius. Night-time noise levels ranged from 31.3 dB(A) to 34.5 dB(A), indicating low background noise and minimal nocturnal disturbance. Overall, the baseline noise environment of the area is acceptable and compliant with residential area standard.

3.12 BIOLOGICAL ENVIRONMENT:

A natural ecosystem is a structural and functional unit of nature. It has different biological and physical components, which are interrelated to each other and survive by interdependence. An ecosystem has self-sustaining ability and controls the number of organisms at any level by cybernetic rules. The basic purpose to explore the biological environment under Environmental Impact Assessment (EIA) is to assist the decision-making process and to ensure that the project options under consideration are environmental-friendly. An ecological survey of the study area was conducted, particularly with reference to listing of species and assessment of the existing baseline ecological conditions in the study area. The main objectives of the ecological survey were aimed at assessing the existing flora and fauna components in the study area, to understand the possible impacts on the biological environment caused by the proposed project activities, and to formulate, if necessary, the appropriate mitigation/preventive measures for such impacts. Data has been collected through secondary sources and by site visits.

The present study was carried out in two separate headings for floral and faunal community. The aspects to be covered in the study for the project are given in Table 3.19.

Table-3.19

Aspect to be covered in the study Area

Aspect of Environment	Impacts
A. **Terrestrial Ecology**	Impacts on terrestrial flora and fauna
	Impacts on Rare-Endangered-Threatened (RET) wildlife
	Impacts on socially/ economically/ genetically/ biologically important species
B. Aquatic Ecology	Impacts on aquatic fauna/flora
	Impacts on spawning and breeding grounds for aquatic species

The information presented in this chapter has been collected through field studies, consultation with various government departments and collation of available literature with various institutions and

organizations. The summary of data collected from these sources as a part of the EIA study is outlined in Table 3.20

Table- 3.20

Summary of Data Collected from various sources

Aspect	Mode of data collection	Parameters Monitored	Frequency	Source(s)
Terrestrial Ecology	Primary field survey and secondary literature survey	Floral and Faunal Diversity and Their Importance	One Season (Winter)	Field studies, Forest & wild life Department and literature review
Aquatic Ecology	Primary field survey and secondary literature survey	Diversity of Species and their Importance	One Season (Winter)	Field studies, Forest/ wild life Department and literature review

With the change in environmental conditions, the vegetation cover as well as animals reflects several changes in its structure, density and composition. The present study was carried out separately for floral and faunal community respectively.

Sampling:

For field assessment, i.e., primary data collection, a standard statistical sampling method was followed. The sampling design followed random sampling method. The sampling area was decided based on prior land-use map of the project influence zone (within the 10 km radius around the project area), outlining forest areas and other types of habitats, topographic features and build-up area.

(A) FLORA:

Methodology for floral study

1. ***Secondary literature survey*:** Published literature, including those from relevant organizations like the Botanical Survey of India (BSI), the Wildlife Institute of India (WII- Dehradun), the respective Forest Department of the State concerned etc., research papers, articles, books and reliable websites, available within and adjacent to the study area were compiled and inventoried as "Secondary Floral Diversity Database". This database includes the common English names, vernacular names (if available), botanical names, habitat, and ecological characters (if available) of such floral groups as herbs, shrubs and trees.

2. ***Primary field survey- herbs:*** Herbaceous plants were studied using the quadrat method as followed during vegetation survey. The size of each quadrat for herb survey was 1m x 1m. Field identification of the species and later identification through photographs were followed. Unidentified herbs were collected following proper procedure and prepared into herbarium sheets for later identification.

3. ***Primary field survey – shrubs:*** Shrubs were studied using the quadrat method as followed during vegetation survey. The size of each quadrat for shrub survey was 5m x 5m for shrubs of 3m height. Field identification of the species and later identification through photographs were followed. Unidentified shrubs were collected following proper procedure and prepared into herbarium sheets for later identification.

4. ***Primary field survey – trees:*** Trees were studied using the quadrat method as followed during vegetation survey. The size of each quadrat for tree survey was 20m x 20m. Field identification of the species and later identification through photographs were followed. Samples of unidentified trees were collected following proper procedure and prepared into herbarium sheets for later identification.

5. ***Primary database:*** Data generated from the field survey within and adjacent to the study area were meticulously compiled and inventoried as "Primary Floral Diversity Database". This database includes the common English names, vernacular names (if available), botanical names, habitat, and ecological characters (if available) of such floral groups as herbs, shrubs and trees.

6. ***Field instruments/materials for floral study:*** Measuring tape/s, herbarium sheets, newspaper, herbarium press, polythene bags (incl. zip-locked pouches), 78 clinometers, and magnifying glass, camera, and GPS unit.

   Ecological Methods:

   Methods provided by Cintron-Novelli (1984), Kerhsaw (1973), Misra (1968), Philips (1959), Curtis (1959) can be used for calculating the population characteristics. Locations for survey of biological diversity is provided in Table 3.18.

   Frequency: For comparison of different vegetation units' frequency is expressed in terms of various species in a community.

   % Frequency = Number of quadrats in which the species occur X 100 / Total number of Quadrats studied

   Relative Frequency = Number of occurrences of a species X 100 / Number of occurrences of all species

   Density: It is and expression of numerical strength of a species in a community. The formula used for

calculation of density:

Density = Total no. of individuals of a species X 100

Total no. of quadrats studied

Relative Density: Number of individuals of the species X 100

Number of individuals of all the species

Relative Abundance: This is a measure of the number of individuals of a species in a community per quadrat in which it occurred.

Relative Abundance = (Abundance of a species ÷ Total abundance of all species) × 100

Important Value Index (IVI) = Total picture of ecological status of a species with respect to a community structure can be obtained by summing up relative frequency, relative density and relative abundance as Important Value Index (IVI)

IVI = Relative Frequency + Relative Density + Relative abundance

Table 3.21 Locations for Survey of Biological Diversity

S. No.	Locations	Distance and Directions	Coordinates	Justification for selecting sample locations
1.	**Project Site**	-	31°23'5.96"N 76° 13'49.65"E	Core Zone
2.	**Near Village Thakran**	0.27 Km, NW	31°23'9.76"N 76° 13’38.88"E	Near the village Thakran towards the mining site in wind direction
3.	**Near Baba Gusain ji**	0.58 Km, SE	31°22'45.77"N 76° 14’9.02"	Forest area Near Baba Gusain temple

Photographs of quadrat sampling species of flora found in study area is shown in Figure 3.16. Data collected through primary field survey is provided in Table 3.23. Inventory of flora found in the study area on the basis of secondary data is provided in Table 3.24.

Figure no 3.16

Locations Map for Survey of Biological Diversity

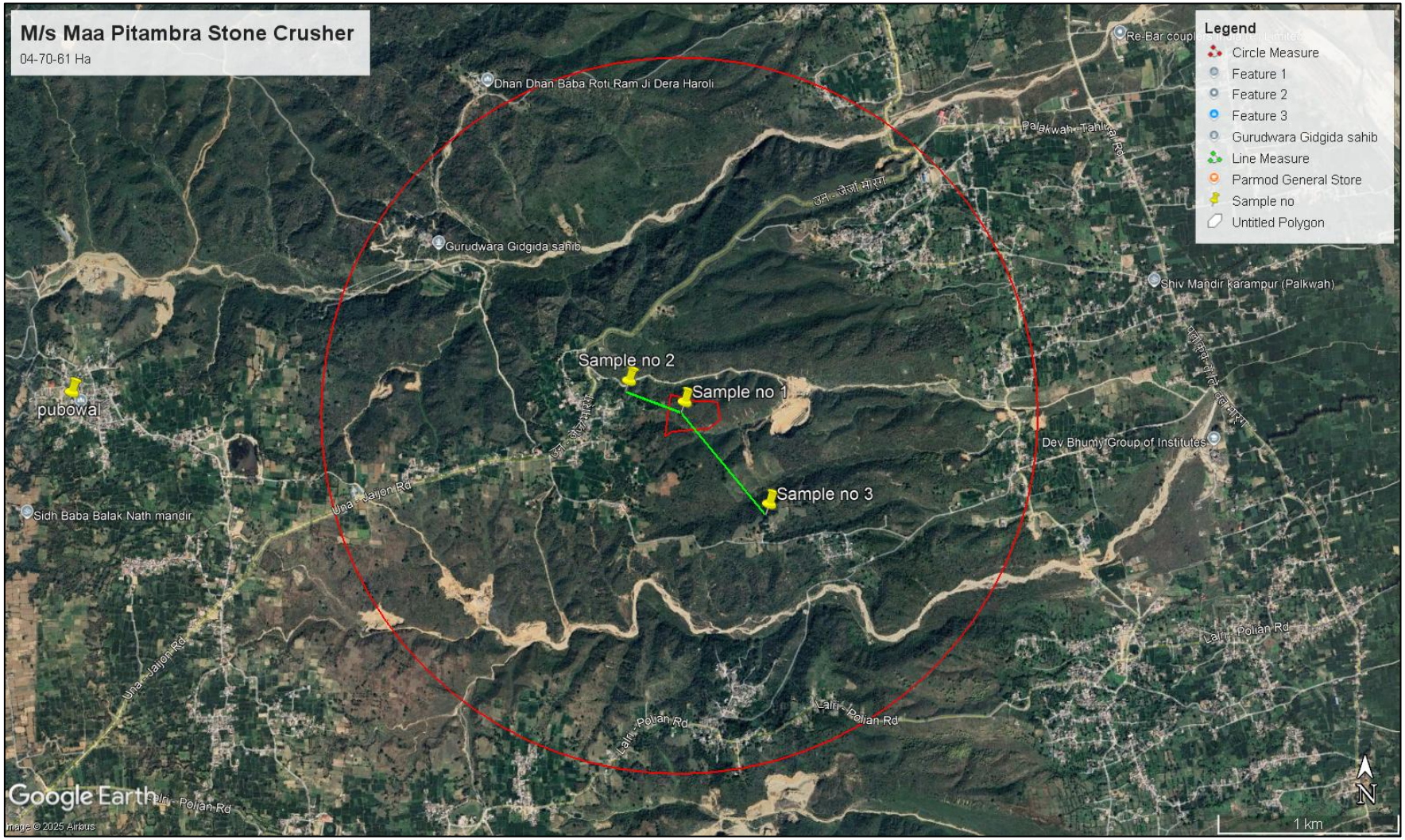
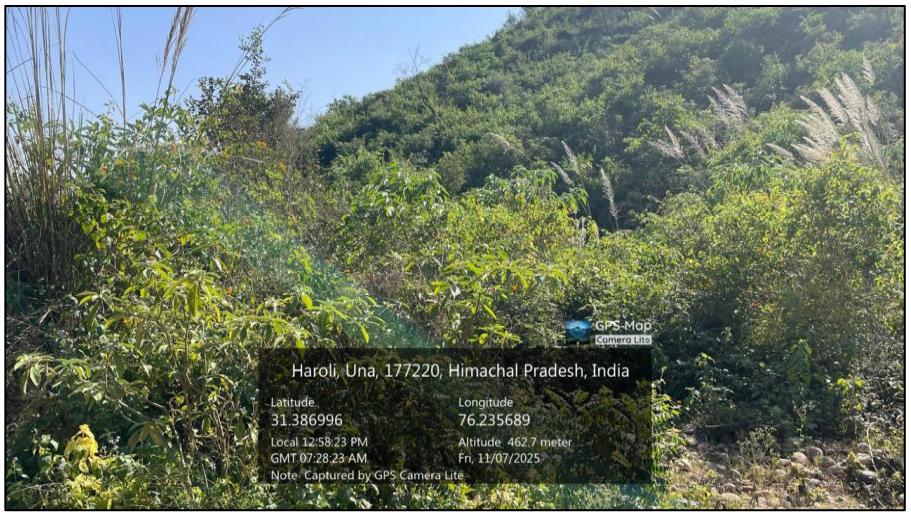


Figure 3.17: Photographs of study area



GPS Map Camera Lite
Haroli, Una, 177220, Himachal Pradesh, India
Latitude
31.385520
Longitude
76.236878
Local 12:52:31 PM
GMT 07:22:31 AM
Altitude 450.5 meter
Wed, 11/26/2025
Note Captured by GPS Camera Lite

GPS Map Camera Lite
Haroli, Una, 177220, Himachal Pradesh, India
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Longitude
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GMT 07:31:35 AM
Altitude 469.0 meter
Fri, 11/07/2025
Note Captured by GPS Camera Lite

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Note Captured by GPS Camera Lite

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Longitude
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GMT 07:33:07 AM
Altitude 464.8 meter
Fri, 11/07/2025
Note Captured by GPS Camera Lite

Table 3.22. Data Collected through Primary field survey

S No.	Common name of species	Scientific name of species	No. of Quadrats								Total no. of individual in all the quadrats (N)	No. of quadrats in which species occur (M)	Total no. of selected Quadrats (O)	Abundance	Population Density	Population Frequency	Relative Frequency (RF) = (Frequency of a species / Total	Relative Density (RD)= (Density of a species / Total	Relative abundance (RA) = (Abundance of a species /	Important Value Index (IVI) = RF + RD + RA
			I	II	III	IV	V	VI	VII	VIII				(N/M)	(N/O)	(M/O x 100%)				
1	**Smooth mesquite**	*Neltuma Laevigata*	4	3	4	7	2	2	4	6	32	7	8	4.57	4.00	87.5	3.68	4.10	4.40	12.18
2	**Amla**	*Emblica officinalis*	2	3	1	0	0	2	2	1	11	6	8	1.83	1.38	75.0	3.16	1.41	1.76	6.33
3	**Gaint cane**	*Arundo donax*	8	5	10	12	4	2	0	2	43	7	8	6.14	5.38	87.5	3.68	5.51	5.91	15.10
4	**Himalayan Mimosa**	*Mimosa rubicaulis*	2	4	3	8	9	8	0	6	40	7	8	5.71	5.00	87.5	3.68	5.12	5.50	14.30
5	**Simbal**	*Bombax ceiba*	4	5	2	1	4	2	0	1	19	7	8	2.71	2.38	87.5	3.68	2.43	2.61	8.73
6	**Congress grass**	*Parthenium hysterophorus*	7	8	7	7	8	5	3	7	52	8	8	6.50	6.50	100.0	4.21	6.66	6.25	17.12
7	**Safeda**	*Eucalyptus globulus*	1	2	2	0	0	1	0	2	8	5	8	1.60	1.00	62.5	2.63	1.02	1.54	5.19
8	**Kachnar**	*Bauhinia variegata*	2	1	3	0	4	2	3	2	17	7	8	2.43	2.13	87.5	3.68	2.18	2.34	8.20
9	**Bahera**	*Terminalia belerica*	2	5	6	2	1	3	0	1	20	7	8	2.86	2.50	87.5	3.68	2.56	2.75	8.99

S No.	Common name of species	Scientific name of species	No. of Quadrats								Total no. of individual in all the quadrats (N)	No. of quadrats in which species occur (M)	Total no. of selected Quadrats (Q)	Abundance	Population Density	Population Frequency	Relative Frequency (RF) = (Frequency of a species / Total	Relative Density (RD)= (Density of a species / Total	Relative abundance (RA) = (Abundance of a species /	Important Value Index (IVI) = RF + RD + RA
			I	II	III	IV	V	VI	VII	VIII				(N/M)	(N/Q)	(M/Q x 100%)				
10	kembal	*Lannea grandis*	4	6	7	8	5	4	4	3	41	8	8	5.13	5.13	100.0	4.21	5.25	4.93	14.39
11	Mango	*Mangifera indica*	7	5	5	4	0	3	5	7	36	7	8	5.14	4.50	87.5	3.68	4.61	4.95	13.24
12	Tuni	*Toona ciliata*	2	4	3	4	2	6	4	4	29	8	8	3.63	3.63	100.0	4.21	3.71	3.49	11.41
13	Khair	*Acacia catechu*	1	4	3	1	3	2	2	6	22	8	8	2.75	2.75	100.0	4.21	2.82	2.64	9.67
14	Billygoat weed	*Ageratum conyzoides*	8	5	6	4	2	6	7	8	46	8	8	5.75	5.75	100.0	4.21	5.89	5.53	15.63
15	Branching Phacelia	*Phacelia ramossima*	4	5	4	7	5	2	4	9	40	8	8	5.00	5.00	100.0	4.21	5.12	4.81	14.14
16	Sweet coltsfoot	*Petasites frigidus*	6	7	8	5	9	4	7	2	48	8	8	6.00	6.00	100.0	4.21	6.15	5.77	16.13
17	Jharber	*Zizyphus nummularia*	4	6	2	4	8	3	4	3	34	8	8	4.25	4.25	100.0	4.21	4.35	4.09	12.65
18	Five Leaved Chaste Tree	*Vitex negundo*	4	5	7	5	4	3	5	4	37	8	8	4.63	4.63	100.0	4.21	4.74	4.45	13.40
19	White Mulberry	*Morus Alba*	0	2	2	3	1	0	2	2	12	6	8	2.00	1.50	75.0	3.16	1.54	1.92	6.62
20	Red sage	*Lantana camara*	9	4	6	7	8	6	4	8	52	8	8	6.50	6.50	100.0	4.21	6.66	6.25	17.12

S No.	Common name of species	Scientific name of species	No. of Quadrats								Total no. of individual in all the quadrats (N)	No. of quadrats in which species occur (M)	Total no. of selected Quadrats (O)	Abundance	Population Density	Population Frequency	Relative Frequency (RF) = (Frequency of a species / Total	Relative Density (RD)= (Density of a species / Total	Relative abundance (RA) = (Abundance of a species /	Important Value Index (IVI) = RF + RD + RA
			I	II	III	IV	V	VI	VII	VIII				(N/M)	(N/O)	(M/O x 100%)				
21	**Curry Leaf**	*Murraya koenegii*	4	2	6	4	6	2	3	4	31	8	8	3.88	3.88	100.0	4.21	3.97	3.73	11.91
22	**Nettle-leaved Goosefoot**	*Chenopodiastrum murale*	4	2	2	6	4	2	4	7	31	8	8	3.88	3.88	100.0	4.21	3.97	3.73	11.91
23	**Peepal**	*Ficus religiosa*	2	0	1	1	3	2	0	2	11	6	8	1.83	1.38	75.0	3.16	1.41	1.76	6.33
24	**Jamun**	*Syzygium cumini*	7	3	1	2	1	3	0	1	18	7	8	2.57	2.25	87.5	3.68	2.30	2.47	8.46
25	**Tulasi**	*Ocimum sanctum (Linn)*	4	2	3	0	1	2	4	2	18	7	8	2.57	2.25	87.5	3.68	2.30	2.47	8.46
26	**Bihul**	*Grewia optiva*	2	4	5	2	3	6	3	8	33	8	8	4.13	4.13	100.0	4.21	4.23	3.97	12.40
		Total									**781**	**190**	**208**	**103.98**	**97.63**	**2375**				

Conclusion:

The phytosociological survey was conducted through systematic quadrat sampling indicates that the study area supports a moderately diverse plant assemblage comprising 26 species of trees, shrubs, and herbs distributed across eight quadrats, with a cumulative population of 781 individuals. The observed species composition reflects a mixed vegetation structure with uneven spatial distribution and dominance patterns.

Analysis of population density, frequency, abundance, and Important Value Index (IVI) demonstrates that *Parthenium hysterophorus, Lantana camara, Arundo donax, Ageratum conyzoides, and Petasites frigidus,* exhibit high IVI values, indicating their ecological dominance and significant contribution to the overall community structure. The prevalence of invasive and opportunistic species—particularly *Parthenium hysterophorus* and *Lantana camara*—is indicative of habitat disturbance, altered land-use patterns, and sustained anthropogenic influence within the study area.

The distribution of Relative Frequency (RF), Relative Density (RD), and Relative Abundance (RA) values is markedly skewed, with a small subset of species accounting for a disproportionately large share of the vegetation metrics. Species exhibiting low IVI values (e.g., *Eucalyptus globulus, Emblica officinalis, Ficus religiosa, Morus alba*) contribute minimally to community dominance and may be considered ecologically vulnerable within the present landscape matrix.

Overall, the presence of a mixture of dominant, subdominant, and other species indicates that the ecosystem has good regenerative potential. During the post-mining, restoration efforts can focus on reintroducing native and rare species, while the species, which are fast-growing and resilient, can help stabilize the soil and prevent erosion.

Table 3.23

Inventory of flora in study area on the basis of Secondary data

S. No.	Common Name	Botanical Name	Source	IUCN status
		Herbs		
1.	Yam	*Dioscorea spp.*	Secondary data	**Not Listed (NL)**
2.	Bathua	*Chenopodium album*	Secondary data	**NL**
3.	Carrot grass	*Parthenium hysterophorus*	Secondary data	**NL**
4.	Black nightshade	*Solanum nigrum*	Secondary data	**NL**
5.	Amaranth	*Amaranthus spp.*	Secondary data	**NL**
6.	Tulasi	*Ocimum sanctum (Linn)*	Primary field survey	**NL**

S. No.	Common Name	Botanical Name	Source	IUCN status
7.	Chirchita	*Achyranthes aspera.*	Secondary data	**NL**
8.	Neela phulnu	Ageratum conyzoides	Secondary data	**LC**
9.	Century plant	*Agave americana*	Secondary data	**LC**
10.	Red saga	*Lantana camara*	Primary field survey	**NL**
11.	Curry leaf	*Murraya koenegii*	Primary field survey	**NL**
12.	Congress grass	*Parthenium hysterophorus*	Primary field survey	**NL**
13.	Jharber	*Zizyphus nummularia*	Primary field survey	**NL**
		Shrubs		
14.	Castor	*Ricinus communis*	Secondary data	**NL**
15.	Kasaundi	*Senna sophera*	Secondary data	**NL**
16.	Oleander	*Nerium oleander*	Secondary data	**Least Concern (LC)**
17.	Smooth mesquite	*Neltuma Laevigata*	Primary field survey	**NL**
18.	Pomegranate	*Punicagranatum*	Secondary data	**LC**
19.	Euphorbia	*Euphorbia sp.*	Secondary data	**LC**
20.	Five-Leaved Chaste Tree	*Vitex negundo*	Primary field survey	**NL**
21.	Tora	*Senna tora*	Secondary data	**NL**
22.	Crape jasmine/Tagar	*Tabernaemontanadivaricata*	Secondary data	**LC**
23.	Himalayan Mimosa	*Mimosa rubicaulis*	Primary field survey	**LC**
24.	Gaint cane	*Arundo donax*	Primary field survey	**LC**
		Climbers		
25.	Bel-Kum, Bel - Kungu	*Clematis gouriana*	Secondary data	**NL**
26.	Akash-bel	*Cuscuta reflexa*	Secondary data	**NL**
27.	Gauj, Salanga	*Millettia auriculata*	Secondary data	**NL**
28.	Ram-datun	*Smilax vaginata*	Secondary data	**NL**
		Trees		
29.	Khair	*Acacia catechu*	Primary field survey	**NL**
30.	Peepal	*Ficus religiosa*	Primary field survey	**LC**
31.	Tuni	*Toona ciliata*	Primary field survey	**LC**
32.	Mango	*Mangifera indica*	Primary field survey	**NL**

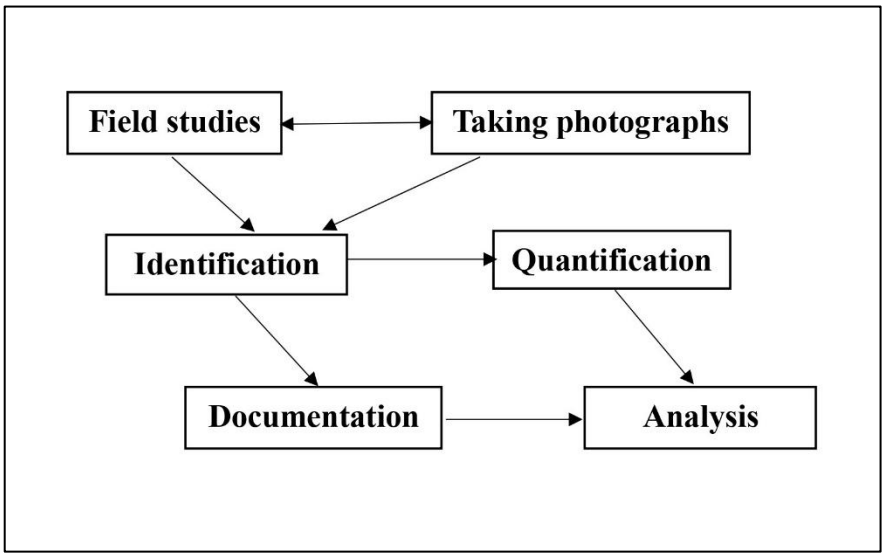
S. No.	Common Name	Botanical Name	Source	IUCN status
33.	Safeda	*Eucalyptus globulus*	Primary field survey	**LC**
34.	Shatoot	*Morus alba*	Primary field survey	**NL**

(B) FAUNA

Methodology for Faunal diversity:

1. ***Secondary literature survey:*** Published literature, including those from relevant organizations like the Zoological Survey of India (ZSI), the National Bureau of Agricultural Insect Resources (NBAIR) Bangalore, the Wildlife Institute of India (WII-Dehradun), the Forest Department of the State, research papers, articles, books and reliable websites, available within and adjacent to the study area were meticulously compiled and inventoried as "Secondary Faunal Diversity Database".

Fig 3.18 Procedure for data collection in Faunal studies



2. ***Primary field survey – birds*:** Avian diversity was assessed using line transect, point count, and opportunistic sighting methods as per site conditions**. Line transects** of 1 km length were used in open and accessible areas, and birds seen or heard within 25 m on either side were recorded during one-hour surveys. **Point count method** was applied in suitable habitats where observers recorded birds within a 50 m radius for 5 minutes, with other points spaced at least 300 m apart. **Opportunistic sightings** were noted during movement in the study area. Birds were identified using field guides, vocalizations, photographs, and sketches, with expert consultation when required.

3. ***Primary field survey – mammals*:** For mammalian diversity assessment, has been done by transect method (walking and in vehicle) for all major habitats for surveying of mammals by direct and indirect evidence. Direct observation technique has been used for surveying large and medium sized mammals.

But this technique is perfectly suitable for surveying of diurnal mammals. But, for nocturnal mammals, camera traps were used and other evidences (pellets, hair, foot prints, and vocal sounds) also collected for surveying mammals (Martin 2009). Bait traps and visual encounters have been used for small mammals (rodents and squirrels). However, good photographs were also taken and field-books/other reliable sources for species identification.

4. ***Primary field survey– amphibians and reptilians:*** Direct observation and indirect evidence/sign survey are preferred for assessing amphibian and reptilian diversity in the field site, sampling was done in both aquatic and terrestrial systems. Sampling required day time search during the study period in specified habitats (under the logs and stones, digging through litter and soil, searching short bushes and tree hollows, and under fallen barks and water-catchments). For surveying and monitoring Identification of species was done on-site or through vocal sound/photographs/sketches and with the help of field-books or other reliable sources can help to identified the species.

5. ***Primary database:*** Data generated from the field survey within and adjacent to the study area was meticulously compiled and inventoried as "Primary Faunal Diversity Database".

6. ***Field instruments/materials for faunal study:*** Range-finder, compass, binoculars, camera, slide callipers, Insect net, Forceps, Knife, Headlamp, Box, 10 x lens, Traps, measuring tape, GPS unit, polythene bags (incl. zip-lock pouches), and field-books.

Majority of Una district consists of chill forest. Under the second category of the forest, the Khair is Predominant species. The third category consists of broad leaves species but have lot of bushy growth as well.

- **IUCN Red List Categories and Criteria:** IUCN Red List Categories and Criteria are intended to be an easily and widely understood system for classifying species at high risk of global extinction.

Objectives of IUCN Red List Categories and Criteria:

- To provide a system that can be applied consistently by different people.
- To improve objectivity by providing users with clear guidance on how to evaluate different factors which affect the risk of extinction.
- To provide a system which will facilitate comparisons across widely different taxa.
- To give people using threatened species lists a better understanding of how individual species were classified.

Fig. 3.19: IUCN Categories

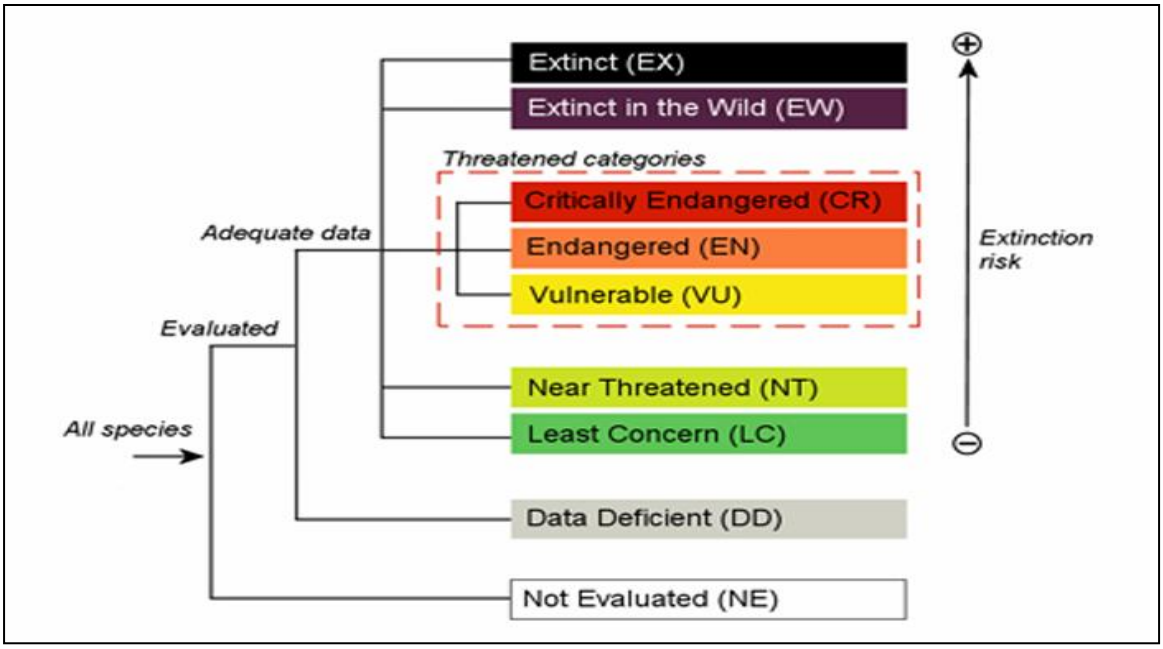


Table 3.24 (a) : Bird diversity

S. No.	Common Name	Scientific Name	Source	IUCN status	Schedules as per WPA, 1972 as amended till date
1.	Common King Fisher	*Aleedo atthis*	Primary field survey	LC	Schedule IV
2.	Asian Koel	*Eudynamyss colopacea*	Secondary data	LC	Schedule II
3.	King Crow	*Dicrurus macrocercus*	Primary field survey	LC	-
4.	Hooper	*Upupa epops*	Primary field survey	LC	-
5.	Bank myna	*Acridotheres ginginianus*	Secondary data	LC	Schedule II
6.	Jungle Fowl	*Galus gonnerathi*	Primary field survey	LC	Schedule II
7.	Black Partridge	*Francolinus francolinus*	Secondary data	LC	Schedule II
8.	Red-wattled Lapwing	*Vanellus indicus*	Primary field survey	LC	Schedule II
9.	Blue rock pigeon	*Columba livia*	Primary field survey	LC	Schedule II

S. No.	Common Name	Scientific Name	Source	IUCN status	Schedules as per WPA, 1972 as amended till date
10.	Blue jay, Roller	*Coracias benghalensis*	Secondary data	LC	-
11.	Himalayan jungle crow	*Corvus macrorhynchos*	Secondary data	LC	Schedule V
12.	House crow	*Corvus splendens*	Primary field survey	LC	Schedule V
13.	House sparrow	*Passer domesticus*	Secondary data	LC	Schedule II
14.	Common myna	*Acridotheres tristis*	Primary field survey	LC	Schedule II
15.	Hill partridge	*Arborophila torqueola*	Secondary data	LC	Schedule IV
16.	Red vented bulbul	*Pycnonotuscafer*	Secondary data	LC	Schedule II
17.	Indian Parakeet	*Psittacula eupatria*	Secondary data	LC	Schedule IV
18.	Rock pigeon	*Columba livia*	Primary field survey	LC	Schedule IV
19.	Red Whiskered	*Pycnonotus jocosus*	Primary field survey	LC	Schedule II

Aquatic Animals: The study area is devoid of major water-bodies, thus may not support a considerable aquatic faunal diversity. However, from secondary source, below mentioned fishes may be available. Details of animals and their IUCN Status is provided in table 3.24

Table 3.24(b)List of Aquatic animals and their IUCN Status

S. No.	Common Name	Scientific Name	IUCN Status	Schedules as per WPA, 1972 as amended till date
1.	Murrel	*Channa striata*	Murrel	Not Listed
2.	Eel	*Anguilliformes*	Eel	Not Listed (Appendix II)
3.	Bachwa	*Eutropiichthys*	Bachwa	Not Listed

Data of mammals and reptiles were collected during field survey (primary and secondary data):

Table 3.24(c): Mammals (Mammalia):

S. No.	Common Name	Scientific Name	IUCN Status	Schedules as per WPA, 1972 as amended till date
➢	Nilgai	*Boselaphus tragocamelus*	LC	Schedule III
➢	Wild Boar	*Sus scrofa*	LC	Schedule III
➢	Jungle cat	*Felis chaus*	LC	Schedule II
➢	Jackal	*Canismesomelas*	LC	Not listed in Schedules
➢	Rhesus Monkey	*Macaca mulatta*	LC	Schedule II
➢	Palm squirrel	*Funambulus palmarum*	LC	Not listed in Schedules
➢	Common langur	*Presbytis entellus*	LC	Not listed in Schedules
➢	Rats	*Rattus norvegicus*	LC	Not listed in Schedules
➢	Mice	*Mus musculus*	LC	Not listed in Schedules
➢	Barking deer	*Muntacus muntjak*	LC	Schedule III
➢	Porcupine	*Hystrix indica*		Schedule IV
REPTILES				
➢	Rat Snake	*Pantherophis obsoletus*	LC	Schedules II
➢	Indian Chameleon	*Chameleon calcartus*	LC	Schedule II
➢	Common House Lizard	*Hemidactylus frenatus*	LC	Not listed in Schedules
➢	Common Warm Snake	*Typhlops braminus*	LC	Not listed in Schedule
➢	Rat Snake	*Vipera russellii*	LC	Schedule IV
➢	Python	*Python regius*	LC	Not Listed

Interpretation and Conclusion for Ecology & Biodiversity:

The project is situated in an area characterized by healthy vegetation, with the majority of the land dedicated to forest and agricultural use. The study area includes six Protected Forests, and there are no Reserved Forests, National Parks or Wildlife Sanctuaries within the immediate vicinity (the closest- Nangal Wildlife Sanctuary being 12.90 kms away in South direction). Furthermore, the study did not identify or discuss any Rare, Endangered, or Threatened (RET) species among the floral species present in the area.

Reserved & Protected Forests:

There is no Notified Protected/Reserved Forest within 10 Km distance from the mining site.

Interpretation for Faunal Diversity:

The study area is rich in natural diversity, featuring a mix of forests and both perennial and seasonal water bodies. While the area shows evidence of wild animal movement, most of the observations are based on secondary data. It's important to note that the study area does not harbor any Schedule-I species or endemic species, which would require special conservation attention. **With ongoing development in the region, it's crucial to focus on protecting and strengthening the existing biodiversity. To minimize potential ecological impacts, it is recommended that project activities be restricted to the core zone, ensuring that the surrounding ecosystems remain undisturbed.**

Conclusion:

Based on the field study and secondary data and the characteristics of the study area, it is concluded that the existing ecosystem is balanced in terms of co-existence, stability and resilience and the ecosystem is able to recover from disturbances.

3.13 SOCIO ECONOMIC:

The socio-economic study encompasses the analysis of socio-economic conditions of habitation and communities living in the study area in addition to the potential issues & concerns of study area. In this regard, the view of stakeholders was invested through focused group discussions and questionnaire. The study involves the collection of baseline data including demographic details such as households, population literacy, employment pattern, health, transportation, communication & welfare facilities such as educational, recreational, hospitals and project awareness amongst the stakeholder. In addition, the economic resources, infrastructure facilities, communication, and aesthetic attributes are also considered in the study as per the requirements under the Ministry MoEF&CC.

Objectives & Methodology:

- Identification of people living in the study area & demographic profile of the area- through secondary data collection from Census of India.
- Social status of society in the- through focused group discussion (FGD) selected villages.
- Communities & sub -groups living in the core zone by caste & religion- from Panchayati Raj Institution (PRI).
- Vulnerable group of people such as BPL, SC & ST- from PRI representatives & interval method.
- Occupational pattern- from secondary data via Census of India.
- Sources of income of Panchayats- - from PRI.
- Economic well-being of different classes based on the daily wage rate & land holdings- from PRI.
- Physical infrastructure e.g. roads, transport, medical, recreational and educational facilities- from

PRI.

- Effects of ongoing developments near the proposed project such as lifestyle within the core zone- from FGD.
- Likely impact of proposed development on the core zone as assessed in association with.
- Needs of different communities based- from data analysis.
- Social management plan with budget, timeline on study- from data analysis.

Methodology applied for selection of sample & data collection:

The methodology which is applied for primary source of data collection i.e. gathering data through field survey for socio- economic environment is depicted below:

a) Sampling Method: A judgmental and purposive sampling method was used for choosing respondents of various sections of the society i.e. Sarpanch, Adult Males and Females, Teachers, Medical Practitioners, Businessmen, Agriculture Laborers, Unemployed Group etc. Judgmental and purposive sampling method to access the total population that helps to fulfill the purpose of research needs.

b) Data Collection Method: For the process of data collection through primary source certain methods were used amongst them is:

i. Field Survey and Observations: Field survey and observations was made in nearby sampling village and the socioeconomic status of that region was studied. Visits were made at Health Centers, Schools, Gurudwaras, Panchayat office etc.

ii. Interview Method: Structured interview method was used to collect data regarding the awareness and opinion from the samples selected of the various socio- economic sections of the community. Structured interviews involve the use of a set of pre-decided questions that includes fixed and alternative questions. The questionnaire mainly highlights the parameters such as income, employment and working conditions, housing, food, water supply, sanitation, health, energy, transportation and communication, education, environment and pollution to assess the standard of living of that particular region and general awareness, opinion and expectation of the respondents about the proposed project. Interview method helps to collect more correct and accurate information as the interviewer is present during the field survey.

Secondary data collection & Review:

Demographic profile of the district based on Census-2011 is tabulated below. In order to create a baseline of villages/habitation in the study area.

- The villages located in the study area were collected on the basis of land use maps.

- The demographic data of villages were collected from the district census data.

STUDY AREA

To ensure a granular assessment, the 10 km study area has been divided into three zones based on proximity and impact magnitude:

1. **Zone A (Core Impact Zone, 0–3 km):** Direct impact area covering 6 villages (e.g., Polian, Kuthar Beet, Kungrat).
2. **Zone B (Immediate Buffer, 3–5 km):** Indirect impact area covering 5 villages (e.g., Haroli, Palkwah, Singa).
3. **Zone C (Outer Buffer, 5–10 km):** General influence zone covering 7 large settlements (e.g., Lalehri, Badehra, Tahliwal).

Figure- 3.15

Maps showing Socio-economic survey area

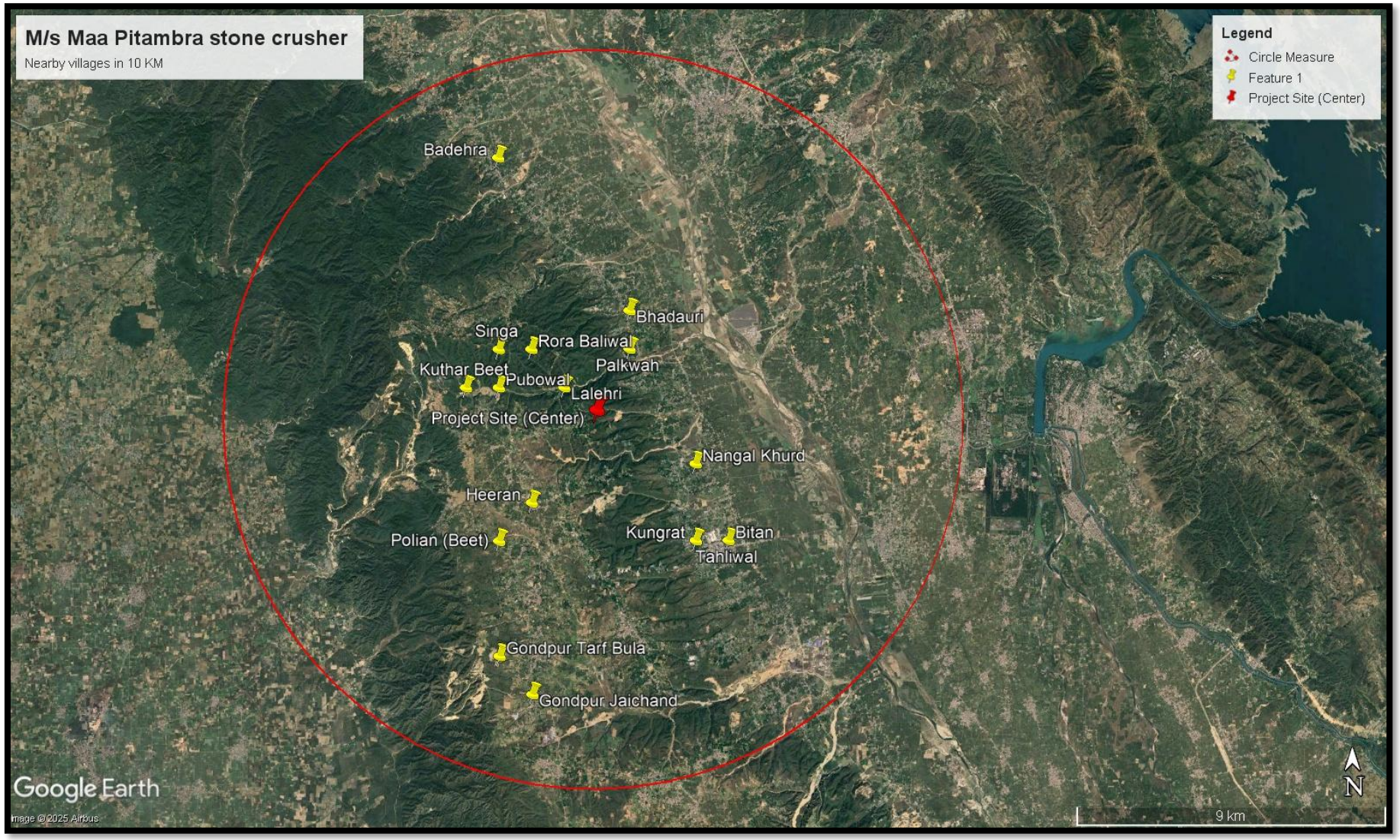


Table- 3.25

10 km Demography & Socio-Economy data of the study area

Sr. No.	Village Name	Zone	Male	Female	Sex Ratio	SC Population	ST Population	Literate	Literate Male	Literate Female	Total Population
1	Polian (Beet)	0-3 km	662	633	956	490	151	934	513	421	1,295
2	Kuthar Beet	0-3 km	708	712	1006	474	0	1,068	571	497	1,420
3	Kungrat	0-3 km	401	407	1015	508	0	639	351	288	808
4	Gondpur T. Bula	0-3 km	652	621	952	310	0	973	525	448	1,273
5	Gondpur Jaichand	0-3 km	685	666	972	295	21	967	520	447	1,351
6	Bitan	0-3 km	1,540	1,436	932	485	0	2,050	1,150	900	2,976
7	Palkwah	3-5 km	914	940	1028	483	2	1,412	750	662	1,854
8	Haroli (HQ)	3-5 km	773	764	988	433	15	1,208	665	543	1,537
9	Singa (Sur Kalan)	3-5 km	1,157	1,156	999	303	323	1,716	919	797	2,313
10	Rora Baliwal	3-5 km	783	719	918	326	0	1,050	590	460	1,502
11	Bhadauri	3-5 km	668	596	892	300	0	1,008	560	448	1,264
12	Tahliwal	5-10 km	165	152	921	0	0	264	145	119	317
13	Lalehri	5-10 km	2,158	2,084	966	545	12	3,212	1,720	1,492	4,242
14	Nangal Khurd	5-10 km	760	738	971	304	0	1,292	675	617	1,498
15	Badehra	5-10 km	2,470	2,530	1024	935	10	3,750	1,950	1,800	5,000
16	Pubowal	5-10 km	1,126	1,028	913	827	0	1,611	921	690	2,154
17	Heeran	5-10 km	937	955	1019	110	0	1,613	830	783	1,892
18	Panjawar	5-10 km	1,744	1,793	1028	820	0	2,820	1,450	1,370	3,537

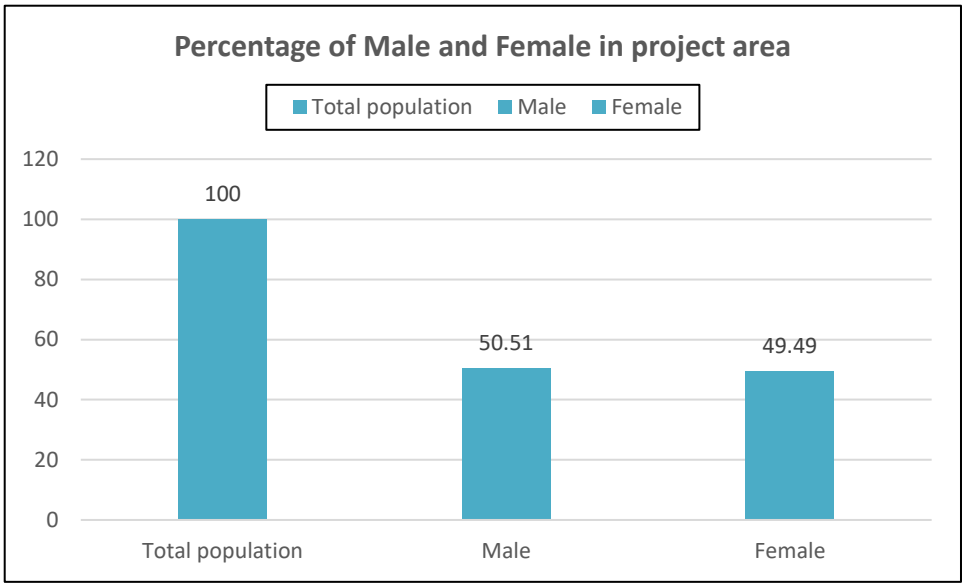
(Source: Census of India, 2011)

A.) DEMOGRAPHIC PROFILE:

Population Distribution

The total population of the 18 identified villages in the study area is **37,731**, comprising **19,019 Males (50.51%)** and **18,712 Females (49.49%)**. The population density varies significantly, as major population clusters in the outer buffer, while the Core Zone (Zone A) remains sparsely populated.

Figure no 3.21(a) % of population distribution in study area



Key Observation: The study area is semi-urban in character, heavily influenced by the industrial township of Tahliwal and the administrative center at Haroli.

Table - 3.26

Zone-wise Demography of 10 km of study area

Zone	No. of Villages	Total Households	Total Population	Male	Female	% of Total Population
Zone A (0-3 km)	6	1,485	9,123	4,648	4,475	24.2%
Zone B (3-5 km)	5	1,720	8,464	4,295	4,169	22.4%
Zone C (5-10 km)	7	4,150	20,144	10,076	10,068	53.4%
TOTAL	**18**	**7,355**	**37,731**	**19,019**	**18,712**	**100%**

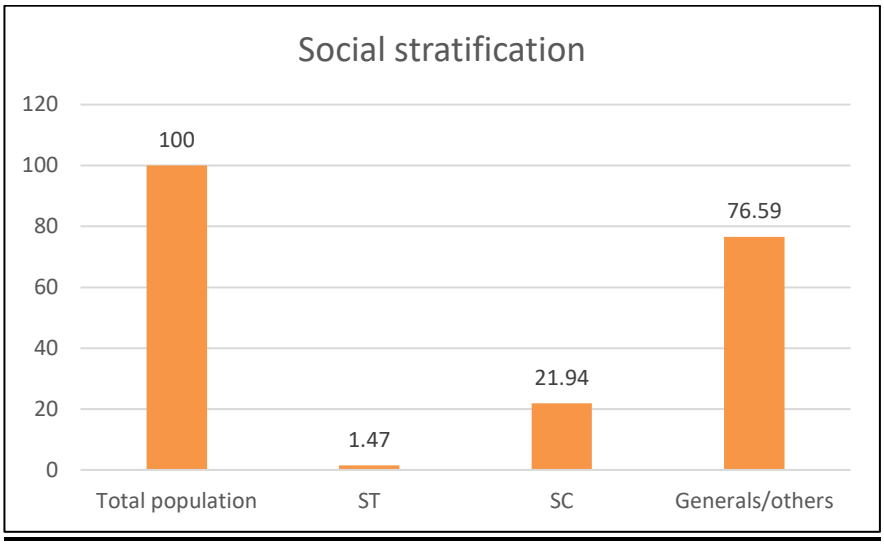
Data Source: District Census Handbook, Una (2011)

Sex Ratio Analysis:

The Sex Ratio is a critical indicator of social health. The study area exhibits an excellent Sex Ratio of 984 females per 1000 males, which is significantly higher than the National Average (943) and comparable to the State Average of Himachal Pradesh.

- **Positive Outliers:** Villages like Saloh (1131), Palkwah (1028), and Badehra (1024) show a sex ratio >1000, indicating a progressive society with minimal gender discrimination.
- **Inference:** The project will operate in a socially developed region where women likely play an active role in community life.

Social Stratification (SC/ST Profile)



- **Scheduled Castes (SC):** The SC population constitutes roughly 22.8% of the total population (8,634 individuals). High concentrations are found in Badehra (935) and Pubowal (827).
- **Scheduled Tribes (ST):** The ST population is negligible (~1.3%) in the region, with the exception of two villages: Singa (323 ST residents) and Polian (151 ST residents).

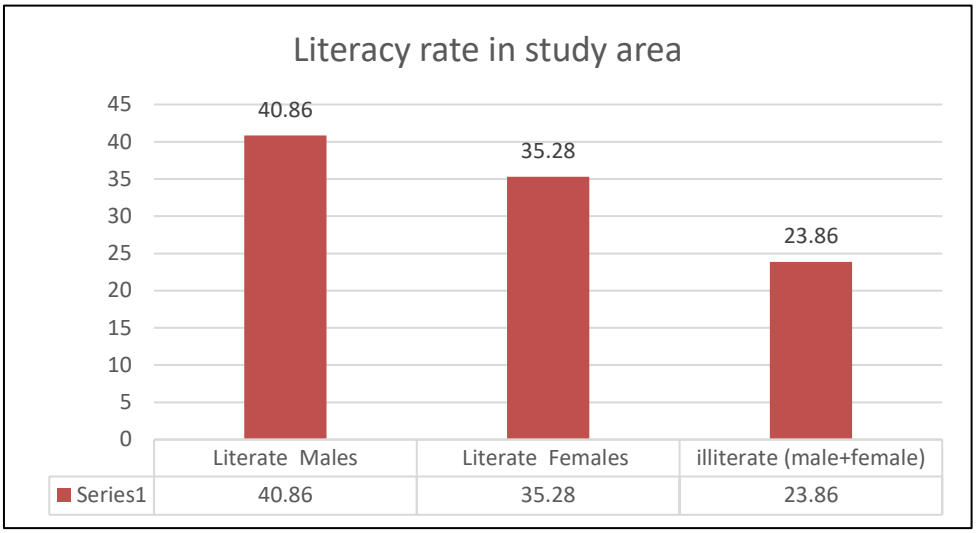
Literacy and Education status

The study area boasts an impressive literacy rate of ~84.0%, reflecting the high priority given to education in Himachal Pradesh.

- **Male Literacy:** ~89%
- **Female Literacy:** ~79%
- **Highest Literacy:** Recorded in Haroli (88.5%) and Palkwah (87.0%).
- **Lowest Literacy:** Recorded in Bitan (77.1%), though this is still respectable by national standards.

Figure - 3.21 (b)

Literacy Rate in The Study Area



The availability of a literate workforce suggests that the project proponent can source skilled and semi-skilled labor locally, reducing the need for inter-state migration.

B.) ECONOMIC PROFILE (OCCUPATIONAL STRUCTURE)

The economic baseline is determined by analyzing the workforce participation. The Work Participation Rate (WPR) in the study area is approximately **35-40%**, typical for semi-urban areas.

Workforce Categorization:

The workforce is transitioning from Agrarian to Industrial/Service sectors.

- **Total Main Workers:** The segment of the population employed for more than 6 months a year.
- **Marginal Workers:** Those employed for less than 6 months (often seasonal agricultural labor).

Figure- 3.21 (c)

%age of workforce category in study area

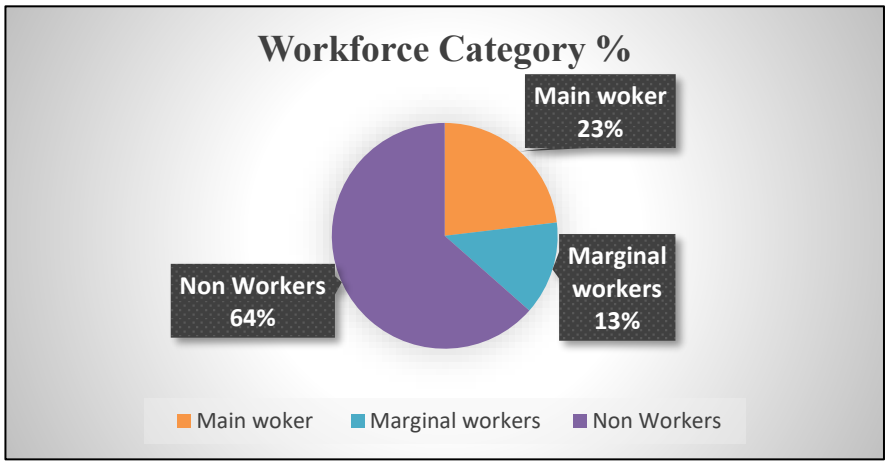


Table 3.27: Sectoral Distribution of Main Workers

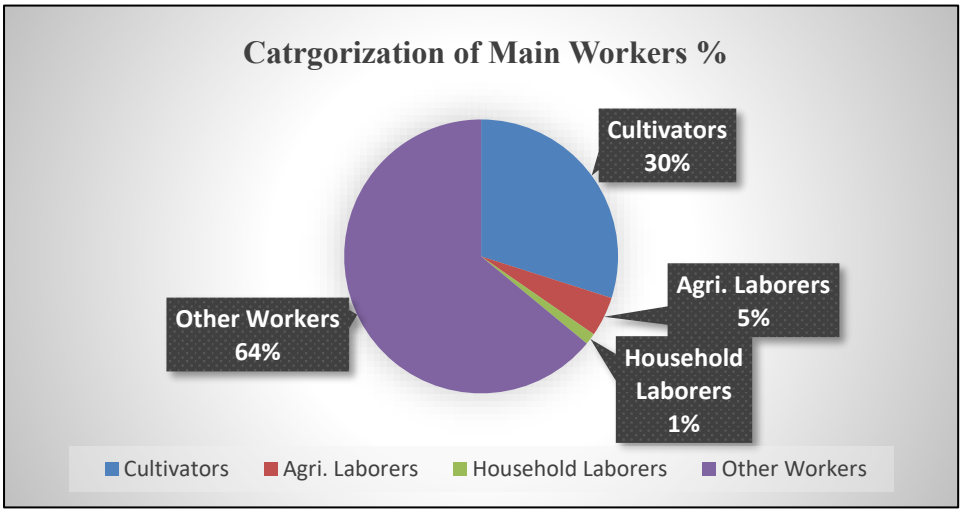
Category	No. of Workers	% of Main Workers
Cultivators	2,450	33.5%
Agri. Laborers	506	6.9%
Household Industry	137	1.8%
Other Workers	4,220	57.8%
Total Main Workers	**7,313**	**100%**

Data Source: District Census Handbook, Una (2011)

The economic character of the study area is best understood by analyzing the specific activities of the 8,373 Main Workers. The data reveals a distinct dominance of non-agricultural employment:

Figure- 3.21 (d)

Categorization of main workers



- **Other Workers (Dominant Category):** The majority of Main Workers, 5,361 individuals (64%), fall under the category of "Other Workers". This confirms that the study area is primarily driven by industrial or service-oriented activities, likely due to the proximity of industrial zones.
- **Agricultural Sector:** While not the primary employer, agriculture still supports a significant portion of the population.
    a) **Cultivators:** 30%
    b) **Agricultural Laborers:** 5%
    c) **Household Industry:** This sector is negligible, employing only 113 individuals (1.35%).

C.) INFRASTRUCTURE AND AMENITIES (QUALITY OF LIFE)

The Infrastructure Resource Matrix (generated in previous steps) reveals a distinct disparity between the "Service Hubs" and "Dependent Villages."

Table: 3.28 Zone-wise Infrastructure Availability Summary

Infrastructure Facility	Zone A	Zone B	Zone C	Total
Primary Schools	8	8	17	33
High Schools	3	4	9	16
PHC / Hospitals	0	2	4	6
Banks	1	3	7	11
Post Offices	3	4	6	13
Bus Stands	1	3	5	9

Data Source: District Census Handbook, Una (2011)

Education Infrastructure:

- **Status:** Good. The study area is well-served with a total of 33 Primary Schools across 18 villages, averaging nearly 2 schools per village.
- **Higher Education:** There is a clear centralization of higher education. (Zone B) is the primary educational hub, hosting the only College in the study area. Zone C is also well-equipped with 9 High Schools.
- **Dependency:** Students from the Core Zone (Zone A)—which has fewer High Schools—must travel 2-5 km to Haroli or Tahliwal for higher secondary and collegiate education.

Health Infrastructure:

- **Status:** Mixed and Unequal. While there are 6 PHC/Hospitals in the wider study area, they are unevenly distributed.
- **Deficiency in Core Zone:** There is a critical gap in Zone A (0-3 km). The data confirms that less or no Hospitals or PHCs exist in the 6 villages of the Core Zone (Polian, Kuthar Beet, Kungrat). These villages rely entirely on Anganwadis for basic mother/child care.
- **Dependency:** Residents of the Core Zone are forced to travel 4-5 km to the Community Health Center (CHC) in Haroli (Zone B) or private clinics in Tahliwal (Zone C) for any medical treatment beyond basic first aid.

Financial & Postal Services:

- **Banking Gap:** Financial inclusion is skewed. Zone A has only 1 Bank (in Beeton), whereas Zone C has 7 Banks. This forces residents of Polian and Kungrat to travel to the outer zones for banking services.
- **Postal Services:** Post offices are fairly evenly distributed, with 3 in Zone A, 4 in Zone B, and 6 in Zone C, ensuring good connectivity for mail and small savings.

Connectivity:

- **Bus Connectivity:** The area has 9 designated Bus Stands, but they are concentrated in the outer zones. Zone C has 5 Bus Stands, while Zone A has only 1 (at Beeton).
- **Last Mile Connectivity:** Interior villages in the Core Zone lack formal bus stops and rely on auto-rickshaws to reach the main transit corridors on the Haroli-Tahliwal Road.

D.) DATA INTERPRETATION & CONCLUSION

Table-3.29

Comparative Analysis (Study Area vs District)

Parameter	Study Area	Una District Average	Inference
Sex Ratio	984	976	**Superior.** Indicates high social development.
Literacy	~84%	86.5%	**Par.** Workforce is educated.
Workforce	Industrial Dominance	Mixed	**Pro-Industrial.** Area is an established industrial zone.

Data Source: District Census Handbook, Una (2011)

Conclusion:

The socio-economic study of the 10 km radius around Thakran reveals a developing semi-urban landscape.

1. **Demography:** The area has a healthy sex ratio and a stable population growth pattern.
2. **Economy:** There is a decisive shift away from agriculture towards industrial employment, driven by the Tahliwal-Haroli economic corridor.
3. **Vulnerability:** While generally developed, specific pockets have tribal populations that require protection.
4. **Infrastructure:** While education and power supply are adequate, healthcare accessibility in the Core Zone is a significant weakness.

Economic profile of the area:

- **Agriculture:**

As informed by villagers, agriculture is the main source of livelihood in all the surrounding villages. Landholdings are mostly small and marginal, with a few medium and large farmers. The land is not plain everywhere and in semi-hilly areas farmers practice contour farming. Most of the agriculture is rainfed. Some farmers reported having their own tube wells or bore wells, while traditional water channels known locally as "Kuhals" are also used for irrigation. Villagers stated that government irrigation facilities are limited, though improvement works are being carried out by the IPH Department. Canal irrigation is not available in the area.

During interactions, villagers reported that most households depend on agriculture and allied activities, with a small number engaged in wage labour and service jobs in nearby towns. In villages apart from agriculture, people are also engaged in construction work, small shops, and daily wage labour due to the village's proximity to the project area. Residents of villages informed that agriculture and agricultural labour are the primary occupations, and some households seasonally migrate for employment. In core villages villagers stated that agriculture remains the main occupation, supported by small-scale business and service activities due to better road connectivity. Major crops reported by farmers include wheat, maize, mustard, pulses, oilseeds, fodder crops, and seasonal vegetables.

- **Historical & Cultural Profits:** Himachal Pradesh is predominantly influenced by religious traditions, with local temples and places of worship forming an integral part of rural life. As per field visits, interaction with villagers, and review of the project location, the study area does not contain any protected monuments or heritage structures notified by the Archaeological Survey of India (ASI) or the State Government. There are no notified tourist places or major cultural attractions within the study area. During the field survey, villagers informed that Baba Balak Nath Thakran is a small local religious temple located near the Thakran Village area. It is a community-level place of worship, mainly visited by nearby residents, and is outside the project lease area. The temple is not a protected or notified monument, and no large gatherings or tourist activities are associated with it. Other nearby religious places, as reported by villagers, include Baba Gussain, Gurudwara Gidgida sahib, Shiv Mandir Kungrat, Baba kalayanpuri Temple. All these are small, locally used places of worship and no cultural or religious site lies within the project area.

- **Crusher-Related Employment:**

As informed during field visit and interaction with local villagers, crusher-related activities provide limited direct and indirect employment in the area. Local people are engaged mainly as unskilled and

semi-skilled workers, such as helpers, loaders, drivers, mechanics, security staff, and in transportation of raw material and finished products. Some villagers also reported indirect income opportunities through vehicle hiring, repair work, fuel supply, small shops, and food stalls catering to workers.

Villagers stated that crusher-related employment acts as a supplementary source of income, especially during the non-agricultural season, and does not replace agriculture as the primary livelihood.

- **Animal Husbandry:**

As per villagers' feedback, animal husbandry is practiced as a supplementary activity in all villages. However, many villagers mentioned that due to the high cost of fodder and maintenance, livestock numbers are gradually decreasing. Cattle and buffaloes are mainly kept for household milk consumption, with limited local sale. In some villages, goat rearing is also practiced.

Villagers informed that most households now meet their daily milk requirement from reputed dairies such as Mother Dairy and Verka. They also confirmed that veterinary services provided by the Government of Himachal Pradesh are available and are used when required.

Basic Infrastructure Facilities:

- **Medical:** The study area is served by a range of medical facilities, including primary health centres, community health centres, veterinary hospitals, and private clinics. For specialized medical care, residents generally rely on facilities in nearby towns or the district headquarters. Key healthcare facilities in the vicinity PHC and CHC and hospitals. These facilities provide adequate routine healthcare, while advanced medical treatments are accessed from the larger hospitals in Una and surrounding towns.

- **Water supply:** Water supply in the area is a mix of household and government sources. Some households have their own drinking water arrangements like handpumps, while most residents rely on the government-supplied water from the IPH Department. During peak summer, when water shortage occurs, supply is supplemented through water tankers.

- **Education:** In this area, there are government primary schools in most villages. In smaller villages, one school often serves several nearby villages. For higher classes, high schools and secondary schools are available for groups of villages. Colleges and technical schools are in bigger towns.

- **Transportation & Connectivity:** The project area is well connected through an existing village road network (Una-Jaijion Road), a pucca village approach road, which further connects to the nearest district road (SH 39) serving surrounding villages. This road provides onward connectivity to the nearest town and district headquarters. During field visits, villagers confirmed the availability of government and

private bus services operating on the nearby main road. Taxis, shared jeeps, and goods vehicles are commonly used for local and regional travel. For daily commuting, residents predominantly use two-wheelers and personal cars. It was observed and confirmed that no railway line or railway station exists within the project area or its immediate surroundings. The nearest rail connectivity is available only at the district/town level, outside the study area.

- **Communication facilities:** Based on primary survey and field interaction, the communication network in the project area villages in zone A has improved significantly. Landline connections are almost non-existent, and most households possess mobile phones. Mobile network services of BSNL, Jio, and Airtel were found functional during the site visit. Mobile-based internet services are available in the area, though villagers reported fluctuating signal strength at some locations. Postal facilities are available in nearby village clusters, with a Post Office at Kutharbeet and one in Gondpur Jaichand which residents utilize for their postal needs. Villagers mentioned that courier services are limited, and PCO booths are no longer in operation.

Conclusion:

Based on the perusal of socio-economic study of the area, it is seen that the women & children and aged people are not adequate in the area. Additionally, most villagers in the study area are non- workers due to which they are economically weak. The State Govt. must look into these aspects for socio-economic improvement of the area. However, the project authorities will contribute substantially to improve the economic conditions of surrounding village by way of providing direct & indirect employment to the surrounding population and the undulating of CSR/CER activities in the area.

3.14 TRAFFIC STUDY

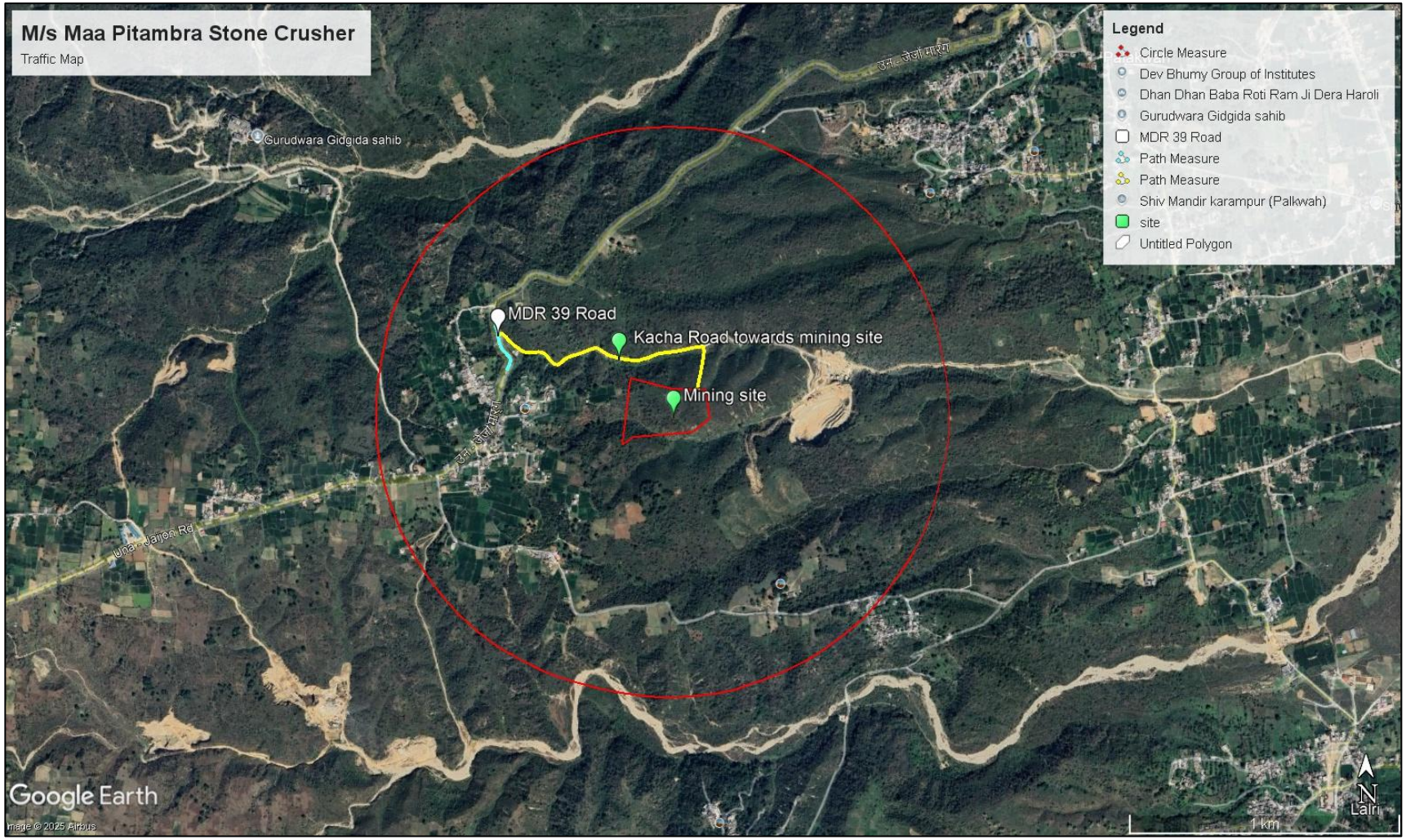
The subject study was carried out to understand the existing carrying capacity of the road in the vicinity of project site. Further, depending upon the mining capacity & mineral transportation, the vehicles involved in transportation are included in the existing volume of traffic for comparison with the carrying capacity as per Indian Road Congress (IRC).

Methodology: The study was done on 24 hourly basis for 3 consecutive days by physically counting the vehicles on both sides of MDR-39 (Haroli–Pollian–Jaijon Road). The mining site is located 500m from the crusher owned by the proponent and the MDR-39 is about 1.03 km from mining site. Both the approaches from mining site to crusher and crusher to MDR-39 are kaccha road which is being/will be maintained by the project proponent. MDR-39 is a two lane (one way) arterial carriage way, each lane of 3.5-meter width with good quality shoulders of 1.0 meter each on either side having total design service

volume of 11,000 PCU/Day as per IRC-64-1990.

Traffic Study: As mandated in IRC-8-2015, the traffic data was collected continuously for 3 days from 08.11.2025 to 10.11.2025 including Sunday on 24 hourly bases, by physically counting of trucks/tipper of vehicles examples heavy motor vehicles, light motor vehicles and two/three wheelers. Due to significant volume of traffic on road, two skilled persons one each on either side was deputed for vehicle count. The average daily traffic (ADT) on the MDR-39 is tabulated below:

Fig 3.22
Approach road for traffic environment



3.30(a) Average Daily Traffic on MDR-39 (Haroli–Pollian–Jaijon Road)

S. No.	Vehicle Type	Number of Vehicle/days	Equivalent Factor as PCU	Total Numbers of Vehicle as PCU/day	Percentage of Vehicles
1.	Two wheelers (bicycle, scooters)	450	0.5	225	22.0%
2.	Three wheelers	200	1.0	200	9.8%
3.	Four wheelers (cars, pickup van, auto rickshaw)	850	1.0	850	41.5%
4.	Truck/dumpers	400	3.0	1,200	19.5%
5.	Heavy vehicles (trucks)	150	4.5	675	7.3%
Total		**2,050**	--	**3,150**	**100**

Details of Production and Dispatcher:

Proposed Production = 96400 TPA

No. of working days= 270

Daily Production= 357 Tonne

Capacity of Dumper=15 Tonne

No. of Dumpers required per day= 24

3.30(b) LOS and Performance of Road

V/C	LOS	Performance
0.0-0.2	A	Excellent
0.2-0.4	B	Very Good
0.4-0.6	C	Good/Average/Fair
0.6-0.8	D	Poor
0.8-1.0	E	Average Poor

Traffic Load Calculation:

Inward Trips (Empty Return): 24 Movements

Outward Trips (Loaded Dispatch): 24 Movements

Total Daily Movements: 48 Vehicle Movements

PCU Factor (Truck): 3.0

Additional Project PCU: 48 x 3.0 = 144 PCU/Day

≃ 144 PCU amounting to 6 PCU/hour will be added per hour to the existing volume of traffic on MDR-39.

Comparison of existing and modified traffic scenario:

Existing Traffic Scenario:

Road	PCU/hr.	V/C	LOS	Performance
MDR-39	3,150/24 = 131	131/458 =0.29	B	Very Good

Modified Traffic Scenario:

Road	PCU/hr.	V/C	LOS	Performance
MDR-39	131+ 6= 137	0.29	B	Very Good

Conclusion: Based upon the perusal of above findings, it is concluded that with the proposed project coming into being, there will be negligible impact on transport infrastructure as post project there will not be any change in the LOS and performance of road.

Impacts & Mitigation Measures due to traffic density:

Impacts:

- Mining operations may involve the movement of trucks/tippers to transport minerals which can contribute to increased traffic congestion particularly on roads leading to and from the mining areas.
- The continuous movement of heavy vehicles/ dumpers may result in the creation of potholes, uneven surfaces and overall degradation of road infrastructure.
- Local communities near the mining site may experience disruptions in their daily chores due to increased traffic resulting in their difficulty to access to roads, schools, health centers, business etc.

Mitigation measures:

- Transportation of minerals will not be done during the school hours.
- Proper traffic management plan will be prepared & implemented to reduce traffic jams.
- The speed of vehicles & volume of traffic on roads will be reduced to and acceptable level.

3.15 DRAINAGE PATTERN:

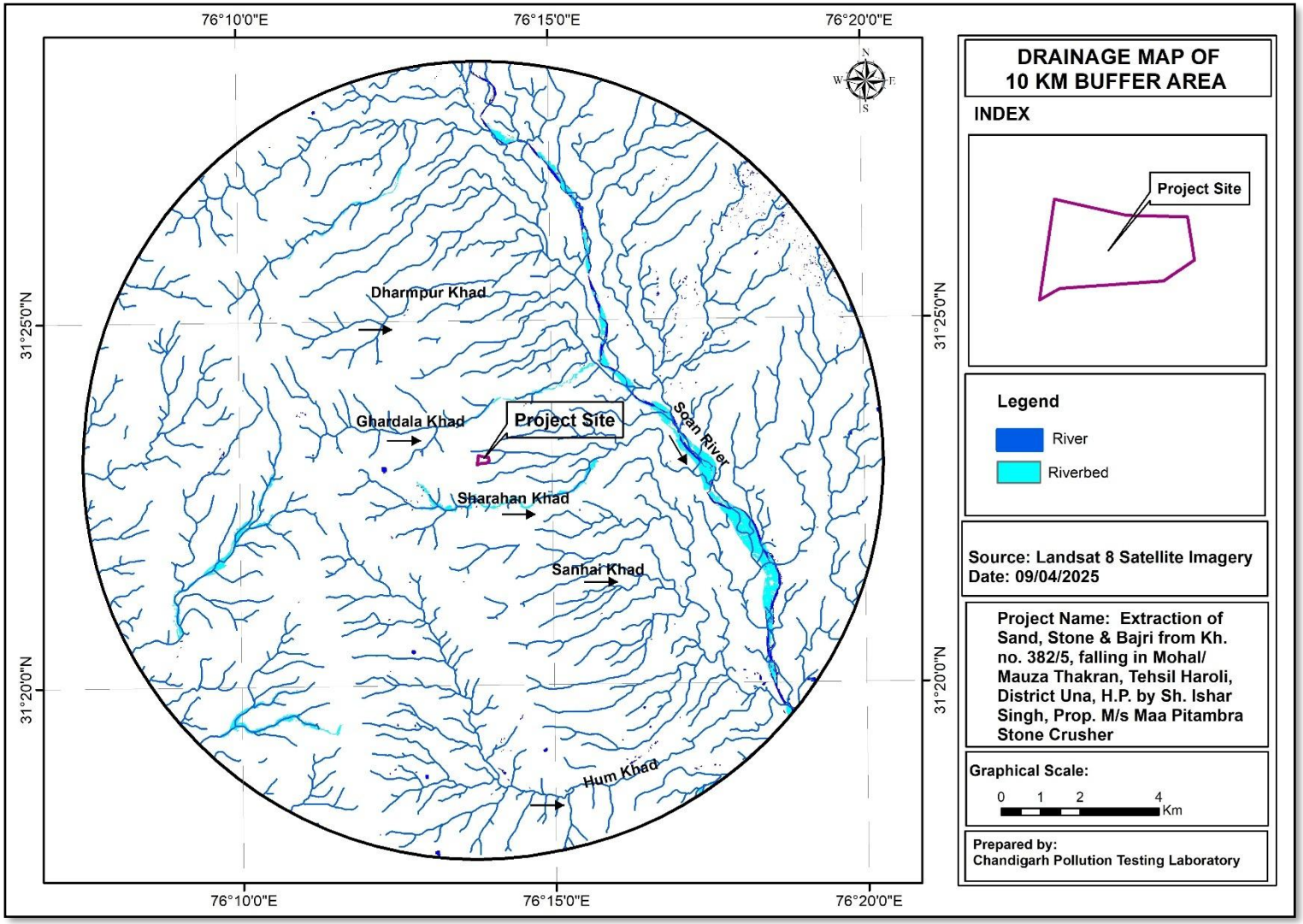
The drainage pattern in the area is dendritic to sub-dendritic, typical of hilly terrain with gentle to moderate slopes. Seasonal nalas and first-order streams originate from the hill slopes and drain towards the lower reaches, ultimately joining larger drainage channels. No major perennial river passes through the project site, indicating that surface runoff is largely rain-fed and seasonal in nature. The project site is located away from prominent drainage channels, thereby minimizing the risk of direct interference with natural water courses. Overall, the drainage network appears well distributed and structurally controlled by local topography.

Altitude at the Mining Lease Area:

The highest point of mining lease area is 534 m above mean sea level and lowest point is 506 m above mean sea level.

Figure 3.23

10 Km Drainage Map Mining Area



CHAPTER 4.0

ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

4.1 GENERAL:

Prediction of impacts is the most important component in the Environmental Impact Assessment studies. Several scientific techniques and methodologies are available to predict impacts of developmental activities on physical, ecological and socio-economic environments. Such predictions are superimposed over the baseline (pre-project) status of environmental quality to derive the ultimate (post-project) scenario of environmental conditions. The prediction of impacts helps to minimize the adverse impacts on environmental quality during pre and post project execution. Generally, the environmental impacts can be categorized as either primary or secondary. Primary impacts are those, which are attributed directly by the project and secondary impacts are those, which are indirectly induced and typically include the associated investment and changed patterns of social and economic activities by the proposed actions.

The primary function of an environmental impact assessment is to ascertain the potential impacts of project on environmental components such as air, water, noise, soil, flora, fauna, land and Socio-economic and their magnitude during construction and operation for adoption of possible mitigation measure.

The Impacts of project are divided into two categories i.e., impacts during construction phase and impacts during operation phase. **Major project impacts will occur during operation phase as no construction stage is envisaged in this project.**

Environmental parameters considered for impact analysis during operation phase are: -

1. Air Environment
2. Water Environment
3. Noise Environment
4. Land Environment/ Landform and Topography
5. Soil Environment
6. Ecology & Biodiversity
7. Socio-economic Environment
8. Solid Waste.
9. Risk and Hazards.

4.2 AMBIENT AIR QUALITY:

Impacts:

Opencast mining operations are generally prone to generation of high levels of PM10 and to a limited extent SO2, NOx due to fossil fuel-based vehicles, machines. Air pollution mainly due to PM10, SO2 and NOx may result in irritation and inflammation of eyes and congestion of throat and infection in lungs. The respirable dust has serious impact on the health of the workers. Lung functions are impaired due to the both respirable and non-respirable dust particles. Chronic exposure leads to respiratory illness like asthma, emphysema, severe dyspnoea (shortness of breath) and bronchitis in extreme cases pneumoconiosis or the black lung disease of miners. The effect of dust may be harmful to the human health. The major contribution of air pollution is by opencast mining, such as excavation, loading and transportation etc. which will lead to short-term rise in the respirable particulate matter (PM10).

Mitigation measures:

- Emissions inventory for SPM, RSPM, SO2, NOx shall be undertaken to satisfy the statuary requirements.
- Dust suppressions shall be done by water sprayers, avoiding overloads of transported vehicles, water spray on access routes.
- Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried out in day time only.
- Mining shall be done in a controlled manner.
- Plantation will be carried out on approach roads and in Lease boundary.
- The speed of dumpers plying on the haul road should limited to avoid generation of dust.
- Haul road shall be covered with gravels.
- Ambient Air Quality Monitoring will be conducted on regularly basis to assess the quality of ambient air.

Air Pollution Impact Prediction through Modeling:

- **Aermod Cloud** is an air dispersion-modeling package, which seamlessly incorporates the popular USEPA Models, ISCST3, ISC-PRIME and AERMOD into one interface without any modifications to the models. These models are used extensively to assess pollution concentration and deposition from a wide variety of sources.

- **Aermod Model:** The AMS/EPA REGULATORY MODEL (AERMOD) was specially designed to support the Environmental Regulatory Modeling Programs. AERMOD is a regulatory steady – state modeling system with three separate components;

- ***AERMOD (AERMIC Dispersion Model);***
- ***AERMAP (AERMOD Terrain Preprocessor); and***
- ***AERMET (AERMOD) Meteorological Preprocessor.***

The AERMOD model includes a wide range of options for modeling air quality impacts of pollution sources, making it popular choice among the modeling community for a variety of applications.

AERMOD requires two types of meteorological data files, a file containing surface scalar parameters and a file containing vertical profiles. These two files are provided by AERMET meteorological preprocessor program.

PRIME building downwash algorithms based on the ISC – PRIME model have been added to the AERMOD model;

Use of arrays for data storage;

Incorporation of EVENT processing for analyzing short-term source culpability;

Explicit treatment of multiple – year meteorological data files and the annual average; and Options to specify emissions that vary by season, hour-of-day and day-of-week.

Deposition algorithms have been implemented in the AERMOD model – results can be output for concentration, total deposition flux, dry deposition flux, and / or wet deposition flux. The model contains algorithms for modeling the effects of settling and removal of large articulates and for modeling the effects of precipitation scavenging for gases or particulates.

- ***Aermet:***

In order to conduct a refined air dispersion modeling project using the AERMOD short term air quality dispersion model, it is necessary to process the meteorological data representative of the study area being modelled. The collected meteorological data is not always in the format supported by the model; therefore, the meteorological data needs to be pre-processed using AERMET program. The AERMET program is a meteorological preprocessor, which prepares hourly surface data and upper air data for use in the AERMOD air quality dispersion model. AERMET is designed to allow future enhancements to process other types of data and to compute boundary layer parameters with different algorithms. AERMET processes meteorological data in three stages and from this process two files are generated for use with the AERMOD model. A surface file of hourly boundary layer parameters estimates a profile file of multiple-level observations of wind speed, wind direction, temperature and standard deviation of the fluctuating wind components.

Application of AERMOD:

The AERMOD model with the following assumptions has been used to predict the cumulative GLC due to emissions from the proposed activity:

- ➢ The stack tip down wash is not considered.
- ➢ Plume rise is estimated by Brigg's formula but the final rise is limited to that of mixing layer.
- ➢ Buoyancy induced dispersion is used to describe the increase in plume dispersion.
- ➢ Calm processing route is used by default.
- ➢ Complex terrain is used in computation.
- ➢ It is assumed that the pollutants don't undergo any physio-chemical transformation and there is no pollutant removal by dry deposition.
- ➢ Wash out due to rain is not considered.
- ➢ Receptors on that terrain with no flag pole have been considered.

Atmospheric Stability: The stability class has been estimated using the hourly monitored wind velocity along with the other computed data.

Mixing Heights: Due to non-availability of site-specific missing heights "Hourly Mixing Heights & Dissimilative Capacity of Atmosphere in India" published by Environment Monitoring & Research Centre, IMD, New Delhi has been referred for hourly mixing heights.

Meteorological Data: The hourly meteorological data recorded at site is converted to the mean hourly meteorological data as specified by CPCB and the same has been used in the model. Hourly mixing heights are taken from the "Atlas of Hourly Mixing Height and Assimilative Capacity of Atmosphere in India" published by India meteorological department, 2008, New Delhi. The meteorological data recorded during study period continuously on wind speed, wind direction, temperature etc., have been processed to extract the data required for simulation by AERMOD using AERMET.

Dispersion Modeling Results: The 24-hourly average ground level concentration (GLC) values from proposed project have been computed for PM considering topographical featured around the proposed project and applicable stability classes. The predicted 24-hourly short terms Maximum Incremental Concentration values for PM2.5 from the proposed project are given in Table- 4.1. Corresponding plotted are shown in Figure 4.1.

Table-4.1

Predicted 24 hourly short terms Maximum Incremental Concentrations

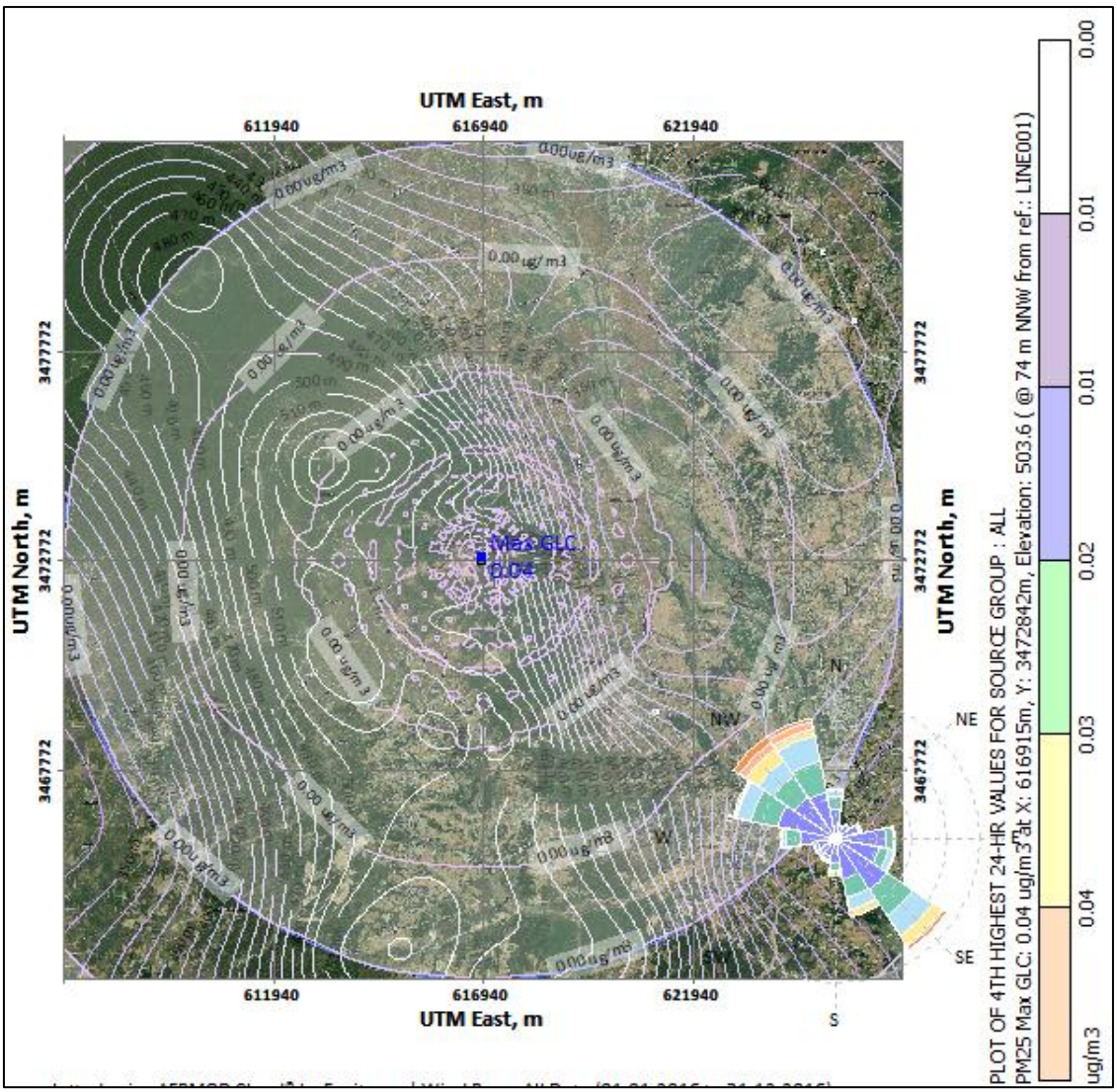
Pollutants	Maximum GLC in µg/m^3	Baseline concentration in µg/m^3	Baseline Concentration after project implementation in µg/m^3
$PM_{2.5}$	0.04	34.0	34.04

Predicted GLC's of the proposed project:

The modelling of PM2.5 has been done considering the worst-case scenario and it was seen that there would be marginal increase in the cumulative concentration of PM2.5. However, the cumulative concentration of PM2.5 does not exceed the NAAQ's standards.

It is predicted that the maximum contribution in GLC's, with unit's operation will be 34.04 µg/m^3 for PM2.5 at a distance of 74 m from NNW direction. Since the mining will be semi-mechanized and no blasting will be involved, therefore impact of the fugitive emission from the unit will be negligible. SPM level due to movement of vehicles will also be checked. The present max PM10 is 66.9 µg/m^3 and PM2.5 is 34.0 µg/m^3. There will be marginal increase in existing level of ambient air quality (PM2.5, which will be well within the permissible, limits i.e. 60ug/m^3.

Figure 4.1
Isopleths showing Air Quality Modeling



Conclusion:

All the activities related to mining e.g. excavation, loading, unloading & transportation which are contributing to air emissions load due to the proposed project has been taken into consideration. However, the increase would be marginal and will not exceed the threshold limit as per NAAQ's standards.

Impact on Ambient Air Quality:

The proposed project involves semi-mechanical hill-slope mining of sand, stone and bajri with a production capacity of 96400 TPA. Air emissions from the project are limited to fugitive dust generated during excavation, loading/unloading and movement of 24 tippers/day on kaccha haul roads over a haul distance of approximately 0.5 km from the stone crusher unit. No drilling, blasting, crushing or

screening operations will be involved at the mine site; hence, no point source emissions are anticipated. Baseline ambient air quality monitoring conducted during the summer season (worst-case dispersion) indicates maximum PM_{10} and $PM_{2.5}$ concentrations of 66.9 µg/m³ and 34.0 µg/m³, respectively. These values are influenced by the cumulative impact of one existing mining leases within a 500 m radius of the project site. Concentrations of SO_2 and NO_2 were observed to be significantly below the applicable NAAQS limits.

Dispersion modelling for $PM_{2.5}$ was carried out using conservative assumptions considering maximum production and worst-case meteorological conditions. The model predicts a maximum incremental $PM_{2.5}$ concentration of 0.04 µg/m³ due to the proposed project. The resulting cumulative $PM_{2.5}$ concentration after project implementation is estimated to be 34.04 µg/m³, occurring at a distance of approximately 74 m in the downwind (NNW) direction. This concentration remains well within the NAAQS limit of 60 µg/m³ (24-hour average).

The predicted increase in $PM_{2.5}$ concentration due to the project is therefore negligible (<0.2% of baseline) and environmentally insignificant. Overall, the impact of the proposed mining activity on ambient air quality is assessed as Low and Not Significant, with all pollutants remaining within prescribed standards.

Mitigation Measures:

- To control fugitive dust emissions and ensure compliance with NAAQS, the mining surface and haul roads will be regularly watered.
- Dump heights during loading will be restricted to truck body height, and overloading of tippers will be strictly avoided.
- Transportation of minerals will be carried out in tarpaulin-covered vehicles during daytime only, with enforced speed limits within the mining lease area.
- All vehicles will be maintained in good condition and will possess valid PUC certificates.
- Greenbelt development will be undertaken along haul roads, mine lease boundaries and near nearby habitations to act as a dust attenuation barrier.
- A regular ambient air quality monitoring programme covering PM_{10}, $PM_{2.5}$, SO_2 and NO_2 will be implemented as per HPPCB/CPCB guidelines to verify the effectiveness of mitigation measures.

4.3 WATER QUALITY:

Impacts:

- No process water will be proposed for mining operations; hence no direct impact on groundwater or surface water quality is anticipated.
- Mining will be carried out on hill-slope terrain above the groundwater table; therefore, no groundwater table intersection is envisaged.
- Minor indirect impact may occur due to surface runoff carrying silt during monsoon if loose material is not properly managed.
- Domestic wastewater generation is limited and restricted to associated crusher site facilities.

Mitigation Measures:

- Mining operations will be carried out strictly as per the approved Mining Plan, ensuring no interference with groundwater regime.
- No wastewater generation from mining activities; therefore, no discharge into surface water bodies.
- Domestic sewage generated at the crusher site will be treated through a septic tank–soak pit system, and treated effluent shall be reused for greenbelt development.
- No overburden or loose material stacking will be done, especially during monsoon season.
- Adequate storm water drainage and silt control measures will be provided to prevent entry of sediment into nearby gullies and nalas.
- Periodic groundwater quality monitoring will be undertaken in nearby hand pumps/tube wells to ensure compliance with drinking water standards.

4.4 NOISE ENVIRONMENT:

Impacts:

- Noise generation will be primarily due to vehicle movement, material loading/unloading, and operation of mining equipment.
- Noise emissions will be intermittent, localized, and restricted to daytime working hours.
- In the absence of blasting and heavy mechanization, no significant adverse impact on the surrounding environment is anticipated.
- Occupational exposure to noise may affect workers if adequate precautions are not taken.

Mitigation Measures:

- Noise levels will be periodically monitored to ensure compliance with prescribed standards.
- Speed restrictions will be enforced for vehicles operating within the mining area.

- Regular maintenance of vehicles and equipment shall be carried out to minimize noise generation.
- Mining and transportation activities shall be restricted to daytime hours only.
- Unnecessary honking of vehicle horns shall be strictly prohibited.
- Plantation along approach roads and site periphery shall be developed to act as a noise attenuation barrier.
- Workers shall be provided with appropriate personal protective equipment.

4.5 LAND ENVIRONMENT:

The project area does not involve any forest land or human habitation. The existing land use of the lease area is barren / hill-slope land, and the land use pattern during pre-operational, operational, and post-operational phases has been described in Chapter-2.

During the course of mining, the following impacts on land environment are anticipated:

Impacts:

- Localized alteration of landform and topography due to excavation on hill slopes.
- Temporary land degradation in the active mining area.
- Generation of Sub-grade mineral, mainly in the form of broken rock and soil.
- Soil erosion risk, particularly during monsoon due to slope gradient.
- Indirect impact on nearby agricultural land, if dust dispersion is not adequately controlled.

Mitigation Measures:

- Mining operations shall be carried out in a systematic and phased manner on hill slopes, with concurrent backfilling of mined-out areas to restore landform.
- Generated sub-grade mineral shall be reused for backfilling, and no permanent waste dump shall be created.
- Afforestation and plantation shall be undertaken over reclaimed areas to stabilize slopes and improve the post-mining landscape.
- Soil conservation measures such as gully plugs, check dams, and contour drains shall be provided to control runoff and prevent soil erosion.
- Dust suppression measures including regular water sprinkling on haul roads, speed control of vehicles, and development of greenbelt along approach roads shall be implemented to protect nearby agricultural practices.
- Progressive reclamation shall be undertaken to ensure minimal long-term impact on land environment.

4.6 SOIL AND AGRICULTURE

The soil in the study area is generally moderately fertile, containing adequate primary and secondary nutrients, and supports agricultural activities in the surrounding villages. The mining lease area itself is located on hill-slope barren land, and no agricultural land is involved in the proposed mining activity. Therefore, direct impact on agriculture is not anticipated.

The major crops grown in the surrounding region include paddy, wheat, maize, gram, mustard, sugarcane, potato, and seasonal vegetables. No waste material shall be disposed of on agricultural land. Fugitive dust emissions from mining activities are expected to be low and localized, and shall remain within permissible limits with implementation of control measures.

Impacts:

- Removal of surface soil during mining operations may lead to temporary exposure of soil, making it susceptible to wind and water erosion, particularly during monsoon season.
- Loss of topsoil may result in disturbance of soil structure and nutrient content, affecting natural vegetation on the mined slopes.
- Uncontrolled runoff may carry sediments into nearby drainage channels, leading to siltation if not properly managed.

Mitigation Measures:

- Topsoil shall be removed separately, stored safely, and preserved for reuse during reclamation and rehabilitation of mined-out areas.
- Contour drains and check dams shall be constructed to control surface runoff and prevent soil erosion on hill slopes.
- Proper drainage management shall be ensured to avoid waterlogging and uncontrolled flow of runoff.
- Stored topsoil shall be reapplied during landscaping, afforestation, and mine closure activities to restore soil fertility and support vegetation growth.
- Progressive reclamation and plantation shall be undertaken to stabilize slopes and promote ecological recovery.
- Dust suppression measures such as water sprinkling and greenbelt development shall be implemented to prevent any indirect impact on nearby agricultural fields.

4.7 ECOLOGY & BIODIVERSITY

Mining activities can have direct and indirect impacts on ecology and biodiversity depending on the nature and scale of operations. The proposed project involves minor mineral mining on a hill slope,

carried out semi-mechanically without blasting, and does not involve forest land or protected areas.

Direct Impacts:

Direct impacts may arise due to localized land disturbance, movement of vehicles, and generation of fugitive dust during excavation and transportation. These impacts are temporary, localized, and reversible in nature.

Indirect Impacts:

Indirect impacts may occur due to noise from vehicular movement, human presence, and alteration of micro-habitat conditions. However, due to the limited scale of mining and absence of sensitive ecological receptors within the lease area, no significant indirect impact is anticipated.

Table 4.2: Mining Activities, Aspects and Biodiversity Impacts

Activity	Aspects	Biodiversity Impact
Excavation & extraction	Localized land disturbance	Temporary disturbance to local flora
Digging and Hauling	Localized land disturbance	Minor disturbance to avifauna and small fauna
Transportation	Noise, dust	Temporary disturbance along haul routes
Temporary waste handling	Land disturbance	Localized habitat disturbance

Activities such as blasting, tailings disposal, rail transport, mine dewatering, and air emissions from processing are not applicable to the present project.

Table 4.3: Anticipated impact and mitigation measures for biological environment

Impact Predicted	Mitigation measures
Disturbance to movement and habitat of local fauna (birds, reptiles, small mammals)	• No blasting involved; noise limited to vehicular movement only. • Noise levels shall be maintained within permissible limits as per Noise Pollution (Regulation & Control) Rules, 2000. • If wildlife movement is observed, mining activity shall be temporarily regulated.
Impact on vegetation	• No tree cutting is proposed. • Mining restricted to approved lease area only.
Impact on rare / endangered species	• No rare, endangered, or protected species

	recorded within the lease area. • Plantation using native species during reclamation.
Impact on agriculture	• No agricultural land involved in mining. • Dust suppression through water sprinkling on haul roads and working areas.
Habitat alteration	• Progressive reclamation and afforestation of mined-out areas to restore ecological balance.

Conclusion:

Considering the small scale of operation, absence of forest land, no blasting, and implementation of environmental management measures, the proposed mining activity is not likely to cause any significant adverse impact on the local ecology and biodiversity. Progressive reclamation and plantation will further improve the ecological status of the area in the post-mining phase.

4.8 DEMOGRAPHIC AND SOCIO-ECONOMIC GROWTH:

Villages around the mining have been considered which are mostly with very small population. The project does not intrude on any residential area nor influx of any large population expected. The project does not involve any uprooting of population resulting in rehabilitation. The strength of workers and staff in the unit is about 85-90 persons. All workers are drawn mostly from the local population. Thus, there is not any appreciable change in population in the nearby villages/towns. In view of the above individual community, life or health of the person in the area is not affected. However, additional employment potential will be generated not only within the unit but in ancillary activities also which are helpful to the local area. Ultimately this has some positive effect.

Potential benefits and challenges include:

- ✔ Employment for locals, improved livelihoods, and increased demand for goods and services, benefiting local businesses.
- ✔ Minor risks such as increased pressure on water and transport infrastructure and land use conflicts, which can be managed through proper planning and community engagement.

To ensure that the hill slope mining of sand, stone, and bajri results in sustained and inclusive socio-economic benefits, the following mitigation measures are recommended:

- ☑ Local Employment Preference: Prioritize the hiring of workers from nearby communities to enhance local economic development and minimize the risk of social disruption.

- Skill Development Programs: Implement vocational training and skill development initiatives to improve the capabilities of the local workforce and increase their long-term employment prospects.
- Community Engagement: Maintain regular and transparent communication with local communities to address concerns, gather feedback, and involve them in project-related decision-making processes.
- Occupational and Community Health: Promote strict occupational health and safety measures for workers and support local health awareness and wellness programs to benefit the broader community.
- Ongoing Social Impact Monitoring: Conduct periodic assessments of the project's social impact to ensure community well-being and proactively resolve any emerging issues.

4.9 SOILD WASTE (Waste/Sub-Grade Material):

The proposed hill-slope mining project for sand, stone, and bajri will generate mine waste (*termed as Sub-grade mineral as per Approved Mining Plan)* in the form of silty sand and topsoil during excavation. No process-related solid waste will be generated, as the excavated mineral will be transported to the crusher site for processing.

Approximately 2,06,437 metric tonnes of sub-grade material (silty sand and topsoil) is expected to be generated over the life of the mine (~5 years). The generated material shall be managed as follows:

- A part of the sub-grade material shall be utilized for maintenance of internal haul roads.
- Remaining material shall be temporarily stacked at designated locations within the lease area and subsequently utilized for road construction, filling of low-lying areas, or other permitted uses.
- Topsoil shall be preserved separately and shall be spread over reclaimed benches and mined-out areas for plantation and slope stabilization during progressive mine closure.

Potential Impacts (If Not Properly Managed):

- Uncontrolled stacking of sub-grade material or topsoil may lead to disturbance of local flora and fauna.
- Improper storage may cause landform instability and soil erosion, particularly during monsoon season.
- Runoff from waste piles may result in siltation of nearby drains or water bodies, affecting surface water quality.

Mitigation Measures:

- Sub-grade material and topsoil shall be stored and managed separately at earmarked locations.
- Proper slope stabilization, contour drains, and silt control measures shall be provided around waste stacks.
- Topsoil shall be reused for plantation and reclamation activities as part of the progressive mine

closure plan.

- No waste material shall be dumped in natural drains, agricultural land, or water bodies.
- Regular monitoring shall be ensured to prevent any adverse environmental impact.

Conclusion:

With implementation of proper waste management and reuse practices, the proposed mining activity is not likely to cause any significant adverse impact on land, soil, or water environment.

4.10 OCCUPATIONAL HEALTH AND SAFETY:

Impact:

- The primary occupational health hazards associated with the proposed mining activity are exposure to dust and noise generated during excavation, material handling, and transportation.
- Prolonged inhalation of dust may lead to respiratory ailments, while continuous exposure to noise from vehicles and equipment may cause hearing discomfort or stress among workers.
- Dust exposure may also cause eye irritation if adequate protective measures are not adopted.

Mitigation Measures:

- All workers shall be provided with appropriate Personal Protective Equipment such as dust masks, safety goggles, helmets, and ear plugs/muffs.
- Dust suppression measures, including regular water sprinkling on working areas and haul roads, shall be implemented.
- Noise control measures such as equipment maintenance, speed restriction of vehicles, and restriction of operations to daytime hours shall be followed.
- Periodic medical examinations of workers shall be conducted, including respiratory function tests, hearing tests, vision tests, and general health check-ups.
- Records of medical examinations shall be maintained and reviewed periodically.

Occupational Health Surveillance Programme:

- An Occupational Health Centre with basic first-aid and emergency handling facilities shall be provided at the site.
- Regular health surveillance of employees shall be carried out as per the provisions of the Mines Act and applicable Rules, and health records shall be maintained.

Conclusion:

With implementation of the above occupational health and safety measures, the proposed mining activity is not expected to pose any significant risk to worker health, and a safe working environment shall be ensured.

CHAPTER – 5.0

ANALYSIS OF ALTERNATIVES

5.1 GENERAL:

The consideration of alternatives is an essential component of the EIA process, as per the requirements outlined in the EIA Notification, 2006. During the scoping stage, alternatives may be explored or refined based on key environmental and socio-economic issues. A comparative analysis of alternatives helps identify the most suitable and sustainable approach to achieving project objectives while minimizing adverse environmental impacts and ensuring cost-effectiveness.

5.2 SITE ALTERNATIVE:

This project involves the extraction of sand, stone, and bajri from Hill Slope of Lease area. As mining is inherently site-specific and dictated by the geological availability of mineral deposits, alternative site options are not applicable in this case. The proposed site has been selected based on the availability of mineable Hill Slope, accessibility, and minimal environmental sensitivity.

5.3 MINING TECHNOLOGY ALTERNATIVE:

The proposed mining method will be semi-mechanized, open-cast mining, which is environmentally sustainable and suitable for small-scale Hill Slope mining. The key aspects of the adopted technology include:

- All materials, including sand, stone, and bajri, will be extracted semi-mechanically from Hill Slope.
- No heavy machinery, drilling, or blasting will be employed, ensuring minimal environmental disturbance and noise generation.
- Semi-mechanized extraction of sand, stone, and bajri during the non-monsoon season.
- Extraction and loading of material will be done semi-mechanized and transported via tractor, trolleys or tippers.
- No forest land is involved.
- Absence of areas of archaeological and historical importance within 10 km radius.

CHAPTER – 6.0

ENVIRONMENTAL MONITORING PROGRAM

6.1 PRELUDE:

Assessment of environmental and social impacts arising due to implementation of the proposed project activities in the technical part of EIA process. An essential element of this process is to develop measures to eliminate, offset or reduce impacts to acceptable levels during implementation and operation of projects. The integration of such measures into project implementation and operation is supported by clearly defining the environmental requirements within an Environmental Management Plan (EMP).

6.2 ENVIRONMENT MONITORING PROGRAM:

An environmental monitoring program is required for sustenance of the project and maintaining the environment quality of the area. Resultant information shall be used in environmentally responsible management. Such management can be aided by specific data on various environmental parameters such as water, soil and air. Current monitoring consideration is focused on the implementation of mitigation measure.

6.3 OBJECTIVE OF MONITORING PLAN

The basic objective of implementing a monitoring plan on a regular basis is as follows:

- Know the pollution status within the plant and its vicinity.
- Generate data for corrective action in respect of pollution.
- Examine the adequacy of pollution control system
- Assess the Environmental impacts

6.4 SCHEDULES FOR ENVIRONMENT MONITORING

As no project can succeed unless it is monitored at regular intervals & results analyzed. Keeping this requirement in view an elaborate Monitoring programme has been developed for this project. Regular monitoring of all significant environmental parameters will be carried out to check the compliance status vis-à-vis the environmental laws and regulations.

The objectives of the monitoring will be as follows:

- To verify the results of the Impact Assessment Study with respect to the proposed projects.
- To study the trend of concentrated values of the parameters, which have been identified as critical and then planning the mitigating measures.
- To check and assess the efficacy of pollution control equipment.

- To ensure that any additional parameters, other than those identified in the impact, do not turn critical after the commissioning of proposed project.

Table: - 6.1

Environmental Monitoring Program

S. No	Item	Parameters to be checked	Frequency
1.	Ambient Air	RSPM, SPM, NO_X Silica & SO_2	Every six months
2.	Vehicles	PUC	Every Quarter
3.	Noise Level	dB (A)	Once in a year
4.	Ground water	As per IS 10500	Once in a year

All the above observations will be compiled and documented to serve the following purposes.

- Identification of any environmental problems that are occurring in the area.
- Initiating or providing solution to those problems through designated channels and verification of the implementation status.
- Controlling activities inside the project, until the environmental problem has been corrected.
- Suitably responding to emergency situations.

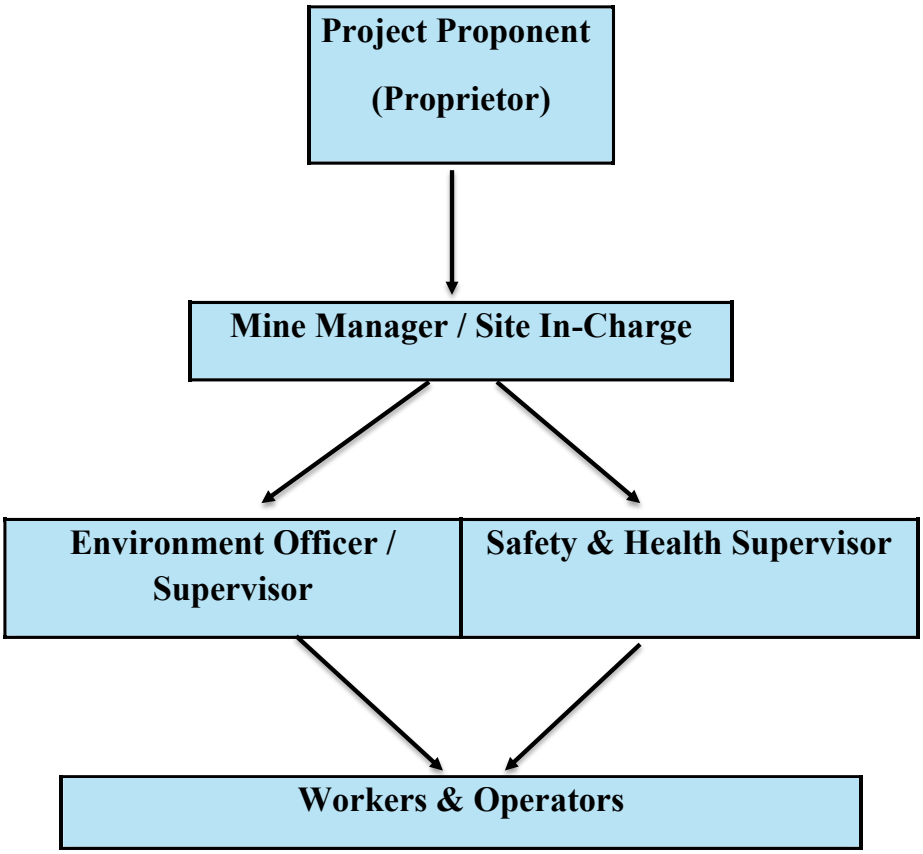
6.5 ENVIRONMENT MANAGEMENT CELL:

The Environment Management Cell shall include:

- Representative of Management (Head of Environment Cell)
- In charge Maintenance Department
- A representative of Environmental Consultants

The cell shall be constituted immediately at the start of the project so that appropriate actions to protect the Environment are taken from the very beginning. All actions taken by the cell shallbe documented.

Project-level Environmental Management Hierarchy



CHAPTER – 7.0

ADDITIONAL STUDIES

7.1 PUBLIC CONSULTATION:

The EIA report includes comprehensive documentation of the Public Hearing conducted for the project. The following components form part of the public consultation records:

- Public hearing proceedings.
- Action plan for the issue raised during public hearing.
- Attendance sheet
- Public Hearing Notice Published in prominent newspapers.
- Photographs of Public hearing.

The above records will be duly incorporated in the Final Environmental Impact Assessment Report after the conduct of the Public Hearing.

7.2 IDENTIFICATION OF RISK & HAZARDS:

The proposed mining of stone and bajri at the hill slope, Una District does not pose significant industrial-level risks; however, certain localized hazards have been identified based on the site's topography, climatic conditions, and operational nature.

The potential hazards identified for the project are:

7.2.1 Inundation / Flooding / Erosion:

Nature: Occasional and seasonal, linked to southwest monsoon activity.

Consequences: May be catastrophic if mining occurs near slope drains or during heavy rainfall.

Likelihood: *Occasionally possible.*

Mitigation Measures:

- The area is part of a hill slope within the Upper Siwalik Formation, and runoff during the monsoon could cause temporary flooding or erosion. As per the approved mining plan, no mining operations are carried out during monsoon months (July–September).
- Establish early-warning communication system for dam discharges and heavy rainfall alerts in consultation with district administration.
- Avoid mining near embankments to reduce erosion risk.

7.2.2 Accidents during sand loading, transporting, and dumping:

Nature: Minor; generally related to Semi-mechanized loading errors or improper material handling.

Likelihood: Regular occurrence possible due to worker carelessness.

Loading of **stone** and bajri is done semi-mechanized into trucks **at** designated loading points near **the**

hill slope base.

Mitigation Measures:

- Trucks will be positioned at a lower ergonomic level for ease of loading.
- Providing PPE (gloves, safety shoes, helmets) to all workers.
- Restrict operations to daylight hours (9:00 a.m. – 6:00 p.m.).
- First aid kits will be kept at all active loading zones.

7.2.3 Accidents due to vehicular movement:

Nature: Moderate; may lead to injuries or temporary work loss.

Likelihood: Occasionally possible.

Internal haul roads connect the working pit to village Kutharbeet through Janani Polian Road at, and heavy vehicle movement is anticipated.

Mitigation Measures:

- Enforce regular maintenance of vehicles; no unfit vehicles allowed for operation.
- Prohibit overloading and ensure trucks are covered to prevent spillage.
- Maintain haul roads and approach roads in stable condition, particularly near embankments.
- Impose and monitor strict speed limits.
- Allow only licensed drivers to operate vehicles.

Each of these risks has been evaluated in terms of consequence severity and likelihood of occurrence, in line with risk assessment best practices.

7.3 DISASTER MANAGEMNT PLAN:

The Disaster Management Plan is aimed to ensure safety of life, protection of environment, protection of installation and restoration of production. For effective implementation of the Disaster Management Plan, it should be widely circulated and personnel training should be given.

Objectives:

- Safeguard other people
- Minimize damage to property and the environment
- Initially contain and ultimately bring the incident under control
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency

7.3.1 Preparedness plan:

- **Natural Disasters:**

(a) Cyclone and Flood:

- When warning of cyclone or heavy rains is received from Local Administration, the Commander shall alert Staff to be prepared.
- All the equipment should be withdrawn from mine and kept in a higher site.
- The Quarry Manager may advise to leave the staff depending on security of situation.

(b) Earthquake:

- When earthquake hits, all persons shall be encouraged to run out in the open areas designated as Assembly Points.
- All the electrical supply should be disconnected by the electrical department.

7.4 SOCIAL IMPACT ASSESSMENT:

7.4.1 Introduction

Socio-Economic Impact Assessment (SEIA) refers to systematic analysis of various social and economic characteristics of human being living in a given geographical area during a given period. The study area consists of core area where the project is located and a buffer area encircling the project area with a radius of 10 kilometers from the periphery of the core area. The Socio-Economic Impact Assessment focuses the effect of the project on social and economic well-being of the community. The impact may be direct or indirect. Further, the impact may be positive or negative.

7.4.2 Objectives of SEIA:

The prime objective of the current study is to assess the impact of the proposed Mining Project on socio-economic characteristics of people living in the neighborhoods. Further, it is to be established whether the impending impact would be direct or indirect. Furthermore, it is to be examined whether the said impact would be positive or negative.

7.4.3 Scope:

The Scope of the study is as follows:

a) To collect baseline data of the study area.

b) To comprehend socio-economic status of the people living in the study area.

c) To assess probable impact of the project on social and economic aspects in the study area.

d) To measure the impact of the project on Quality of life of the people living in the study area.

e) To ensure sustainability of positive impact.

f) To suggest mitigation measures and agency responsible for taking action in case of adverse impact.

7.4.4 Socio-economic impact of the project:

Impact on Demographic Composition

There will not be hardly make any difference in the demographic composition of the study area as the additional employment it envisages to create will be met locally to the maximum extent. Hence, the chances of in-migration of people from outside the study area are remote. Accordingly, there will be no variation in the total population of the study area including that of sex ratio, when the mine starts operating.

Employment Opportunities

The proposed Project will provide employment to the local people. The number of workers to be deployed in the mining project will depend upon the quantity of minerals to be extracted from the mine by the lease holder. Both the skilled and the unskilled workers will be recruited locally. It has estimated that around 85-90 people will get direct employment for this mining project. It is a positive impact of the project since it is providing employment opportunities to the local people. The project will not affect the vulnerable groups of people.

Increased Supply of minerals in the market

Both Government departments and private developers have taken up construction of roads, bridges and buildings in a big way. Hence, the demand for stone & bajri is ever increasing with the growth of the infrastructure development in our country. The requirement for the building materials is always high, there is already an acute shortage of sand in the market, and the construction industry is the main sufferer. It is a critical component of concrete mixture. It is also used for filtering waste. With the commencement of the proposed mining project the supply of stone & bajri will increase at least in the local market.

Impact on Road Development

Movement of trucks and other vehicles to and from the mining site is expected to increase, when mining will start. The existing roads connecting the quarry with the national highways are connected by metalled and unmetalled roads. Hence, there is need for road maintenance and repairing regularly in the mining area. Further, there are risks of accidents during loading of extracted minerals into tractors-trolleys and transportation to markets for sells. However, accidents can be avoided by taking due care and precautions.

Impact on Health

There are no chances of occurring diseases, due to semi-mechanized mining of sand. Sand is nontoxic However, sand-using activities such as sand blasting require precautions since it create respiratory

problems among mine workers. Excessive inhalation of sand is a serious health concern. To avoid respiratory problem from sand necessary protection should be taken. Few safety measures are outlined below:

(i) It is ensured that health and safety of all the employees at work will provide. Efforts will be made to provide and maintain a safe work environment and ensure that the machinery and equipment in use is safe for employees. Further, it will be ensured that working arrangements are not hazardous to employees.

(ii) The first aid treatment reflects the hazards associated with the mining of sand, stone & Bajri. The first-aiders will be well trained in handling patients working in the above Mining Project.

(iii) For all mine workers regular health examination will be made compulsory. Treatment for respiratory diseases or asthma, skin diseases, lung function test (pre and post ventolin), Audiograms, Chest X- ray etc., as required will be given.

(iv) To meet the medical needs of the mine workers tie-up with nearest hospitals will be made. This will ensure timely medical aid to the affected persons.

Conclusion:

The project will provide employment to local people who are in search of the same. The granting of Environment Clearance to the project will make mining of Sand legally valid and it will generate revenue for the state. With the implementation of the project there will be increase in the employment opportunities for the local villagers. The study area is still lacking in health and educational facilities. It is expected that same will improve to a great extent with opening of the project and associated activities. Also, Proposed CSR activity will improve the socio-economic status of the villagers of the study area

CHAPTER – 8.0

PROJECT BENEFIT

8.1 PRELUDE:

The proposed project is mining of sand, stone and bajri from the Hill Slope, which will have no major impact on surrounding environment. The proposed activity shall provide raw material to stone crusher there by boosting production of construction material. This will bring overall improvement in infrastructure development and economic growth of the area.

8.2 EMPLOYMENT POTENTIAL:

The mining activity will provide direct and indirect employment to 85-90 locals (mining, transportation, trading and other allied activities) which will improve socio- economic status of the area in terms of infrastructure development and improvement in economic status.

8.3 IMPROVEMENT IN THE PHYSICAL INFRASTRUCTURE:

The proposed sand, stone and bajri mine will have numerous induced impacts on society such as growth in schools, hospitals, hotels, resorts, transport etc. It will also attract other entrepreneur to establish their venture in the region.

8.4 IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE:

The social infrastructure like religious places (temple, mosque, church, gurudwara); marriage homes, bus stations, railway stations, play grounds will be improved.

8.5 OTHER TANGIBLE BENEFITS:

The other tangible benefits include metrics and improvements demonstrating process and system cost savings, compliant inspections and customer audits, faster product approvals and manufacturing throughput, less rejected material, reduced nonconformance issues, and more efficient continuous improvement and project implementation. Intangible benefits include improved staff morale, faster, more accurate transparent decision making, less employee turnover, increased staff accountability, and an enhanced culture of quality throughout the organization.

8.6 LITIGATION AND PENDING CASES:

Unit is not engaged in any litigation and no case pending in the court of law.

8.7 CORPORATE ENVIRONMENT POLICY:

The promoters of the project are well aware of issues and concerns regarding environmental matters

pertaining to the project. The proponent will have well established administrative set up to deal with the environmental issues and ensuring the compliance of statutory norms and EC conditions as per following line diagram.

8.8 CORPORATE ENVIRONMENTAL RESPONSIBILITY (CER):

In order to fulfill its social and environmental responsibilities, the project proponent shall prepare an item-wise, time-bound Corporate Environmental Responsibility (CER) Action Plan, based on issues raised during public consultation and representations received from surrounding villages. The finalized CER plan shall be submitted along with the Final Environmental Impact Assessment Report.

The following social and environmental development activities are proposed under the CER framework, focusing on education, healthcare, social welfare, and environmental sustainability:

- Implementation of an awareness program to promote girls' education in nearby villages.
- Legal awareness campaigns aimed at informing underprivileged and vulnerable sections of society about their rights and available legal remedies.
- Formation of a volunteer-based task force to educate local communities on the judicious use and conservation of water resources.
- Green belt development on village common land in coordination with the concerned Gram Panchayat.
- Promotion of sports and recreational activities in nearby villages to encourage youth engagement and physical well-being.
- Development of a crematorium in one of the villages within the study area.

Budgetary Provisions/Activity under Corporate Environmental Responsibility (CER):

Subject to Environment Clearance requisite amount against the CER activities will be deposited in the account of Directorate of Environment, Science & Technology (DEST), GoHP for which the Director (DEST) will devise a plan in consultation with project proponent.

CHAPTER – 9.0

ENVIRONMENTAL COST BENEFIT ANALYSIS

Minor Mineral means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes, boulder, shingle, chalcedony pebbles used for ball mill purposes only, Lime shell, Kankar and limestone used in kilns for manufacture of lime used as building material, Murom, brick-earth, fuller's earth bentonite, road metal, rehmatti, slate and shale used for building material, quartzite and sand stone used for purposes of building or for making road metal and household utensils. Minor minerals are mainly consumed by infrastructure & housing industries and development. Whereas sand and Bajri is directly used for all construction works. Boulders are consumed by stone crushers and manual crushing operations for use in roads construction etc. Virtually there is no construction or infrastructure building work is possible without these minor minerals, hence the same can be assumed as back bone of the infrastructural growth of India.

9.1 ESTIMATED PROJECT COST:

Total project cost will be Rs 25,00,000/- or Twenty-five Lakhs only.

9.2 PROMOTION OF SOCIAL & ECONOMIC STATUS:

The project will contribute to the economy and social development of the area. It will provide direct employment to about 85-90 persons and indirect employment to many more. The company has shown willingness to provide medical facilities to employees, their families and also to villagers as per scope of their economical means.

Conclusion:

The management will recruit the semi-skilled & unskilled workers from the nearby villages. The project activity and the management will definitely support the local Panchayat and provide other form of assistance for the development of public amenities in this region. The company management will contribute to the local schools, dispensaries for the welfare of the villagers. Green belt development / Plantation will be taken up in the vicinity of river banks, along the approach roads and around Govt. buildings schools.

CHAPTER -10

ENVIRONMENT MANAGEMENT PLAN

10.1 INTRODUCTION:

Environmental management plan (EMP) describes the administrative aspects of ensuring that mitigation measures are implemented and their effectiveness monitored, after grant of EC. It consists of various policies, control measures etc. for abatement of critical environmental impacts arising out of the proposed project. Mitigation measures are proposed on the basis of identified impacts. Further a suitable environment management plan will be introduced in the project to implement and practice measures to protect and enhance the quality of environment. The EMP is only as effective as its implementation. An appropriate environmental management strategy is developed and presented in the form of an EMS. It is the responsibility of the project proponents to control the utilization of resources and discharges of waste by adopting suitable control measures in the factory to avoid adverse effects of industrial activities on the environment and in turn to enhance the quality of the environment.

10.2 AIR ENVIRONMENT: (Management Plan)

- The proposed project involves semi-mechanical mining of sand, stone and bajri (96400 TPA) without drilling, blasting, crushing or screening; hence, air pollution control measures are focused on fugitive dust suppression and vehicle emission control.
- Water sprinkling will be carried out on haul roads and approach roads using water tankers of adequate capacity. Sprinkling will be done 2–3 times per day during dry conditions and increased during peak vehicle movement to ensure effective dust suppression.
- The mining surface will be kept moist during excavation and loading operations to minimize dust generation at the source.
- Dump height during loading will be restricted to truck body height to avoid free fall of material and associated dust generation.
- Overloading of dumpers/trucks will be strictly prohibited, and all transport vehicles will operate within a speed limit of 20–25 km/hr to reduce dust resuspension.
- Transportation of minerals will be carried out only in tarpaulin-covered vehicles and restricted to daytime hours to minimize nuisance to nearby habitations.
- All transport vehicles and equipment will be regularly maintained and will possess valid Pollution Under Control (PUC) certificates to control exhaust emissions.
- Plantation programme will be implemented along haul roads, mine lease boundaries and near nearby settlements, with approximately 5400 saplings proposed over an area of about 45000 m², to act as a

dust barrier and improve micro-climate.

- A regular ambient air quality monitoring programme will be implemented as part of EMP, covering PM_{10}, $PM_{2.5}$, SO_2 and NO_2, at locations and frequency prescribed by HPPCB/CPCB.
- Monitoring results will be reviewed periodically, and corrective measures such as increased water sprinkling or traffic regulation will be implemented, if required.
- Adequate budgetary provisions have been earmarked under the EMP for dust suppression measures, greenbelt development and ambient air quality monitoring, and the implementation shall be ensured by the Project Proponent under the guidance of the Environmental Consultant.

Daily emissions from transportation:

The vehicles used for mineral transportation are evaluated to quantify the emissions from transportation on daily basis. The evaluation is based on the emissions factors for heavy diesel vehicles as prescribed by CPCB. The daily emissions are quantified from the project during operation phase is provided below:

Table 10.1 Daily emissions from transportation during operation phase

Material Transportation in TPD	No. of trucks required per day	Distance of mining site from stone crusher (in Km)	Emissions due to transportation (Kg/day)		
357	**24**	**0.5**	**PM**	**CO**	**NOx**
			0.029	0.144	0.22
• **Emission factors in g/km: PM = 1.24, CO = 6.0, NOx = 9.3** • **The meagre quantity of emissions will be dissipated to the atmosphere resulting in insignificant impact on air quality.**					

Source: Air Quality Monitoring project - Indian Clean Air Programme (ICAP) Emission factor development for Indian Vehicles sponsored by CPCB

Interpretation of Transportation Emissions:

The daily emissions due to mineral transportation have been quantified using CPCB-prescribed emission factors for heavy-duty diesel vehicles under the Indian Clean Air Programme (ICAP). For a maximum material movement of 357 TPD (including sub-grade material), the project will require 24 trucks per day, with an average to-and-fro travel distance of 0.5 km between the mining site and the stone crusher. Based on this, the total emissions generated from transportation during the operation phase are estimated to be 0.029 kg/day of PM, 0.144 kg/day of CO, and 0.22 kg/day of NOx. These emissions are very low in magnitude due to the limited number of vehicles, short haul distance and daytime-only movement.

The generated emissions will be rapidly dispersed in the open atmosphere and, when considered in

conjunction with baseline air quality and dispersion modelling results, are not expected to cause any perceptible deterioration in ambient air quality. Therefore, the impact of vehicular emissions due to mineral transportation is assessed to be negligible and insignificant, and well within the assimilative capacity of the local environment.

10.3 WATER ENVIRONMENT: (Management Plan)

- The total water requirement for the proposed mining project (96400 TPA) is 4.0 KLD, which will be utilized for domestic (≈2.0 KLD), dust suppression and plantation/greenbelt development (≈2.0 KLD).
- The entire water requirement will be met through IPH water supply at crusher site (Adjacent to mining site) with the help of water tankers, and no abstraction of groundwater or surface water will be undertaken for mining operations at any stage of the project.
- The project does not generate any industrial wastewater, as no mineral processing, washing, drilling or blasting is involved.
- Domestic wastewater generated from crusher site will be treated through a septic tank followed by soak pit system, designed as per CPCB guidelines.
- All overburden will be stored within the mining lease area, and no disposal will be carried out outside the lease boundary, thereby preventing contamination of nearby surface water bodies.
- A garland drain/contour drain network will be constructed around waste dumps and working areas to intercept surface runoff during the monsoon season.
- Rainwater collected through garland drains will be routed into natural drainage channels.
- Mining operations are planned well above the groundwater table, ensuring that groundwater will not be intersected at any stage.
- Rainwater accumulated on mine benches during monsoon will be allowed to settle and percolate naturally, contributing to groundwater recharge and improving local hydrogeological conditions.

10.4 NOISE ENVIRONMENT: (Management Plan)

- The proposed project involves semi-mechanized open-cast mining of sand, stone and bajri, wherein noise generation is mainly associated with diesel-operated excavation equipment and movement of transport vehicles.
- Only limited equipment and 23-24 transport vehicles per day will be deployed; no drilling or blasting operations are involved, thereby restricting noise generation to localized work zones.
- Low-noise equipment and machinery conforming to applicable noise standards will be deployed to minimize noise at source.

- All diesel-powered machinery and transport vehicles will be regularly maintained, and worn-out parts such as silencers will be replaced to prevent excessive noise generation.
- Preventive maintenance schedules will be followed to ensure optimal performance and reduced noise emissions from equipment.
- Personal protective equipment such as earplugs and earmuffs will be provided to workers operating or working near noise-generating equipment, and their use will be strictly enforced.
- Mining operations will be restricted to daytime hours only, thereby avoiding disturbance during night-time and ensuring compliance with ambient noise standards.
- Speed limits (20–25 km/hr) will be enforced for transport vehicles within the mine lease area to reduce vehicular noise.
- Greenbelt development will be carried out along the mine lease boundary and haul roads as per the plantation programme proposed in the EIA, which will act as a noise attenuation barrier and reduce noise propagation to surrounding areas.
- Periodic ambient noise level monitoring will be carried out at representative locations within the mine lease and near sensitive receptors, as per CPCB/State Pollution Control Board guidelines.
- Monitoring results will be reviewed regularly, and corrective actions, such as equipment maintenance or operational control, will be implemented if noise levels approach permissible limits.

10.5 WASTE MANAGEMENT-*SUB-GRADE MATERIAL*: (Management Plan)

- The proposed mining project will generate silty sand and topsoil as sub-grade material during excavation of sand, stone and bajri.
- Topsoil generated during initial stripping and intermittent excavation will be separately collected and stored at designated locations within the mining lease area.
- Stored topsoil will be used exclusively for plantation and greenbelt development, including stabilization of Sub-grade mineral dumps and lease boundary plantation.
- Silty sand will be stored separately within the mining lease area at identified dump locations and no material will be disposed outside the lease boundary.
- Dumps will be designed with proper slope stability, and dump height will be maintained as per approved mining plan to avoid slippage or failure.
- Stabilization of dumps will be carried out by spreading a layer of topsoil over the dump surface followed by plantation of suitable native species.
- A retaining wall will be constructed around the Sub-grade mineral dump to prevent spread of material during heavy rainfall.
- A garland drain/contour drain will be developed around the dump to intercept surface runoff and

prevent undercutting, washout and erosion of dump material during monsoon season.

- Runoff collected through garland drains will be routed into natural drainage channels.
- No hazardous waste will be generated from the mining operations, as no fuel storage, oil change or equipment maintenance is proposed within the mine lease area.
- Adequate budgetary provisions have been earmarked under the EMP for waste (sub-grade material) management measures, including dump stabilization, drainage and plantation, and implementation shall be the responsibility of the Project Proponent under the guidance of the Environmental Consultant.

10.6 OCCUPATIONAL HEALTH AND SAFETY OF WORKERS:

- The proposed project involves semi-mechanized open-cast mining of sand, stone and bajri (96,400 TPA).
- Occupational health risks are primarily associated with dust exposure, noise exposure and accidental rolling of stones along slopes.
- A comprehensive Occupational Health and Safety Plan shall be implemented to safeguard workers during all phases of mining operations.

1. Dust Exposure Management:

- All workers engaged in excavation, loading and transportation activities shall be provided with appropriate Personal Protective Equipment (PPE).
- Dust masks/ respirators and side-covered safety goggles shall be mandatorily used by workers exposed to dusty conditions.
- Regular water sprinkling on working faces and haul roads shall be carried out to minimize dust generation at source.
- Periodic medical examination of workers shall be conducted, including:
  i. Chest X-ray
  ii. Pulmonary function test (PFT), where required
  iii. Vision testing
  iv. General health check-up
- Medical examinations shall be conducted at least once a year or more frequently, if required.
- Records of all medical check-ups shall be maintained and reviewed six-monthly as part of the occupational health surveillance programme.

2. Noise Exposure Management:

- As the mining operations are largely semi-mechanized, noise levels are expected to be within

permissible limits; however, preventive measures shall be implemented.

- Ear plugs/ ear muffs shall be provided to workers operating near diesel-powered machinery and transport vehicles.
- Preventive maintenance of machinery and vehicles shall be carried out regularly to avoid excessive noise generation.
- Audiometric testing of workers shall be conducted periodically to assess hearing capability and detect early signs of hearing impairment.
- Necessary medical treatment and job rotation shall be provided, wherever required, based on health monitoring results.

3. Safety Measures for Accidental Rolling of Stones:

- Mining operations shall be carried out by forming systematic benches of 4 m height and 4 m width, as per the approved mining plan.
- Pit slope of about 45° shall be maintained to ensure slope stability and minimize the risk of rolling or sliding of loose material.
- Loose boulders and unstable material along bench edges shall be removed regularly.
- Movement of workers shall be restricted near unstable slopes, and working under overhangs shall be strictly prohibited.
- Safety awareness and toolbox talks shall be conducted periodically to sensitize workers about slope safety and safe working practices.

4. Implementation and Monitoring:

- A Site In-charge shall be responsible for implementation of occupational health and safety measures.
- Adequate budgetary provisions have been made under the EMP for PPE, medical examinations and safety training.
- Compliance with occupational health and safety measures shall be reviewed regularly, and corrective actions shall be taken wherever required.

10.7 ECOLOGICAL ENVIRONMENT:

- The proposed mining project is not located within or near any National Park, Wildlife Sanctuary, Biosphere Reserve, Tiger Reserve, Elephant Corridor or other ecologically sensitive area, as confirmed within a 10 km study area.
- The mining lease area does not support any endemic, rare or endangered floral or faunal species, as documented in the ecological baseline study.

- Mining operations shall be restricted strictly to the approved lease area, and no disturbance shall be caused to surrounding natural habitats.
- Transportation of minerals shall be carried out only in tarpaulin-covered vehicles to prevent dust deposition on nearby vegetation and agricultural land.
- Regular water sprinkling shall be undertaken on haul roads and working areas to minimize dust generation and protect local flora.
- Mining operations shall be carried out only during daytime hours, thereby minimizing disturbance to local fauna and avoiding nocturnal habitat interference.
- No industrial wastewater will be generated from mining operations, and hence no effluent discharge into nearby land or water bodies shall occur.
- Greenbelt and plantation development shall be undertaken along mine lease boundaries, haul roads and mined-out excavated areas using native and fast-growing species to enhance local biodiversity and provide habitat improvement.
- Workers shall be sensitized and trained to avoid hunting, poaching or disturbance to wildlife within and around the mining lease area.
- Periodic inspection of the lease area shall be carried out to ensure that mining activities do not adversely affect surrounding vegetation or fauna.
- Adequate budgetary provisions have been made under the EMP for ecological management and plantation activities, and implementation shall be ensured by the Project Proponent under the guidance of the Environmental Consultant.

10.8 SOCIO-ECONOMIC ENVIRONMENT:

- The proposed mining project will be implemented without any rehabilitation or resettlement (R&R), as no habitations or private land are involved within the mining lease area.
- Preference shall be given to local people for employment in mining, loading, transportation and ancillary activities, subject to skill availability.
- The project will generate direct employment for local workers and indirect employment opportunities through transportation, repair, maintenance and other allied services.
- Mining operations will be carried out using existing road infrastructure, resulting in minimal additional burden on local infrastructure.
- To safeguard the health and well-being of nearby communities, regular health awareness programmes on hygiene, sanitation and occupational health shall be organized in surrounding villages.
- Periodic health check-up camps shall be conducted for nearby villagers, including distribution of

basic medicines and facilitation of medical support, as part of CSR/CER activities.

- Skill development and job-oriented training programmes shall be organized to enhance employability of local youth and workers.
- Environmental awareness programmes shall be conducted focusing on dust control, tree plantation, waste management and water conservation practices.
- Workers and nearby community members shall be made aware of first-aid facilities, emergency response procedures and basic safety practices.
- Adequate supply of potable drinking water shall be ensured at the mine site and for workers' facilities.
- All socio-economic and community development activities shall be implemented in consultation with the local Panchayat and community representatives, wherever required.
- Adequate budgetary provisions have been earmarked under the EMP/CSR for socio-economic development activities, and implementation shall be ensured by the Project Proponent under the guidance of the Environmental Consultant.

10.9 BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN:

Details of expenditure on environment is given in table 10.2

Table: 10.1 Expenditure on Environmental Measures

S. No.	Title	Capital Cost (Rs. in Lacs)	Recurring Cost (Annually) (Rs. In Lacs)	Activity
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker/tractor	Rs. 2.0 **Capital Cost:** • Water Sprinkling, Strengthening and levelling of haulage road with stone dust topping	Rs. 2.0 **Recurring Cost:** • Diesel/fuel cost for daily operation of water tanker/tractor – Rs.0.30 Lacs • Salary for operator & helper- Rs. 1.5 Lacs •Maintenance and repairs of sprinkler system- Rs.0.2 Lacs	**Regular water sprinkling and road maintenance to control fugitive emissions and dust near loading/unloading points and haulage routes.**

S. No.	Title	Capital Cost (Rs. in Lacs)	Recurring Cost (Annually) (Rs. In Lacs)	Activity
2.	Greenbelt development (Cost of Plantation & its maintenance)	Rs. 30.0 Plantation of 5400 saplings @ Rs. 400 each= Rs. 22.0 Lacs Labour for soil preparation, pit digging, and planting & cost of tree guards – Rs. 8.0 Lacs	Rs. 2.5 • Salary of 1 gardener and helper for maintenance – Rs. 2.0 Lacs • Watering and application of manure/fertilizer – Rs.0.25 Lacs • Replacement of dead saplings and replantation – Rs.0.15 Lacs Miscellaneous (pest control, soil improvement, supervision)- Rs. 0.10 Lacs	**Development of greenbelt within 5 years using native species such as Sahtoot, Mango, Poplar & Amla etc. Regular maintenance to achieve >80% survival.**
3.	Sub-grade mineral / Top Soil Management	--	Rs.0.50 • Labor and vehicle cost (use of trucks/tippers for shifting waste to crusher site (including loading/ unloading) – Rs. 0.80 • Miscellaneous expenses (tools, supervision etc.)- Rs. 0.20	**Removal and stacking of topsoil separately in earmarked locations within the lease area.** **Maintenance and stabilization of topsoil stacks by turfing/grass seeding to prevent erosion** **• Periodic reuse of stored topsoil for plantation and greenbelt development.** **Supervision,**

S. No.	Title	Capital Cost (Rs. in Lacs)	Recurring Cost (Annually) (Rs. In Lacs)	Activity
				labour, and miscellaneous costs.
4.	Environmental Monitoring (Testing of air, water, soil and noise parameters as per norms of HP Pollution Control Board)	Rs. 2.5 **Capital Cost:** Impact assessment & Baseline data collection through NABET Approved Consultancy	1.50 **Recurring Cost:** • Ambient air quality monitoring (quarterly) – Rs.0.60 Lacs • Water quality (surface & groundwater) testing at 2 locations – Rs.0.30 Lacs • Ambient noise and soil testing – Rs.0.20 Lacs Report preparation, compliance documentation & submission – Rs.0.40 Lacs	**Periodic monitoring of environmental parameters through NABL-accredited laboratories to assess the impact of mining operations and ensure compliance with CPCB/MoEF&CC standards.**
5.	Occupational Health and Safety Measures	Rs. 2.0 **Capital Cost:** • Establishment of first-aid room with medical equipment at crusher site= Rs. 1.5 Lacs • Procurement of PPE kits (helmets, gloves, safety shoes, masks, etc.) – Rs. 0.5 Lacs	Rs. 0.5 **Recurring Cost:** • Periodic medical check-ups by doctor and paramedical= Rs. 0.25 Lacs • Replacement of worn-out PPE and first-aid materials= Rs. 0.15 Lacs • Health and safety training programs and Miscellaneous medical and emergency	**Regular health examination, provision of PPE, safety training, and maintenance of first-aid facilities for workers.**

S. No.	Title	Capital Cost (Rs. in Lacs)	Recurring Cost (Annually) (Rs. In Lacs)	Activity
			expenses – Rs. 0.10 Lacs	
6	Sanitation Facility and Domestic Water Management	--	Rs. 1.0 • Water supply through storage tank for drinking and sanitation – Rs. 0.40 Lacs • Regular cleaning and maintenance of toilets, septic tank desludging – Rs.0.30 Lacs • Labour for upkeep and cleaning – ₹0.20 Lacs • Miscellaneous (soap, disinfectants, repair works) – ₹0.10 Lacs	**Toilets will be provided for mine workers at crusher site adjacent to the mine site, arrangement for disposal of domestic wastewater. Adequate potable water will be made available through tankers or IPH water connection. Wastewater generated from washing and toilets shall be treated through septic tanks. Sanitary facilities will be maintained hygienically throughout the mine life**
7.	Retaining Structures	Rs. 26.0 A 570-meter-long crate wire/retaining structure, with a height of 1.5 meters and a width of 1.0 meter, is proposed	Rs. 1.0 • Construction and strengthening of structures – Rs. 0.60 Lacs • Labour for construction and repair – ₹0.30 Lacs	**Constructed at suitable locations to prevent soil erosion.** **The retaining structures will be inspected and**

S. No.	Title	Capital Cost (Rs. in Lacs)	Recurring Cost (Annually) (Rs. In Lacs)	Activity
		along the lease boundary	• Miscellaneous (tools, minor repairs, maintenance works) – ₹0.10 Lacs	**maintained regularly throughout the mine life.**
	Total	**Rs. 62.5**	**Rs. 9.0**	
Additional Environment Activities (CER/CSR) **Provision of funds to be utilized in the activities suggested by the villagers during the Public Hearing or as decided by the DEST&CC, Shimla itself.**				

Conclusion:

All possible environment aspects have been adequately assessed and necessary control measures have been formulated to meet statutory requirements. Thus, continuation this project will not have any appreciable negative impacts.

CHAPTER-11

SUMMARY AND CONCLUSION

11.1 INTRODUCTION:

Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher, Village & P.O. Palkwah, Tehsil Haroli, District Una, Himachal Pradesh has been issued "Letter of Intent" for grant of mining lease vide letter No. Udyog- Bhu (Khani-4) Laghu- 593-2025-4397 dated 15.07.2025 for extraction/ collection of sand stone & bajri from Hill slope over an area measuring 04-70-61 Hectares bearing Khasra nos. 382/5 (Shamlat Land under the applicant's possession) falling in Mohal/Mauza Thakran of Tehsil Haroli, District Una, Himachal Pradesh. Based on mining plan prepared by a registered Geologist and subsequently approved by the Industries Department.

As per MoEF, New Delhi Gazette dated 14th September 2006 and amended thereof, the proposed mining project is categorized as category 'B1'

11.2 DETAILS OF MINING PROCESS & LOCATION:

Table No 11.1: Details of Mining Process & Location

1.	**Name of the project**	Extraction of sand & stone by Sh. Ishar Singh, Proprietor *M/s Maa Pitambra Stone Crusher.*
2.	**Type of project**	Mining of sand, stone & bajri
3.	**Location**	Khasra no. 382/5 (Shamlat Land- Hill Slope) over an area measuring 04-70-61 Ha, situated in Mauza & Mohal Thakran, Tehsil Haroli, District Una, State- Himachal Pradesh.
4.	**Latitude**	**Longitude**
A)	31°23'1.03"N	76°13'47.45"E
B)	31°23'9.32"N	76°13'48.28"E
C)	31°23'8.24"N	76°13'54.62"E
D)	31°23'2.77"N	76°13'57.74"E
E)	31°23'8.17"N	76°13'57.82 "E
F)	31°23'4.52"N	76°14'1.19 "E
5.	**Total mining lease Area**	04-70-61 Hectares (Shamlat Land- Hill Slope)
6.	**Product**	Stone & bajri
7.	**Production capacity**	Approx. 4,82,000 MT for five years or 96,400 MT/year.
8.	**Cost**	Rs. 25,00,000/-

9.	**Source of Electricity**	Not required
10.	**Alternative source**	Nil
11.	**Power Requirement at mining area**	Not required as all operations will be carried out at day time only.
12.	**Water requirement**	8.0 KLD
13.	**Source of water supply**	IPH water supply at crusher site (Adjacent to mining site)
15.	**Air pollution control at mining site**	Water sprinklers & tree plantations
16.	**Hazardous chemical**	Nil.
17.	**Hazardous waste**	Nil.

11.3 PROPOSED PRODUCTION:

Total production for five years will be around 4,82,000 MT, and 96,400 MT for one year.

11.4 METHOD OF MINING:

- The mining will be semi-mechanized. The mining operations shall be carried out in the mining lease area after leaving 05 meters buffer/safety zone. The mining method adopted is of open cast mining.
- The mineral excavation starts from RL 530 onwards by preparing 4 X 4 meters (Height X Width) benches.
- 05 number of benches are proposed to be developed while excavating the mineral from the mining lease area.
- No blasting is required /undertaken.
- For safety wire crate/ Gabion structure shall be constructed along the lower side of the applied mining lease area to stop any rolling down of debris/rocks.
- The mining operations in the lease area are confined to day light hours, from 9:00 A.M. to 6:00 P.M.

11.5 PLANTATION WORK:

The plantation will be done on the exhausted/excavated benches and the applied mining lease area after leaving the safety zone.

The total cost of plantation including its maintenance for five years shall be approx. 30.0 Lakhs. The cost includes cost of plants, minerable and other labour activities. ***The estimated survival rate proposed***

to be achieved shall be 80%.

11.6 STRATEGY FOR PROTECTION OF POINT OF PUBLIC UTILITY ETC.:

There is no point of public utility or interest that need to be protected while undertaking mining operations.

11.7 BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN:

The total budget allocated for the Environmental Management Plan (EMP) is ₹62.5 lakhs for capital costs and ₹9.0 lakhs for recurring expenses, ensuring comprehensive environmental management and sustainability measures are implemented effectively.

11.8 RECLAMATION PLAN:

***Best possible terracing of hill slope*:** The mining is suggested in a way so that there is best possible terracing of the hill slopes.

Aesthetic: Proper mining will form terraces in the hillslopes so that they are able to bear systematic cultivation of agricultural /horticultural crops, thus enhancing the aesthetic look. The proper management of the landscape will add to the aesthetic look of the area.

11.9 WASTE DISPOSAL ARRANGEMENT IF ANY:

Approximately 2,06,437 metric tons in 5 years of silty sand and topsoil will be generated as sub-grade mineral over a period of five years. This material will be partially utilized for road maintenance and the remainder will be stockpiled for future use in road construction or as a filling material. The topsoil will be spread over the mined-out benches for plantation purposes.

11.10 TOPSOIL UTILIZATION:

The top soil will be spread over the benches developed after mining for growing plantation.

11.11 PREVENTIVE RETAINING STRUCTURES:

A 570-meter-long retaining wall, with a height of 1.5 meters and a width of 1.0 meter, is proposed along the lease boundary. The wall will be constructed in stages, with an estimated cost of ₹26.0 lakhs for construction and maintenance.

11.12 MANPOWER DEVELOPMENT:

Around 85-90 unskilled and skilled people shall be employed to carry on the mining and associated. Activities and preferences shall be given to employ 100% local people.

11.13 USE OF MINERAL:

The boulders shall be used for the manufacturing of grit in the already established stone crusher unit

and after screening/washing the stone and bajri shall be used for the manufacturing of grit and M-sand and the sand shall be sold in the open market. The material shall be used for approach road works or plantation work.

11.14 BENEFITS OF MINING:

The proposed activity shall provide raw material to Stone crusher there by boosting production of construction material. This will bring overall improvement in infrastructure development and economic growth of the area. Generating useful economic resource for construction and generating employment and improvement of socio-economic conditions of the study area.

11.15 IMPROVEMENTS IN THE PHYSICAL INFRASTRUCTURE:

The proposed stone and bajri mine will have numerous induced impacts on society such as growth in schools, hospitals, hotels & resorts, transport etc. It will also attract other entrepreneur to establish their venture in the region.

11.16 IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE:

The social infrastructure like religious places (temple, mosque, church, gurudwara); marriage homes, Bus stations, railway stations, play grounds will be improved.

CONCLUSION:

This project will provide several benefits to the near villagers by a proper planning and management. This project will employ most of the worker from nearby villages. There will not be any increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. During the operation of this project no adverse impact on the surrounding environment is envisaged. It is therefore concluded that project will give a boost in the economic and social upliftment of surrounding area.

CHAPTER -12

DISCLOSURE OF CONSULTANTS ENGAGED

12.1 ORGANIZATIONAL PROFILE:

Established in 1996 | Over 29 Years of Excellence in Environmental Testing & Consultancy

Founded in 1996, **Chandigarh Pollution Testing Laboratory (CPTL)** has around three decades of experience in environmental consultancy and analytical services. The organization specializes in testing and analysis of water, wastewater, ambient air quality, source emissions, soil, and metals.

CPTL is equipped with advanced instrumentation and a team of skilled professionals to meet evolving environmental challenges. The laboratory is recognized by the **Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India**, and is **NABL-accredited**. It is also certified under **ISO standards for Quality Management Systems (ISO 9001:2015), Environmental Management Systems (ISO 14001:2015), and Occupational Health & Safety (ISO 45001:2018)** systems.

Headquartered in **Mohali, Punjab**, CPTL serves clients across India, including multinational corporations (MNCs), government bodies, public institutions, and private enterprises spanning a wide range of industries.

12.2 SCOPE OF SERVICES:

CPTL is ISO: 9001:2015 & OHAS 18001:2007. The customer service provided by CPTL includes:

- ***Consultancy Services-*** Environment Impact Assessment, statutory environmental audits/environment statements/compliance and consent Management.
- ***Laboratory Services-*** Chemical and waste testing and field sampling. The laboratory division has well equipped laboratory with modern instruments and experiences staff, catering to the need of statutory and advisory environment testing of water, wastewater. CPTL is widely acclaimed laboratory is accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL), a constituent Board of Quality Council of India. The laboratory is capable of monitoring ambient and air emission, eater including surface water, soil.
- ***CPTL-EIA Division*** is an accredited EIA Consultant Organization (ACO) by NABET/QCI under EIA accreditation scheme as per mandatory requirement of MoEF&CC, GoI for carrying out Environment Impact Studies of developmental projects. It has accredited EIA Coordinator, Functional Area Experts undertaking EIA and related studies in all the approved functional area.

EIA Team Member

The work presented in this report was carried out by **CPTL – EIA Division**, with active cooperation from **M/s Maa Pitambra Stone Crusher**, involving the **EIA Coordinator** and **Functional Area Experts (FAEs)** during the additional study period is given below. Details of the same, along with the experts involved in earlier study period, have been disclosed in the **NABET disclosure statement on Page No. 3**.

Functional Areas	Name of the Expert	Task
Project Coordinator (EIA Coordinator)	Mr. Ranbir Singh Rana	Site visit, identification of the project, assist in identification of impacts of projects and suggestions of mitigation measures, preparation of EMP & environment Budgetary issues.
Air Pollution Prevention, Monitoring & Control (AP)	FAE: Mr. Ranbir Singh Rana	Finalization of monitoring locations, checking air quality data, evaluation of result of Ambient Air Quality Monitoring (AAQM) and contribution to EIA documentation.
Meteorology, Air Quality Modeling & Prediction (AQ)	FAE: Mr. Ranbir Singh Rana	Finalization of monitoring locations, checking air quality data, evaluation of results of Ambient Air Quality Monitoring (AAQM).
Water Pollution, Prevention, Control & Prediction of Impacts (WP)	FAE: Mr. Sital Singh	Finalization of sampling locations for Ground water and Surface water, water balance for the project, evaluation of water pollution management, identification of impact, suggestions and finalization of mitigation measures, contribution to EIA documentation.
Risk and hazard Management (RH)	FAE: Mr. Aprup Anant Adwadkar	Assistance in perfection of risk Assessment report and developing. and interpreting consequence analysis
Socio-Economics (SE)	FAE: Mr. Ranbir Singh Rana	Site visit, assist in identification of report and suggesting mitigation measures, preparation of EMP and environmental budgetary issue, identification of Project
Solid and Hazardous	FAE: Mr. Rajiv Kumar	Identification of water generation from the

waste management (SHW)	Garg	proposed plant, suggesting adequacy of mitigation measures and management of wastes, contribution to EIA documentation.
Ecology & Biodiversity (EB)	FAE: Mr. Asheesh Shrivastava FAA: Ms. Babli	Site visit, field services, assessment of impacts of proposed project as biological environment, preparation of EIA report.
Hydrogeology (HG)	FAE: Mr. Mohan Sriram Bhagwat	Understanding and reporting Ground water conditions, finalization of Ground water sampling locations
Geology (Geo)	FAE: Mr. Mohan Sriram Bhagwat	Geology & Geomorphologic analysis based on the secondary data, Finalization of sampling locations, analysis of collected data, identification of mitigation measures.
Noise and Vibration (NV)	FAE: Mr. Samarjit Kumar Goyal	Site visit, checking of noise monitoring results, analysis of data, identification of impacts and mitigation measures
Land Use (LU)	FAE: Ms. Debarati Gosh	Site visit, development of land use maps of study area using GIS, related tasks, site visit for ground truth survey, finalization of land use maps, contribution of EIA documents.
Soil Conservation (SC)	FAE: Mr. Samarjit Kumar Goyal FAA: Ms. Babli	Site Visit, Finalization of soil sampling locations, finalization of survey findings, identification of impacts, suggestion of mitigation measures and contribution to EIA documentation.
Laboratory	CPTL & Team	Sample analysis of water, soil and air collected from the study area as per MoEF&CC requirement.
Independently review	Mr. Sital Singh	Independent review of EIA report against pre-set structure.

NABET CERTIFICATE

भारतीय गुणवत्ता परिषद्
QUALITY COUNCIL® OF INDIA
QCI Creating an Ecosystem for Quality

NABET

National Accreditation Board for Education and Training

Certificate of Accreditation

Chandigarh Pollution Testing Laboratory –EIA Division, Mohali

E-126, Phase VII, Industrial Area, Mohali – 160055

*The organization is accredited as **Category-A** under the QCI-NABET **Scheme for Accreditation of EIA Consultant Organization, Version 3**: for preparing EIA/EMP reports in the following Sectors-*

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1.	Mining of minerals -opencast mining only	1	1 (a) (i)	A
2.	River Valley projects	3	1 (c)	A
3.	Metallurgical industries	8	3 (a)	A
4.	Cement plants	9	3 (b)	A
5.	Synthetic organic chemicals industry	21	5 (f)	A
6.	Distilleries	22	5 (g)	A
7.	Pulp & paper industry excluding manufacturing of paper from wastepaper and manufacture of paper from ready pulp without bleaching	24	5 (i)	A
8.	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	A
9.	Common hazardous waste treatment, storage and disposal facilities	32	7 (d)	A
10.	Bio-medical waste treatment facilities	32A	7 (d a)	B
11.	Common Effluent Treatment Plants (CETPs)	36	7 (h)	B
12.	Building and construction projects	38	8 (a)	B
13.	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated Feb 07, 2025 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/25/3509 dated February 11, 2025. The accreditation needs to be renewed before the expiry date by Chandigarh Pollution Testing Laboratory –EIA Division, Mohali following due process of assessment.

Valid up to
February 13, 2028

Issue Date
February 11, 2025

Certificate No.
NABET/EIA/25-28/RA 0371

Prof (Dr) Varinder S Kanwar
(CEO NABET)

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.

NABL CERTIFICATE

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

CHANDIGARH POLLUTION TESTING LABORATORY

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NO. E-126, PHASE-VII,INDUSTRIAL AREA, MOHALI, PUNJAB, INDIA

in the field of

TESTING

Certificate Number: TC-6728

Issue Date: 09/11/2024 Valid Until: 08/11/2028

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of thislaboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: Chandigarh Pollution Testing Laboratory

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

References

1. *Details of mining lease: Approved Mining Plan by State Geologist*
2. *Temperature & Rainfall: https://www.worldweatheronline.com/en-in/una-weather-averages/himachal-pradesh/in.aspx*
3. *Micro metrology of site: https://www.timeanddate.com/weather/india/Una/historic?month=3&year=2025)*
4. *Windrose data: https://www.timeanddate.com/weather/india/Una/historic?month=3&year=2025*
5. *Windrose diagram plotting: Software Pawanarekh*
6. *Seismicity: National Disaster Management Authority –GOI*
7. *Demography & Socio-Economy: Demography Census Data 2011*
8. *Traffic study: Guidelines- IRC-64-1990. https://law.resource.org/pub/in/bis/irc/irc.gov.in.064.1990.pdf*
9. *IUCN (International Union for Conservation of Nature): https://iucn.org/*
10. *THE WILD LIFE (PROTECTION) ACT, 1972: Wildlife Protection Act, 1972.pdf*
11. *WII (Wild life institute of India, Dehradun): Wildlife Institute of India, an Autonomous Institute of MoEFCC, Govt. of India*
12. *ZSI (Zoological survey of India): https://zsi.gov.in*
13. *GBIF (Global Biodiversity Information Facility): https://gbif.org*
14. *Monitoring Results & Testing Photographs: M/s Chandigarh Pollution Testing laboratory, Mohali*
15. *Toposheet map: Survey of India (OSM series)*
16. *Land Use and Land Cover Map: Landsat 8 Satellite Imagery*
17. *False Color Composite Map: Landsat 8 Satellite Imagery*
18. *Pit Plan: Approved Mining Plan*

ANNEXURES

ANNEXURE-I

LETTER OF INTENT

No. Udyog-Bhu(Khani-4)Laghu-593/2025
Government of Himachal Pradesh,
Department of Industries
Geological Wing

Dated: Shimla-171001, the 2025

LETTER OF INTENT

Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher, Village & P.O. Palkwah, Tehsil Haroli, Distt. Una has applied for grant of mining lease over an area measuring 04-70-61 hects., bearing khasra No. 382/5 (Shamlat land under possession of applicant) falling in Mohal/Mauza Thakran of Tehsil Haroli, District Una, H.P. for the extraction of sand, stone & bajri for use in proposed stone crusher unit under the provisions of the Himachal Pradesh Minor Minerals (Concession) and Mineral (Prevention of illegal Mining, Transportation and Storage) Rules, 2015. The case was referred to the Joint Inspection Committee, for inspection of the area applied for grant of mining lease and on the basis of recommendations of the Joint Inspection Committee, the matter was referred to the Government for approval. The Government vide letter No. Ind-II(F)6-12/2025 dated 30.06.2025 conveyed the approval for the issuance of Letter of Intent for the grant of mining lease for extraction of sand, stone and bajri, for use in proposed stone crusher in favour of Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher, Village & P.O. Palkwah, Tehsil Haroli, Distt. Una (H.P) over an area measuring 04-70-61 hects. (Shamlat land under possession of applicant) bearing khasra No. 382/5, falling in Mohal/Mauza Thakran of Tehsil Haroli, District Una, H.P. Accordingly, 'Letter of Intent' is hereby issued subject to the following conditions:-

1. The party shall get the area demarcated from the revenue authorities and shall erect permanent boundary pillars to the satisfaction of the Mining Officer, so as to clearly depict the letter of intent issued area. A copy of the demarcation report shall also be submitted to the Mining Officer.
2. The party shall have to submit the approved Mining Plan under Rule 35 of the Himachal Pradesh Minor Minerals (Concession) and Mineral (Prevention of illegal Mining, Transportation and Storage) Rules, 2015. Further as per the recommendation of Joint Inspection Committee mining activities shall be planned by keeping a buffer zone of 5-7.5 mtrs. to avoid any damage to the adjoining land.
3. The party shall have to obtain Environment clearance under Environment Protection Act, 1986 and Environment Impact Assessment, notification, 2006 and amendment issued time to time in this regard from the competent authority.

4 The party shall submit a certificate from the revenue authority to the effect that Khasra No. 382/5, falling in Mohal/Mauza Thakran of Tehsil Haroli, District Una are free from all encumbrance and all the co-sharers of above said land have given their consents.

5. The party shall settle the dispute, if arises between him and land owners/co-sharer/right holders at his own level and shall indemnify the Govt. in this behalf.

The letter of intent is subject to any orders passed by Hon'ble Supreme Court of India/National Green Tribunal/High Court of Himachal Pradesh or other concerned Departments from time to time in this regard. This letter of intent is valid only for obtaining requisite clearance from the Competent Authority.

The grant order imposing all the conditions and stipulations relevant as per the rules shall be issued only after submission of documents as mentioned at condition No. 1 to 5 above and after completing codal formalities. This letter of intent shall be valid for a period of two years. Thereafter, extension of provisional period shall be granted only after reviewing of the progress made for fulfillment of the above said documents. The Party shall not resort to any mining activities till the execution of mining lease.

Geologist Zone-II,
Himachal Pradesh

Sh. Ishar Singh,
Prop. M/s Maa Pitambra Stone Crusher,
Village & P.O. Palkwah,
Tehsil Haroli, Distt. Una, (H.P).

Endst. No. As above. - 4987 Dated 15/7/25

Copy to the following for information and necessary action:

1. The Additional Chief Secretary (Industries) to the Govt. of Himachal Pradesh w.r.t. their letter No. Ind-II(F)6-12/2025 dated 30.06.2025.
2. The Mining Officer, Una, Distt. Una, H.P.
3. Guard file.

Geologist Zone-II,
Himachal Pradesh

ANNEXURE-II

APPROVAL LETTER

No. Udyog-Bhu(Khani-4)Laghu-593/2025 - 6395
Government of Himachal Pradesh
Department of Industries
"Geological Wing"
Dated; Shimla- 171009, 09/09/2025

To

Sh. Ishar Singh,
Prop. M/s Maa Pitambra Stone Crusher,
Village & P.O. Palkwah,
Tehsil Haroli, District Una, H.P.

Subject:- **Approval of Mining Plan of area applied for mining lease for the collection/extraction of sand, stone & bajri from Khasra No. 382/5 measuring 04-70-61 hects (Shamlat land under possession of applicant) falling in Mauza/Mohal Thakran, Tehsil Haroli, Distt. Una, for which Letter of Intent has been issued on 15.07.2025.**

Dear Sir,

In exercise of powers conferred by Rule 36 of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal Mining,Transportation and Storage) Rules 2015, I hereby approve the above said Mining Plan for the purpose of obtaining Environment Clearance of the area applied for grant of mining lease for which the letter of Intent has been issued on 15.07.2025 The mining plan is approved for a period of five years from the date of execution of mining lease deed. This approval is subject to the following conditions:--

1. That the Mining Plan is approved without prejudice to any other laws applicable to the mine/area from time to time whether made by the Central/State Government or any other authority.
2. That this approval of the Mining Plan does not in any way imply the approval of Government in terms of any other provisions of the H. P. Minor Minerals (Concession) Revised Rules, 1971 now repealed as Himachal Pradesh Minor Mineral (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules 2015 or any other laws including Forest (Conservation) Act, 1980, Environment Protection Act, 1986 and the rules made there under and other relevant statutes, orders and guidelines as may be applicable to lease area from time to time.
3. That the Mining Plan is approved without prejudice to any orders or directions from any court of competent jurisdiction.
4. That in case State Geologist, Geologist or any other inspecting officer/official of Geological Wing Department of Industries, after field inspection notices that proposals made and workings shown in the mining lease by the RQP need certain corrections/amendments due to change in conditions either natural or manmade, the inspecting officer can recommend necessary amendments in the said Mining Plan at any point of time in the interest of environment and mineral conservation.
5. That the lease holder shall procure/renew Environment clearance from the Competent Authority as per Environmental Impact Assessment Notification, 2006 and amendments/notifications issued time to time in this regard.
6. That the approval of proposed mining operations is restricted to the mining lease area only.

7. That in case additional conditions are imposed by the Ministry of Environment & Forests, Govt. of India while according clearance under EIA notification dated 14.9.2006 and any condition imposed by the State Govt. while granting mining lease the same shall have to be incorporated by making necessary amendments in the Mining Plan by the lessee through R. Q. P.
8. That in case Mining lease is not granted or is terminated or working is suspended before the expiry of the lease period due to any reason, the approval of Mining Plan shall stand automatically cancelled.
9. That the lease holder shall carry out production of mineral in accordance to the production shown in Mining Plan and Environment Clearance whichever is less.
10. That no person shall undertake mining operations in any mining lease area, except in accordance with a Mining Plan approved under sub rule (2) of Rule 39 of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules 2015.
11. That the lease holder shall carry out working in the mining lease area as per Mining Plan only after obtaining permission to work in the mining lease area from the Competent Authority.
12. That if the mining operations are not carried out in accordance with the approved Mining Plan, the State Geologist, Geologist, Assistant Geologist and the Mining Officer, made order suspension of all or any of the mining operations and permit continuation of only such operations as may be necessary to restore the conditions in the mine as envisaged under the said Mining Plan.
13. That anything is found to be concealed as required under various Rules and guidelines pertaining to mining in the context of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
14. That in case of any violation of terms and conditions of the approved Mining Plan, the financial assurance deposited by the said lessee shall be liable to forfeited.

Enclosed:- Copy of approved Mining Plan.

Yours faithfully,

Geologist Zone-II
Himachal Pradesh
Dated; 2025

Endst. No. As above.
Copy for kind information to:-

1. The Mining Officer Una, District Una, H. P. alongwith a copy of Mining Plan for further necessary action. He is further directed to report any discrepancies if observed in the mining plan so that the same could be rectified accordingly.
2 Sh. Arun Dhiman, Village & P.O. Dhaloon (Panchpuli), Tehsil Nagrota Bagwan, Distt. Kangra, H.P. 176056.

Geologist Zone-II
Himachal Pradesh

ANNEXURE-III (a)

JAMABANDI

राजस्व विभाग, हिमाचल प्रदेश - नकल जमाबंदी

एस.सी.ए रसीद संख्या: 5042160224699436

जिला : ऊना
तहसील : हरोली
कानूनगोवृत : हरोली
पटवार वृत : पालकवाह द्वितीय
हदबस्त न. : 469 मोहाल : ठाकरां

नाम : a
पिता/पति : b

नकल शुल्क : 1.00
सेवा शुल्क : 10
कुल शुल्क : 11

साल : 2020-2021 रकबा ईकाई: हे-आ-सैं

खेवट नं. नाम पत्ती या तरफ मय नाम नम्बरदार मुताबला व शरह मुआमला व हबूब	खतौनी नं. लगान जो मुजारा अदा करता है व तफसील शरह व तदाद	नाम मालिक व एहवाल	नाम काश्तकार व एहवाल	नाम चाह व दीगर वसायल आबपाशी	नम्बर खसरा हाल	रकबा हर खेत व मिजान खाता मय किस्म अराजी	हिस्सा या पैमाना हकीयत व तरीका बाछ	कैफियत
1	2	3	4	5	6	7	8	9
180 मिन 175 ..... बशरहा खेवट न. (1) ..... 0.00 माल 0.00 स्वाई 0.00	206 मिन 202	शामलात देह तरफ रायकियां निस्फ रायेजादेयां निस्फ हस्व हिस्सज जद्दी	ईशर सिंह पुत्र वलवीर सिंह पुत्र दुर्गा सिंह हिस्सादार		382	07-20-38 बंजर कदीम	कब्जा व पड़ता बशरह खेवट न. (1)	नोट :- खेवट हजा के रकवा को 25 साल (यानि 10-05-2002 ता 09-05-2027) तक रैहन, वै, हिब्बा, तवादला आदि नहीं कर सकते हैं।

Certified that this copy has been generated from the database of Revenue Department at Centra Server- HP as accessed by the Lok Mitra Kendra Narinder Pal on 11-February-2025

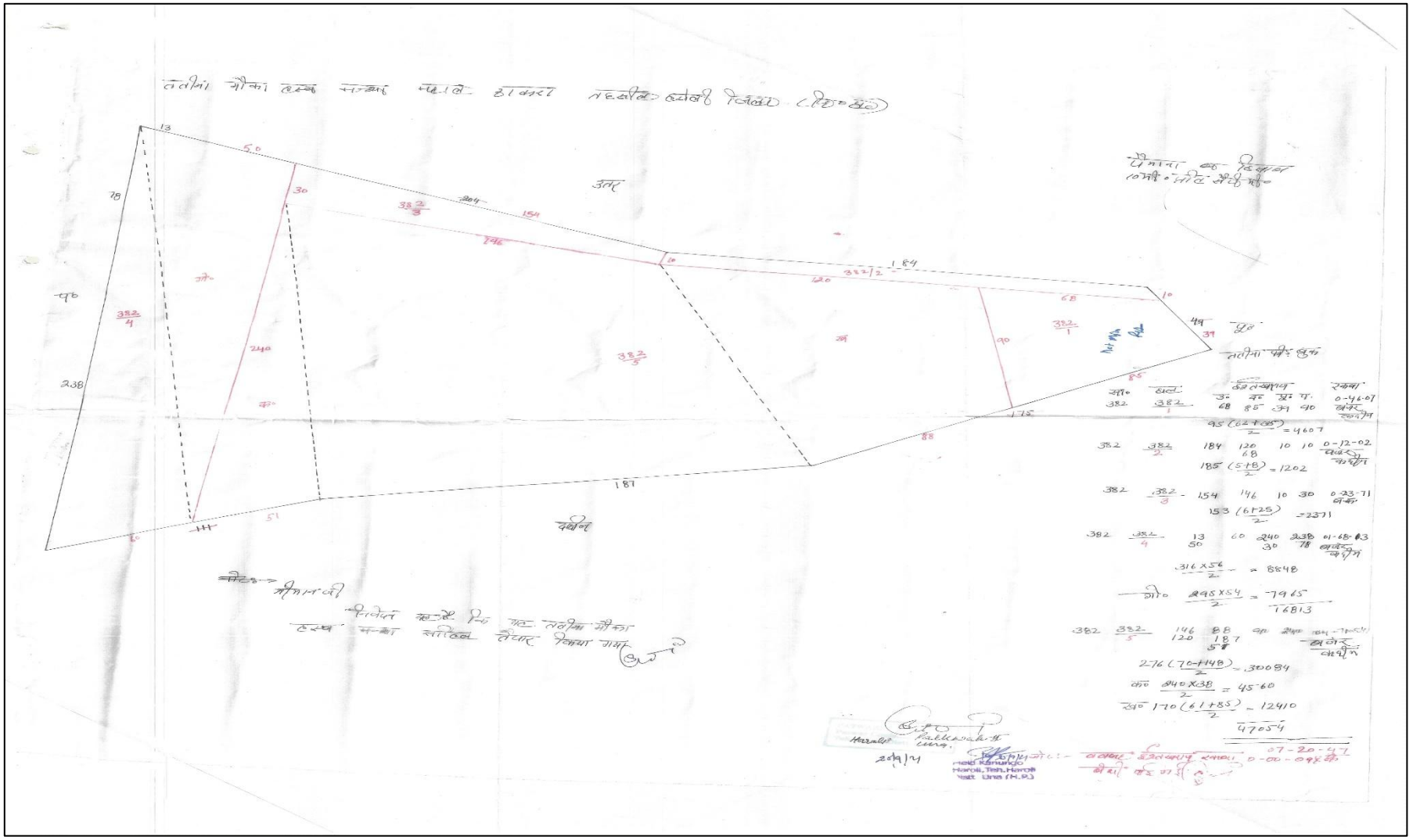
To Verify; enter the Copy No above Bar Code at https://himbhoomilmk.nic.in
For Validity Refer : Notific. No:Rev-C(F)/10-1/2009 Dated 14-Feb-2011

Jan04032478302

इंटरनेट : हिमाचल प्रदेश - शिमला दिनाँक: 11-Feb-2025 पृष्ठ संख्या: 1

ANNEXURE-III (b)

TATIMA



ANNEXURE-IV

DISTANCE CERTIFICATE

No. Udyog-Bhu(Khani-4)Laghu-593/2025 6965
Government of Himachal Pradesh
Department of Industries
"Geological Wing"
Dated, Shimla-171001, the 25-9 2025

To

Sh. Ishar Singh,
Prop. M/s Maa Pitambra Stone Crusher,
Village & P.O. Palkwah,
Tehsil Haroli, Distt. Una, H.P.

Subject: Regarding distance certificate of 500 Mtrs.

Sir/Madam,

Enclosed please find here with the distance certificate issued by the Mining Officer, Una, regarding distance from the granted/sanctioned mining lease areas/auctioned area within 500 mtrs. from the periphery of the area applied for the mining lease for which Letter of Intent has been issued in favour of Sh. Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher, Village & P.O. Palkwah, Tehsil Haroli, Distt. Una, H.P. duly countersigned by the undersigned for taking further necessary action.

Yours faithfully,

Encl/As above.

Geologist-Zone-II,
Himachal Pradesh,

Endst. No. Udyog-Bhu(Khani-4)Laghu-593/2025 Dated
Copy to the Mining Officer, Una, with reference to letter No. Udyog(Bhu)-Laghu-UNA-Maa Pitambra SCU-3090 dated 24.09.2025 for information.

Geologist-Zone-II,
Himachal Pradesh

Format for Certificate from Mining/Industries Department w.r.t. Mining Lease Located within 500 meters from the periphery of the area applied for.

.....
....

CERTIFICATE

Certified that, as per the report submitted by concerned Patwari in this office, 01 (One) mining leases granted/applied with the department within 500 Mtr. from the periphery of the area applied for grant of mining lease by M/s Maa Pitambra Stone Crusher VPO Palkwah, Tehsil Haroli District Una HP, over Kh. No. 382/5 measuring 04-70-61 Hect. in Mouza/Muhal Thakran, Tehsil Haroli Distt. Una, Himachal Pradesh.

The status of mining lease is as under:

Sr. No.	Name of Mining Lease	Khasra No.	Area in Hectares	Mauza / Mohal	Purpose	Status of EC/Mining lease whether operating or not operating
1.	M/s Jai Shankar Stone Crusher VPO Chandpur, Tehsil Haroli District Una HP.	3783/12	02-76-30 Hect.	Kungrat/Chandpur	Stone Crusher	Operational

Mining Officer,
Department of Industries,
Himachal Pradesh,

C/S

Geologist Zone-II,
Department of Industries,
Himachal Pradesh

Deptt. of Industries Shimla-1

श्री मान जी

निवेदन यह है कि मौजा ठाकरां तहसील हरोली जिला ऊना हि०प्र० की जमाबन्दी वर्ष 2020-21 कि खेक/खत. 180/206 मिन नम्बर खसरा 382 रकबा तदादी 07-20-38 ब० व० क्रीम मुताबिक शाजरा लटहा बन्दोबस्त जदीद सानी पैमूदा साल 1992 की दक्षिण दिशा में लगता है मुलहका मौजा चन्दपुर में न० ख० 3783/12 भीतर 500 मी० के दायरे में आता है अतः रिपोर्ट अगामी कार्यवाही हेतु सेवा में प्रेषित है।

नाम पटवारी Lalkwalti
पटवार सर्कल
तह. Haroli जिला ऊना (हि०प्र०)
04/08/2025

ANNEXURE-V

JOINT INSPECTION REPORT

PERFORMA FOR THE JOINT INSPECTION OF THE AREA APPLIED FOR A FRESH MINING LEASE		
1. General		
1.1 Name of the applicant		*Sh. Ishar Singh Prop. M/s Maa Pitambra Stone Crusher Village & PO Palkwah, Tehsil Haroli District Una (H.P.) (IUID 22838111)*
1.2 Address of the applicant	**Father's Name**	*Sh. Balbir Singh*
	Village	*Ward No. 8 Palkwah*
	P.O.	*Palkwah*
	Tehsil	*Haroli*
	District	*Una*
	Pin No	*177220*
1.3 Approach and location of the area	*The site applied for a mining lease is located in Mohal & Mauza Thakran Tehsil Haroli District Una H.P. and is approachable from approximately 3Km kutcha road diverting LHS from Palkwah-Lalehri road at village Chandpur.*	
1.4 Purpose for which lease is applied e.g. For setting up of stone crusher, Hollow block, Screening unit, free sale etc		*For use in Stone crusher under name & Style M/s Maa Pitambra Stone Crusher Village & PO Plakwah, Tehsil Haroli District Una (H.P.)*
1.5 Date of Joint Inspection		***07-11-2024***

1.6 Members present during joint inspection

Sr. No	Name & Designation	Particulars
1.	*Shri Vishal Sharma HAS S.D.O (Civil) Haroli, District Una*	*Chairman*
2.	*Sh. Nitin Choudhary AE HPPWD Subdivision Haroli*	*Representative of Executive Engineer HPPWD*
3.	*Sh. Desh Raj A.E. JSV Tahliwal*	*Representative of Executive Engineer JSV*
4.	*Sh. Rahul Thakur Range Forest Officer Una*	*Representative of Divisional Forest Officer Una*
5.	*Sh. Rajesh Kumar JE Flood Protection*	*Representative of AE FPD Gagret*
6.	*Sh. Mohit Bharti JEE HPSPCB Una*	*Member*
7.	*Sh. Parvesh Kumar JE, SDSCO Una*	*Representative of Subdivisional Soil Conservation officer Una.*
8	*Sh. Shivani Harchand*	*Halqa Patwari*
9.	*Sh. Neeraj Kaant Mining Officer Una*	*Member Secretary*

Mining Officer Una District Una (H.P.)

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

2. Revenue Department

2.1 Status w.r.t. Demarcation of Applied for area: *The area was demarcated on 05.10.2023.*

2.2 Detail of area applied

Kh. No	Area (In Hects.)	Owner Govt. / private	Kism	Mohal	Mauza	Panchayat	Any other
382/5	*04-70-61*	*Private*	*Banjar kadeem*	*Thakran*	*Thakran*	*Palkwah*	
	04-70-61						

Point of public utility in the area/nearby village footpath, road, school, residential house, hospital, cattle shed, charitable building, water channel, cemetery/ cremation ground, place of worship etc. Nil

2.3 Consent of Gram Panchayat: ***Resolution No. 04 dated 15.08.2021***

2.4 Whether marked on the location plan attached with the application, If not then please mark

YES

[Any special recommendation with respect to the above points]

The applied area for the mining lease does not fall within the limits of Municipal Corporation /Municipal Committee & Nagar Panchayat.

2.5 Any other observation/condition

The area was shown physically by Halqa Patwari, along with the concerned staff. As per entries of Revenue Records the land applied for a mining lease is Private land, Hill Slope & kism of the land is Banjar Kadeem.As per current classification in revenue records as "शामलात देह तरफ रायकियां निस्फ़ रायेजादेयाँ निस्फ़ हस्व हिससज् जददी" and entry in कैफियत column of jamabandi is खेवट हजा के रकबा को 25 साल (यानि 10.05.2022 से 09.05.2027) तक रेहन ,वै हिब्बा ,तबादला आदि नहीं कर सकते हैं ,the copy of clarification received from Tehsildar Haroli vide letter no 1888/O.K dated 05.12.2024 is enclosed)

Recommendations: -

Since the area applied for the mining lease for collection/extraction of Stone, Sand & bajri to be used in the Stone crusher unit, applied by Sh. Ishar Singh Proprietor M/s Maa Pitambra Stone Crusher Village & PO Palkwah, Tehsil Haroli District Una (H.P.) is a Private land/Hill slope, Revenue department has no objection in the grant of this mining lease over Khasra No. 382/5 measuring 04-70-61 Hectares (Private Land, Hill slope) falling in Mohal & Mauza Thakran Tehsil Haroli District Una H.P.

Mining Officer, Una, District Una (H.P.)

Tehsildar Haroli, Distt. Una (H.P.)

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

3. Forest Department		
3.1 Types of land i.e. Reserve Forest/Protected Forest/Demarcated Forest/ Non Forest Government Land/ Private Land etc.	***Private land***	
3.2 Whether attract FCA, 1980		***No***
If yes, then specify Kh. Nos., which attract FCA		

3.3 Whether there is any activity of the forest department in the area such as soil conservation works, nursery plantation, check dams, taming of nallas/stream etc., if yes please specify and mark on location plan and what precautions are required:
No soil conservation works, nursery plantation, check dams, taming of nallas/stream etc. exists near the applied area for mining lease.

3.4 Whether there is any property of the Forest Department nearby which may have a direct effect if mining is allowed

No

3.5 Any other observation/condition

Recommendations: -

Since the area applied for the mining lease for collection/extraction of stone, sand & bajri to be used in Stone crusher unit, applied by Sh. Ishar Singh Proprietor M/s Maa Pitambra Stone Crusher Village & PO Palkwah, Tehsil Haroli District Una (H.P.) (Private land/ Hill slope). The area is covered with small vegetation in form of shrubs. The Forest department has no objection to the grant of this mining lease over Khasra No. 382/5 measuring 04-70-61 Hectares (Private Land, Hill slope) falling in Mohal & Mauza Thakran Tehsil Haroli District Una H.P.

Mining Officer,
Una, District Una (H.P.).

Range Officer
Forest Range
Una H.P.-174303

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

4. PWD Department

4.1 Whether any road exists near area				Yes	✓ No
If Yes then	**Type of road**	**Distance from area**	**Marked on location plan as**	**The minimum safe distance required for mining**	
	NH	N.A		75 m	
	State highway			75 m	
	Link road			50 m	
	Village road			50 m	
4.2 Whether any road exist within area				Yes	✓ No
	Type of road	**Distance from area**	**Marked on location plan as**	**The minimum safe distance required for mining**	
	NH		N.A.		
	State highway		N.A.		
	Link road		N.A.		
	Village road		N.A.		
4.3 Whether there exists any bridge, culvert etc. within area/near area				Yes	✓ No

If yes, than No. of bridges etc.				
Whether marked on location plan		**yes**		**If not, please mark**
Minimum safe distance required from bridge etc.	**Bridge**	**Minimum distance required**		**Any special precaution required**
		U/S	**D/S**	
	Bridge No.1	200m	500 m	*PWD Bridge exists at distance of 2000m from the applied area*
	Bridge No.2			

4.4 Any other structure of PWD importance, if yes (Please mark on location plan) than specify any special precaution

No

4.5 Any other observation/condition

4.6 Is there any objection if intake point from PWD road to the leased area is used in case lease is grant, if not, whether to allow with conditions

The proponent will always maintain the intake point from PWD road and will not ply the heavy vehicle carrying mined material/Machinery through the small village roads.

Recommendations: -

PWD Bridge exists at a distance of 2000 m from the applied mining lease area & no other public property/utility like road or structure belonging to the PWD department exists near the area applied for the mining lease for collection/extraction of stone, sand & bajri to be used in Stone crusher unit, applied by Sh. Ishar Singh Proprietor M/s Maa Pitambra Stone Crusher Village & PO Palkwah, Tehsil Haroli District Una (H.P.), PWD department has no objection in grant of this mining lease over Khasra No. 382/5 measuring 04-70-61 Hectares (Private Land, Hill slope) falling in Mohal & Mauza Thakran Tehsil Haroli District Una H.P.

Mining Officer, Una, District Una (H.P.)

Assistant Engineer
Sub Division Haroli (B&R)
H.P.P.W.D. Haroli-177220

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

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5. JAL SHAKTI VIBHAG				
5.1 Whether there exist any water supply scheme within/near the area			✓ No	
Type of Scheme	Scheme	The minimum safe distance required		
		U/S		D/S
	Water supply tank	200 m	200 m	200 m
	Water supply bore well			
	Lift Irrigation Scheme			
	Any other source			
Whether marked on location plan		If not please mark		
Any special recommendation with respect to above schemes				

5.2 Any other important point with respect to IPH department, if yes. Please mark on location plan. Whether any special precaution is required, please specify

5.3 Any other observation/condition

Recommendations: -

No public property/utility like tube well, bore well, water supply scheme (irrigation/drinking), pipeline or structure belonging to the IPH department exists near the area applied for the mining lease for collection/extraction of stone, sand & bajri to be used in Stone crusher unit, applied by Sh. Ishar Singh Proprietor M/s Maa Pitambra Stone Crusher Village & PO Palkwah, Tehsil Haroli District Una (H.P.), Jal Shakti Vibhag has no objection in grant of this mining lease over Khasra No. 382/5 measuring 04-70-61 Hectares (Private Land, Hill slope) falling in Mohal & Mauza Thakran Tehsil Haroli District Una H.P.

Assistant Engineer,
Jal Shakti Sub-Division
Tehliwal Distt. Una (H.P.)

Mining Officer
Una, District Una (H.P.)

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

6

Environment Protection & Pollution Control Board

(Summary of method for environment Protection)

The site of the applied mining lease was inspected jointly on dated 07.11.2024. Himachal Pradesh State Pollution Control Board has no objection from a pollution point of view and mining lease may be granted subject to the following conditions:

1. *The Mining lease area measuring 04-70-61 Hectares is a Hill slope area (Pvt. Land) bearing Khasra No. 382/5 Mauja & Mohal Thakran Tehsil Haroli Distt. Una HP, so the mining shall be carried out scientifically and per the Mining department's policy.*

2. *No blasting shall be carried out.*

3. *Natural Course of river/nalla shall not be disturbed and especially steps shall be taken to control the soil erosion*

4. *The proponent shall obtain/renew the consent to operate from the State Pollution Control Board and EC from the competent authority as per the orders of Hon'ble Supreme Court dated 27/02/2012 and Hon'ble High Court dated 15/06/2012 and 14/09/2012. The proponent shall not conduct any mining activity without obtaining consent from the State board and EC from competent authority.*

5. *Water sprinkling shall be carried out on approach roads and covering of material shall be done during transporting of the material from the mining lease area*

6. *After ceasing mining operations, the mining lease holders shall re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.*

Jr. Env. Engg.
HPSPCB, Una
Distt. Una (H.P.)

ASSISTANT ENVIRONMENTAL ENGINEER
HP State Pollution Control Board
Una (H.P.) 174303

Mining Officer
Una, District Una (H.P.)

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

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6. Industries Department		
6.1 Location of applied for area (nearest village/important features)		*The site applied for a mining lease is located in Mohal & Mauza Thakran Tehsil Haroli District Una H.P. and is approachable from approximately 3Km kutcha road diverting LHS from Palkwah-Lalehri road at village Chandpur.*
6.2 Purpose of Mining Lease.		***For the Stone crusher unit***
6.3 Overlapping of areas with any other lease/contract		✓ **NO**
If yes please give detail N.A		
6.4 Location of the nearest mining area/quarry: *M/s Jai Shankar Stone Crusher VPO Chandpur, Tehsil Haroli District Una (H.P) (Khasra No. 12/2 measuring 02-76-30 Hect. falling in Mauza /Mohal Chandpur Tehsil Haroli Distt. Una HP)*		
6.5 Average daily production anticipated in Metric Tons		***150-200 ton per day***
If yes, please mark on location plan and suggest precaution		*Attached*
6.6 Suitability of mineral as per the purpose given above (Give detail)		*The applied area is in form of hillock & is mostly comprised of conglomerate beds with soil matrix & is suitable to be used in a crusher.*

Mining Officer, Una, District Una (H.P.)

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

6.7 Feasibility of Mining

(i) Name of Mineral: *Stone, Sand & Bajri*

(ii) Type of mining Hill Slope/Riverbed: ***Hill Slope***

(A)Hill Slope

(i)Average angle of slope: *Uniform slope angles are observed in the area. The hill slope has a gentle slope with an angle of 20° to 25° in the applied mining lease area. The conglomerate deposit, where the mining lease is applied is slightly undulating with 2-4 meters elevation difference from one end to other.*

(ii) Nature of rock:

(iii) Scientific mine ability considering the orientation of revenue record:

(iv)Availability of mineral w.r.t. anticipated production: *The applied area comprises of conglomerate beds with a soil matrix & is suitable to be used in crusher.*

(v) Availability of area for disposal of waste: *The waste so generated will be backfilled for reclamation of the mined area.*

(vi) Approach to the Mine area: *The crusher site is adjacent to area applied for the mining lease. For transportation of loaded trucks/tractors to the crusher site, the vehicles will pass through the Private Land as well as Govt. Land. Project proponent will make necessary arrangements between the land owners and will take care of other issues on his own for the mineral transportation to the nearest road and shall indemnity of Government against claims of third parties.*

(vii) Whether areas are prone to land slide if yes then the protection measures needed thereof: *As the mining lease area is in form of hillock with a gentle slope and as the adjoining lands are almost flat with very less gradient, there is no scope for landslide in the vicinity of the applied mining lease area. The hill slope is mostly comprised of conglomerate beds with thin soil cover in the mining lease area. The slope at places is uniform and if the mining operations would be carried out in a systematic and scientific way, there are negligible chances of any landslide. However, for the safety of adjoining lands the buffer of 5-7.5 m is suggested.*

(B) River Bed: NA

(C)Additional information on case of Grant of Mining Lease

(i)Report under Rule 18(2)of Himachal Pradesh Minor Mineral rule:

(i) **Investment for developing the area :**

(ii) **Investment on machinery & equipment :**

(iii) **Laborers Employed :**

(ii) Production of mineral for the last tenure:

(iii)Violation of condition mining noticed in the tenure.

(iv) Detailed note on scientific mining w.r.t working cum Environment Management Plan in the last tenure:

Mining Officer, Una, District Una (H.P.)

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

6.8 Whether mining can pose threat to existing object of Public Utility or private property? If any, give detail and precaution required

No public utility structure of HPPWD, IPH, Forest departments exist near the area applied for the mining lease.

If no, the reason thereof:

6.9 Any other special point pertaining to Industries Department

1. *The area applied for fresh mining lease for collection /extraction of Stone, Sand & Bajri to be used in stone crusher unit is a Hill slope, Private land comprising Khasra No. 382/5 measuring 04-70-61 Hectares falling in Mohal & Mauza Thakran Tehsil Haroli District Una H.P.*
2. *The Project proponent Sh. Ishar Singh S/o Sh. Balbir Singh Proprietor M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. is the owner of land applied for a mining lease.*
3. *During the scrutiny of the revenue record it was found that the applicant has applied Khasra No. 382/5 totaling measuring 04-70-61 Hectares. And it was observed that as per current classification in revenue records* as "शामलात देह तरफ रायकियां निस्फ़ रायेजादेयाँ निस्फ़ हस्व हिससज् जददी" and entry in कैफियत column of jamabandi is खेवट हजा के रकबा को 25 साल (यानि 10.05.2022 से 09.05.2027) तक रेहन ,वै हिब्बा ,तबादला आदि नहीं कर सकते हैं ,*the copy of clarification received from Tehsildar Haroli vide letter no 1888/OK dated 05.12.2024 enclosed).The project proponent will obtain approval of use of this land for mining lease from competent authority .*
4. *The Google coordinates of area are 31°23'10"N 76°14'11"E.*
5. *The area applied forms a compact block & approximately and approximately 55-60% usable material is available to be used in stone Crusher unit.*
6. *The proposed area falls under Gram Panchayat Palkwah.*
7. *As per the revenue record kism of the applied area for the mining lease is Banjar Kadeem.*
8. *The applicant will plan the mining activities keeping 5-7.5m as buffer zone so that the adjoining lands may not be disturbed/damaged.*
9. *The crusher site is adjacent to the applied area for mining lease the Project Proponent will be made necessary arrangements between the land owners (Private) as well as Govt. (in case) and will take care of other issues if any on his own for the mineral transportation to the nearest road and shall indemnity of Government against claims of third parties.*
10. *In order to avoid the annoyance of local habitants, the project proponent will not use narrow village roads for plying vehicles carrying mined material through village roads and will use separate roads bypassing the narrow village roads.*
11. *The working in the mining lease area will be strictly as per the Himachal Pradesh Mineral policy 2024 & the provisions of The Himachal Pradesh Minor Minerals (concession) and Mineral (Prevention of illegal mining, Transportation and Storage) Rules, 2015 & stipulation of SEIAA.*
12. *The applied area was demarcated on 05.10.2023.*
13. *The applicant will start mining operations after obtaining EIA clearance from the competent authority.*
14. *The land is private (Hill Slope) and has small vegetation growth, Forest department has issued no objection to granting a mining lease.*
15. *No Structure of public utility of PWD & Jal Shakti Vibhag exists within the prescribed limit hence PWD & IPH department has no objection in granting mining lease. However the applicant will all time maintain the takeoff point (T point) from PWD Road.*
16. *After ceasing mining operations, the Project proponent shall re-grass the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for the growth of fodder, flora, fauna etc.*
17. *No structure of a Flood protection department exists near the applied area for lease.*
18. *Since no agricultural land exists near the applied area Subdivisional Soil conservation department has no objection in grant the area applied for a mining lease.*

Mining Officer, Una, District Una (H.P.)

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

Additional Information in light of observation made by the Govt. vide letter no Govt. Ind-II(F)6-1/2014 dated 6.2.2014/ Udyog-Bhu(Khani-4)Laghu-350/13-12531 12.02.2014		
S.No	*Information*	*Reply*
1	*Status of applied area in Survey Document*	*The proposed area in which mining lease is applied is Private land & Hill slope & is recommended in District Survey Report for Sand Mining Or River Bed Mining And Of Minor Minerals Other than Sand Mining Or River Bed Mining.*
2	*Mineral potential of the area*	*The applied Mining lease is located on a hilly terrain and suitable material for crushing is available in the whole of the applied mining lease area. The exact reserve calculations will be estimated during the preparation of "Mining plan" of the proposed area.*
3	*Mineral analysis & Source of replenishment*	*The mining lease area comprises predominantly boulders, cobbles, pebbles, bajri, with Clay and silt matrix. The boulders are white, spotted white, greenish white pink, purple and dark green in colour. Quartzite fragments are rounded, sub-rounded and discoidal in shape having smooth surfaces. The size of minerals varies from silt to boulder. Since the applied area is private land hill slope there are no chances of replenishment & approximately and approximately 55-60% usable material is available to be used in stone Crusher unit.*
4	*Length of river, location of proposed site w.r.t. origin of the river, Distance of existing /proposed crushers or leases from proposed mining lease area.*	*The applied mining lease area is private land Hill slope & the nearest mining lease belongs to M/s Jai Shankar Stone Crusher VPO Chandpur, Tehsil Haroli District Una (H.P) (Khasra No. 12/2 measuring 02-76-30 Hect. falling in Mauza /Mohal Chandpur Tehsil Haroli Distt. Una HP)*

Mining Officer, Una, District Una (H.P.)

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

8.Recommendations		
8.1Whether whole of the area is being recommended for mining		YES
If no, please specify the Kh. Nos. being recommended		
Any other recommendation in addition to recommendations given at top NO		
Final recommendation of the Committee *Keeping the facts & stipulations stated above, the Committee recommends the fresh mining lease (Private land, Hill slope) for collection/extraction of Stone, Sand & Bajri for use in the stone crusher unit applied by Sh. Ishar Singh Proprietor M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for use in stone crusher over Khasra No. 382/5 measuring 04-70-61 Hectares falling in Mohal & Mauza Thakran Tehsil Haroli District Una H.P.*		
Signatures: -		
Sub Divisional Magistrate Sub Divisional Magistrate Haroli, Distt. Una (H.P.)	**Divisional Forest Officer** Divisional Forest Officer Una Forest Division Una (H.P.) Forest Range	**Executive Engineer P.W.D.** Executive Engineer, H.P.P.W.D. Division Haroli Distt. Una (H.P.) Assistant Engineer Sub Division Haroli (BAR) H.P.P.W.D. Haroli-177220
Executive Engineer JSV Executive Engineer Jal Shakti Division Haroli Assistant Engineer, Jal Shakti Sub-Division Tahliwal Distt. Una (H.P.)	**Environmental Engineer H.P.EP&PCB** Jr. Env. Engg. HPSPCB, Una Distt. Una H.P.	**Sub Divisional Soil Conservation Officer, Una** Sub Divisional Soil Cons. Officer Una, District Una (H.P.)-174303 Section Incharge Soil Conservation Section Haroli Tehsil Haroli, District Una (H.P.)
Mining Officer Una Mining Officer, Una, District Una (H.P.)	Assistant Engineer SRFMP Sub Division Haroli Distt. Una (H.P.)	

JIR of M/s Maa Pitambra Stone Crusher Village & Post Office Palkwah Tehsil Haroli District Una H.P. for mining lease for collection/extraction of Stone , Sand & Bajri over Khasra No. 382/5 measuring 04-70-61 Hect .(Private land, Hill slope) Mohal & Mauza Thakran Tehsil Haroli District Una H.P. , for use in stone crusher unit conducted on 07.11.2024.

ANNEXURE-VI

DFO CERTIFICATE

HP FOREST DEPARTMENT
UNA FOREST DIVISION, UNA (HP)

To whom it may concern

As requested by Shri Ishar Singh Prop. M/S Maa Pitambra Stone Crusher, VPO Palkwah, Tehsil Haroli, Distt. Una (HP), the following information is hereby authenticated in respect of Khasra No. 382/5 area measuring 04-70-61ha. falling in Mohal Thakran, Tehsil Haroli, District Una (HP) which is under private ownership:-

(a) There is no wild life sanctuary/National park/Biosphere Reserve within 10KM distance of the mining lease site. GPS location is 31°23'09"N 76°14'12"E and the aerial distance of proposed site is 12.90KM from Nangal Wildlife Sanctuary.

(b) List of flora and fauna fast growing species, Aquatic Animal species present in the area is enclosed.

Divisional Forest Officer,
Una Forest Division Una (HP)

Endst. No. R.K./Mining/ 3156-57 Dated Una, the 01-8-2025

Copy is forwarded to:-

1. Sh. Ishar Singh Prop. M/S Maa Pitambra Stone Crusher, VPO Palkwah, Tehsil Haroli, Distt. Una (HP) w.r.t. his application dated 21.07.2025.

2. R.F.O. Una for information & necessary action w.r.t. his office letter No. 689 dated 29.07.2025.

Divisional Forest Officer,
Una Forest Division Una, (HP)

List of Flora and Fauna

Local Name	English Name	Botanical Name
Aisan Sain	Indian laurel	*Terminalia tomentosa*
Ak	Apple of Sodom, rubber bush, swallow-wort	*Calotropis procera*
Akha	Heart leaf raspberry	*Rubus paniculatus*
Am	Mango	*Mangifera indica*
Amaltas, Kaniar, Alis	Golden shower tree	*Cassia fistula*
Amla	Chinese laurel, currant tree	*Antidesma acidum*
Amla	Indian gooseberry	*Emblica officinalis*
Anar-dana	Wild pomegranate	*Punica granatum*
Arjun	Arjuna myrobalan	*Terminalia arjuna*
Badhla	Indian willow	*Salix tetrasperma*
Badrol		*Persea gamblei*
Bahankahar, Gin, agnimanth	Premna	*Premna mucronata*
Bakkar bel	Black creeper	*Ichnocarpus frutescens*
Ban	Beech-wood, goomar tree	*Gmelina arborea*
Ban Basuti	Blue-beard	*Caryopteris odorata* (syn. *C. bicolor*, *C. wallichiana*)
Ban Malti	Jasmine	*Jasminum multiflorum*
Bana	Five-leaved chaste tree	*Vitex negundo*
Bans Bainj, Sotha	Male bamboo	*Dendrocalamus strictus*
Bantaur		*Atylosia crassa*
Barasol Pan	Winged stalked Flemingia	*Flemingia semialta*
Barnahi,Billan	Elephant apple, wood apple, monkey fruit, curd fruit	*Limonia acidissima*
Barthua	Bridal couch tree, sage plant	*Hymenodictyon excelsum*
Basant	Yellow flax, golden-girl	*Reinwardtia indica*
Basuti	Malabar nut	*Adhatoda vasica*
Batindu		*Stephania elegans*
Behra	Belleric myrobalan	*Terminalia belerica*
Bel	Stone apple, holy fruit tree	*Aegle marmelos*
Ber	Jujube	*Zizyphus mauritiana*
Berna	Three-lived-caper	*Crataeva religiosa*
Bhabar, Bagar	Baib grass	*Eulaliopsis binata*

Nitish Hd
I/c Palakwal
& Add. Police Beat

Sandeep Singh
Bio. Surveyor

Local Name	English Name	Botanical Name
Bhadrun		*Gymnosporia royleana*
Bhakara		*Saurauja napaulensis*
Bhang	Hemp, marijuana	*Cannabis sativa*
Bharmela		*Euonymus pendulus*
Bhirang	Shrubby deeringia	*Deeringia celosioidses*
Biul, Dhaman		*Grewia oppositifolia*
Bohar,Barh	Bengal fig, Indian fig	*Ficus bengalensis*
Burkani	Wild-berry	*Maesa indica*
Cha buti	Billygoat-weed, Chick weed, Goatweed, Whiteweed	*Ageratum conyzoides*
Chakunda	Negro coffee, coffee senna	*Cassia occidentalis*
Chamar bel	Bush Grape, fox-grape, three-leaved wild vine, threeleaf cayratia	*Cayratia trifolia*
Chamar Saman	Velvety melon feather-foil	*Glochidion velutinum*
Chamorar		*Ehretia laevis*
Charaki	Charming clematis	*Clematis grata*
Chhittar Chhun	Drooping prickly pear	*Opuntia monacantha*
Chhota Mendhru	Cape-myrtle, African box-wood	*Myrsine africana*
Chil	Chir-pine	*Pinus roxburghii*
Chilla	Downy-leaved false kamela	*Casearia elliptica*
Chirandi	Dandal	*Xylosma longifolium*
Chopar chilla		*Miliusa velutina*
Coibur,machrun		*Clematis nutans*
Dagur	Hairy fig, devil fig	*Ficus hispida*
Damani	Two-lobed cross berry	*Grewia laevigata*
Dargarhi	Himalayan mimosa	*Mimosa himalyana*
Dhakkari	Arni	*Clerodendrum phlomidis*
Dhao, Chhal	Axlewood	*Anogeissus latifolia*
Dhawin,Dhawi	Fire-flame bush	*Woodfordia floribunda*
Dholu		*Chrysopogan montana*
Dhurmalti	Jasmine	*Jasminum arborescens*
Drek, dek, beakin	Persian cedar, white lilac	*Melia azederach*
Dudh bel	Bread-flower	*Vallaris heynei*
Dudla	Willow leaved fig	*Ficus nemoralis*
Dudli	Telegraph Plant or Semaphore	*Desmodium motorium*

Nitish Pd
F/C Paleshwari
& Add. Police Post.

Sardeep Singh
Boxwingrat
2

Local Name	English Name	Botanical Name
	Plant	
Dura,Dogla, fegra	Wild Himalayan fig	*Ficus palmata*
Dusen	Indian squirrel tail	*Colebrookia oppositifolia*
Faindal	Christmas vine, snow-creeper, bridal-wreath	*Porana paniculata*
Flah, Dhak	Flame of the Forest, Bastard Teak, Parrot Tree	*Butea monosperma*
Gaddi Kuri	Spinous kino tree	*Bridelia squamosa*
Gajal Bel	Cowhage, velvet bean	*Mucuna pruriens*
Gandla	Curry leaf tree	*Murraya koenigii*
Ghanira Ghandheela	Oleander	*Nerium odorum*
Ghas bel	Dodder	*Cuscuta reflexa*
Giddardak	Wild-grape	*Ampelocissus latifolia*
Ginani		*Premna barbata*
Girgithan	Mock buckthorn	*Sageretia parviflora*
Gullhan		*Halmintonia suaveolens*
Gulodan	Buckthorn	*Rhamnus trigaeter*
Handa Bhera	Slow-match tree	*Careya arborea*
Harar	Black myrobalan, gallnut tree	*Terminalia chebula*
Har singar		*Nyctanthes arbortristis*
Hyum Garna	Caperberry, Caperbush	*Capparis sepiaria*
Jagru	Tick-trefoil, tick clover or beggar lice	*Demodium velutinum*
Jaman	Black-plum	*Syzygium cumini*
Jaman Khumb	Indian sarsaparilla	*Cryptolepis buchanani*
Jamnota	Barbados nut, purging nut	*Jatropha curcas*
Japani toot, tutra	Paper mulberry	Broussonetia papyrifera
Jhol	Clematis gouriana, Indian traveller's joy	*Clematis gouriana*
Jindru	Himalayan randia	*Randia tetrasperma*
Jugter bhur bel		*Aspidopterys wallichii*
Jung kinch	Wild yam	*Dioscorea deltoides*
Kachnar Karal	Malabar ebony, mountain ebony	*Bauhinia malabarica*
Kachnar, Karal	Budhist bauhinia, Mountain Ebony, Orchid tree	*Bauhinia variegata*

Nitish Pd Hebalabirbe & Asstt. Patian Beat. Pardeep Singh Beat Incharge

Local Name	English Name	Botanical Name
Kahi	Asian fodder cane	*Saccharum spontaneum*
Kainth	Wild Himalayan pear	*Pyrus pashia*
Kakal Ber	Jackal jujube	*Zizyphus oenoplia*
Kakrain	Zebra-wood	*Pistacia integerrima*
Kala Akha	Rough fruit-berry	*Rubus lasiocarpus*
Kala Dhao, hira harkinu	Mottled ebony	*Diospyros cordifolia*
Kalan	Kaim	*Mitragyna parvifolia*
Kali basuti	Patchouli	*Pogostemon plectranthoide*
Kamal	Monkey face tree	*Mallotus philippinensis*
Kandroi	Drooping fig	*Ficus Semicordata* (syn. *Ficus cunia)*
Kangu	Batoko's plum	*Flacourtia ramontchi*
Kante bans	Giant thorny bamboo	*Bambusa arundinacea*
Kao	Wild olive, iron tree, Indian oli	*Olea ferruginea*
Kapur mingar		*Strobilanthes auriculatus*
Karanda		*Ficus clavata*
Kararoi Tila pati		*Roylea cinerea*
Karmaru	black siris, fragrant albizia, Ceylon rosewood	*Albizzia odoratissima*
Karun	Himalayan mulberry	*Morus serrata*
Kasakuri		*Trema politora*
Kathaman		*Eugenia jambolana Var caryophyllifolia*
Kathi	Cassia indigo	*Indigofera besua* (syn. *Indigofera pulchella, Indigofera leptostachya)*
Kehma.	Indian ash tree	*Lannea coromandelica*
Kendu	Mountain persimmon	*Diospyros montana*
Keor	Bitter oleander	*Holarrhena antidysenterica*
Khair	Cutch tree	*Acacia catechu*
Khajoor	Date-sugar palm, Indian winepalm, sugar palm, wild dat palm	*Phoenix sylvestris*
Khalawa	Woolly dyeing rosebay	*Wrightia tomentosa*
Kikkar	Indian gum-arabic tree	*Acacia Nilotica spp indica*
Kinnu	Persimmon tree	*Diospyros chloroxylon*
Kumbhi		*Cordia vestita*
Kuri,HarShingar	Coral Jasmine, Tree of Sorrow,	*Nyctanthus arbor tristis*

Noted for I/c Palakwah & Adel. Paliambet. Pardeep Singh Forester

Local Name	English Name	Botanical Name
	Queen of the night	
Lambh	Black spear grass	*Heteropogan contortus*
Lambi	Wire-grass, spear-grass	*Aristida depressa*
Lantana,Ukkal Buti	Spanish flag, lantana	*Lantana camara*
Lasura	Assyrian plum	*Cordia myxa*
Ligga	Daar	*Boehmeria rugulosa*
Lunji	Brown sorghum	*Sorghum nitidum*
Maggar(Cultivated)	Bamboo	*Dendrocalamus hamiltonii*
Mahua	Indian butter tree	*Madhuca indica*
Makora Gha	Indian geranium grass	*Cymobopogan martinii*
Malti	Jasmine	*Jasminum Grandi florum*
Maltiwan	Hiptage	*Hiptage madablota*
Mandhar	Florida hopbush	*Dodonaea viscosa*
Mara	Bishop wood, Java wood	*Bischoffia javanica*
Maror Phalli	East Indian Screw Tree, Nut Leaved Screw Tree	*Helicteres isora*
Masandaru		*Linoceira intermedia*
Mirgu	Thunberg kutzu vine	*Cassine glauca*
Mund Bel	Sneeze Wort, Cotton milk plant Green milkweed climber, Green wax flower, Sneezing silk	*Wattakaka volubilis*
Nargan	Orange jasmine	*Murraya paniculata*
Nim	Indian lilac	*Azadirachta indica*
Ohi	Chinese albizia, silk tree	*Albizzia chinensis*
Padal	Yellow snake tree	*Strereospermum suaveolens*
Padar	False nettle	*Boehmeria platyphylla*
Padari, pilkhan, pakur	White fig	*Ficus Virens (syn. Infectoria)*
Palakh	Rumpf's fig	*Ficus rumphii*
Pansera	Tilki	*Wendlandia heynei*
Panwar	Foetid cassia, The Sickle Senna Wild Senna	*Cassia tora*
Parand	Honey-suckel mistle-toe	*Dendrophthoe falcate (syn. Loranthus longiflorus*
Parara,Paliro	Corky coral tree, flame tree	*Erythrina glabrescens*
Paror	Laurel-leaved snail tree	*Cocculus laurifolius*
Phalai	Amritsar-gum , black sally,	*Acacia modesta*

Nitish Jyd
I/c Palakwah
& Addl. Paliu Beat

Pardeep Singh
R.O. Una

Local Name	English Name	Botanical Name
	blackwood	*Grewia elastica*
Phalsa	Dhaman	*Ficus religiosa*
Pippal	Sacred fig	*Drypetes roxburghii* (syn. *Putranjiva roxburghii*)
Putajen	Child-life tree, Indian Amulet Plant, Spurious Wild Olive	*Holoptelea integrifolia*
Rajain,Pardesi	Indian elm, kanju	*Caesalpinia decapetala*
Ralan, Arlu	Mysore thorn, cat's claw	*Agave americana*
Ram ban	Century plant	*Xeromphis spinosa* (syn. *Randia dumetorum*)
Rara	Emetic nut	*Abrus precatotius*
Rattak	Crab's eye	*Acacia leucophloea*
Reru, riur	White babool, Distiller's acacia	*Litsea chinensis*
Rihan, meda-lakri	Indian laurel	*Sapindus mukorossi*
Ritha	Soap-nut tree	*Ficus sarmentosa*
Rudhar		*Ficus racemesa*
Rumbal	Cluster fig	*Tectona grandis*
Sagwan	Teak	*Ehretia aspera*
Sakar		*Shorea robusta*
Sal	Yellow Balau	*Millettia extensa*
Salangan		*Pueraria tuberose*
Salod	Indian kudju	*Engelhardtia spicata var colebrookia*
Samma		*Moringa oleifera*
Sanan Suhanjua	Drum-stick tree	*Ougeinia oujeinensis*
Sandan , sanan		*Celastrus panicultus*
Sankhiran	Black-Oil tree, Climbing-staff plant	*Jusminum disparmum*
Sarain	Jasmine	*Periploca calophylla*
Sarpri		*Osyris wightiana*
Sason	Wild tea	*Asparagus racemosus*
Satmnlia,Musli	Wild asparagus	*Dalbergia sissoo*
Shisham, Tali	Bombay blackwood, Indian rosewood, sissoo	*Morus laevigata*
Siah toot	Black fruited mulberry	*Morus australis*
Sia-toot	Japanese mulberry, Korean mulberry, Small-leaved mulberry tree	*Bombax ceiba*
Simble	Silk cotton tree	

Nitish Jod
F/C Palakwah
& Addl. Police Beat

Pardeep Singh
Bokingrat

6

Local Name	English Name	Botanical Name
Siris,Sarin	Lebbek-tree, fry-tree, flea-tree	*Albizzia lebbek*
Sukhchain	Pongam	*Deriss Indica (syn. Pongmia pinnata)*
Tatpalanga	Broken bones plant, Indian calosanthes, Indian Trumpet,	*Oroxylum indicum*
Terni		*Tylophora hirsuta*
Thor, Choon	Royle's Spurge	*Euphorbia royleana*
Toot	White mulberry	*Morus alba*
Tor	Camel's foot climber, malu-creeper	*Bauhinia vahlii*
Tun	Indian cedar, Indian mahogany Indian toon	*Toona cilata*
Unga	Aramina Fibre, Congo Jute	*Urena lobata*

Sandeep Singh
Borrowgrar

Nitish Jsd
I/c Palakwah
& Addl. Police Bent.

Local Name	English Name	Scientific Name
	MAMMALS	
Adjgar	The Viper	*Vipera Russellii*
Bagh	Leopard	*Panthera pardus*
Ban billi	Leopard cat	*Felis bangalensis*
Bejoo	The Honey Badger	*Mellivora expensis*
Chamgadar	The Bat	*Pteropus medina*
Chuchundar	The Gray Musk	*Suncus Caeruleu*
Lamab	The Common Ratsnake	*Bungarus mucosus*
Giddar	Jackal	*Canis aurenus*
Gilehri	The Squirral	*Funanbulus pennanti*
Goh	The Land Monitor Lizard	*Varanus bengalensis*
Jangli billi	Jangle cat	*Felis chaus*
Kachuha	The common Land Tortoise	*Testudo flagans*
Kakkar	Barking deer	*Muntiacus-Muntjak(vaginlis)*
Khargosh	Hare	*Lepus nigricoilis*

Verified
H.F. Haroli
& Add. Tehsildar Beat

Kardeep Singh
Forest Guard

8

Local Name	English Name	Scientific Name
Kirla (Girgit)	The Indian Chamaleon	*Chameleon calcartus*
Kirli	The Common House Lizard	*Hemidactylus gleadowii*
Lal Bandar	Rhesus monkey	*Macaca mulatta*
Langoor	Langoor common	*Preshytes entellus*
Lomari	Lomari	*Vulpie bengalensis Fox*
Nag	The King Cobra	*Naja hamoh*
Nilgai	Blue bull	*Boselaphus tragocamelus*
Para	Para	*Hog deer*
Phaniar	The Common Cobra	*Naja tripudians*
Sambhar	The Sambhar	*Cervus unicoler*
Saup	The Common Warm Snake	*Typhlops braminus*
Seh	Porcupine	*Hystric indica*
Suar	Wild boar	*Sus sacrofa*
	BIRDS	
Bagla	The grey Heron	*Ardea cinera*
Bagla	The little Egret	*Egretta garzotta*
Batair	The common quail	*Cotarnix cotarnix*
Bhojanga or Hojanga	The King Crow	*Dicrurus macrocucus*
Bulbul	The redvented bulbul	*Molpastar cafer*
Chhota Falta	The Indian Spotted Dove	*Stroptapelia shinensis*
Fakta	The Indian ring dove	*Stroptapelia decaocto*
Hudhud	The Hooper	*Upapa epops*
Jangli Murga	The Jungle fowl	*Galus gonnerathi*
Jangli Murghi	The red jungle fowl	*Gallus galus*
Kabutar	The blue rock pigion	*Columberalivia*
Kaikil	The common king fisher	*Aleedo atthis*
Kala Titar	The black partridge	*Framcolinus francolinus*
Koel	The Koel	*Endynamis seolopaceus*
Maina	The Common myna	*Acrdothere tristris*
Mor	The common pea fowl	*Paro cristetus*
Murgabi	The Indian duck	*Anas poeciborhyncha*
Neel Kanth	The Blue Jay or Roller	*Coracia bengalensis*
Pahari Bulbul	The red whiskered bulbul	*Otocompsa jacosa*
Pahari Kowva	The Himalyan Jangle Crow	*Corbus bevaillonti*
Pahari Titar	The hill partridge	*Arborophila forgueola*
Safaid Bagla	The cattle Egret	*Bulbulcus ibis*
Selva kabutar	The eastern stock pigion	*Colamba oena*
Tatiri	The wattled lapuring	*Lobivanallus indicus*
Titar	The gray partridge	*F pondicrianus*

Local Name	English Name	Scientific Name
Tota	The large Indian Parakeet	*Psittacula eupatria*
	REPTILES	
Azgar	Python	
Goh	Monitor Lizard	
Gunther	Pit viper	
Kala Nag	King Cobra	
Lamab	Rat Snake	
Nag	Cobra	
	FISH	
Deola	Murral	
Godh	Ecl	
Karad	Backwa	
Maha-sher	----	

I/c Palaker
Addl. Palian Beat.

Range Forest Officer,
Una Forest Range, Una.

10

ANNEXURE- VII

NOC FROM GRAM PANCHAYAT

कार्यालय ग्राम पंचायत पालकवाह ,हरोली,ऊना(हि.प्र)

आज दिनाँक 15/08/2021 को ग्राम सभा की बैठक श्रीमति परमजीत कौर जी की अध्यक्षता में पूर्ण कोरम सहित हुई।

प्रतिलिपि प्रस्ताव न -04

विषय:- ग्राम सभा क्षेत्र में स्टोन क्रशर लगाने व् माईनिंग लीज़ प्राप्त करने हेतू अनुमति/अनापत्ति प्रमाण-पत्र बारे।

अध्यक्ष महोदया द्वारा उपस्थित ग्राम सभा के समक्ष श्री ईशर सिंह पुत्र श्री बलवीर सिंह,निवासी वार्ड न-8,ग्राम व् डाक घर -- पालकवाह के आवेदन को प्रस्तुत किया गया ,जिसमे आवेदक द्वारा ग्राम सभा क्षेत्र में खसरा न -382/1 में स्टोन क्रशर स्थापित करने व् खसरा न - 382/2,382/3,382/4,382/5,383,378,380 व् 382 में माईनिंग लीज प्राप्त करने बारे अनुमति/अनापत्ति प्रमाण-पत्र(NOC) बारे आवेदन किया है

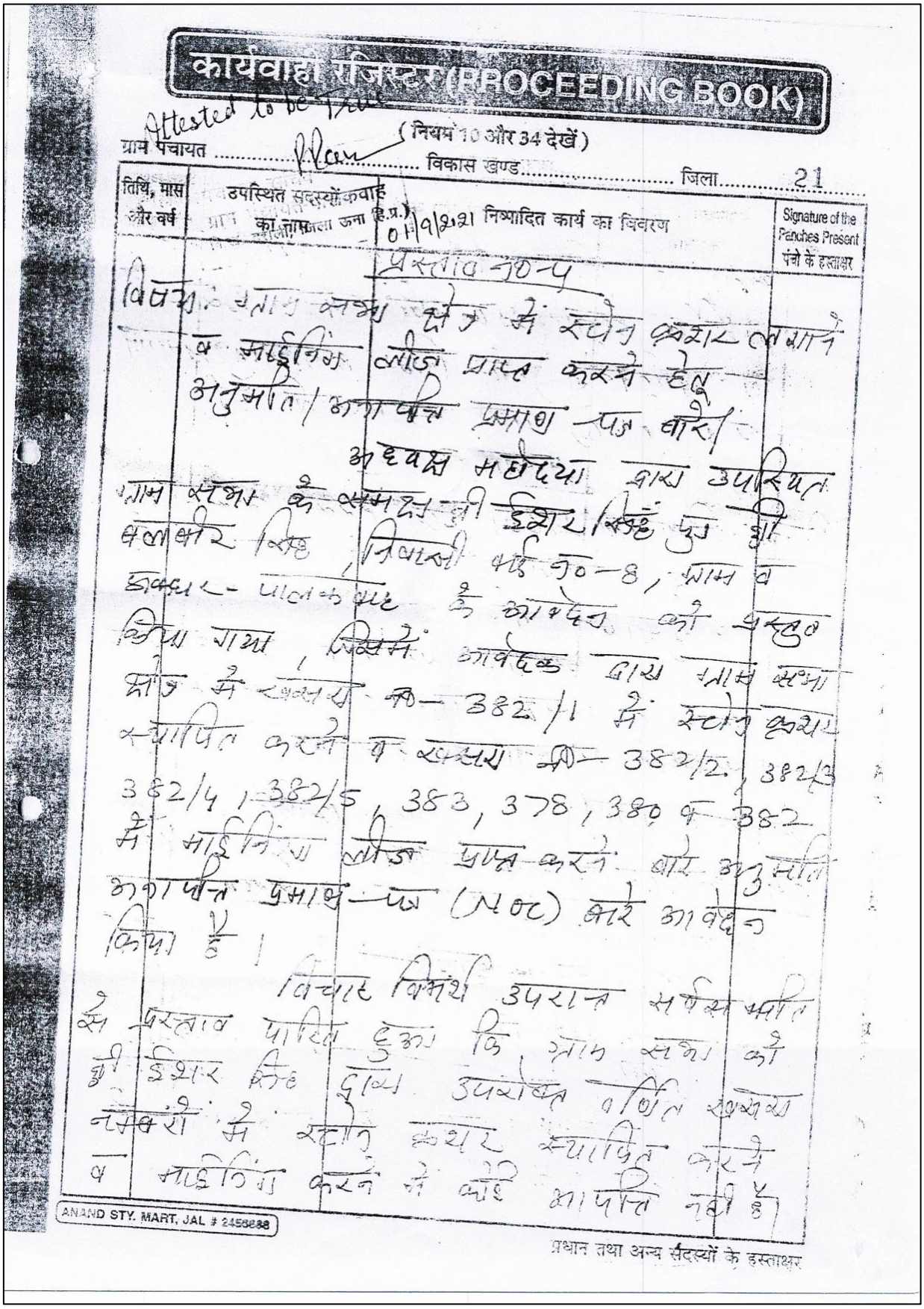
विचार विमर्श उपरान्त सर्व सम्मति से प्रस्ताव पारित हुआ कि ग्राम सभा को श्री ईशर सिंह द्वारा ,उपरोक्त वर्णित खसरा नम्बरों में स्टोन क्रशर स्थापित करने व् माईनिंग करने में कोई आपत्ति नही है ।अतः श्री ईशर सिंह को उपरोक्त वर्णित दोनों प्रकल्पों (स्टोन क्रशर व् माईनिंग) के लिए अनापत्ति प्रमाण-पत्र(NOC) जारी की जाती है।

प्रतिलिपि मूल अभिलेख अनुसार है।

Paramjit Kaur
प्रधान

सचिव

ग्राम पंचायत-पालकवाह
(वि.ख. हरोली, जिला ऊना हि.प्र.)



कार्यवाह रजिस्टर (PROCEEDING BOOK)

Attested to be true

(नियम 10 और 34 देखें)

ग्राम पंचायत ..... विकास खण्ड ..... जिला 21

तिथि, मास और वर्ष	उपस्थित सदस्यों का नाम (कोरम पूरा है या नहीं)	निष्पादित कार्य का विवरण	Signature of the Panches Present पंचों के हस्ताक्षर

प्रस्ताव नं0-4

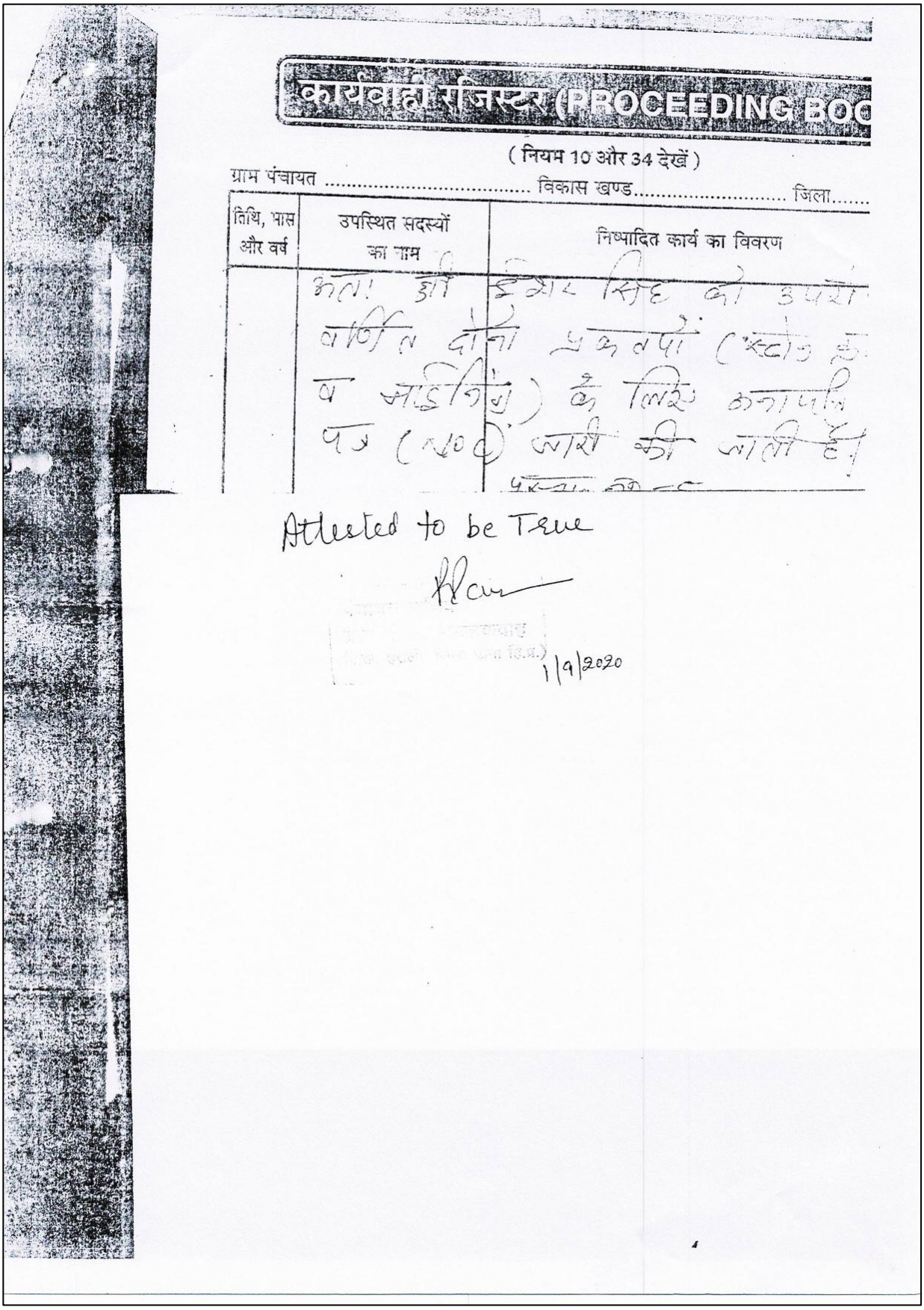
विषय:- ग्राम सभा क्षेत्र में स्टोन क्रशर लगाने व माईनिंग लीज प्राप्त करने हेतु अनुमति/अनापत्ति प्रमाण पत्र बारे।

अध्यक्ष महोदया द्वारा उपस्थित ग्राम सभा के समक्ष श्री ईश्वर सिंह पुत्र श्री बलवीर सिंह, निवासी वार्ड नं0-8, ग्राम व डाकघर- Uletho तहसील के आवेदन को प्रस्तुत किया गया, जिसमें आवेदक द्वारा ग्राम सभा क्षेत्र में खसरा नं- 382/1 में स्टोन क्रशर स्थापित करने व खसरा नं- 382/2, 382/3, 382/4, 382/5, 383, 378, 380 व 382 में माईनिंग लीज प्राप्त करने बारे अनुमति/अनापत्ति प्रमाण-पत्र (NOC) बारे आवेदन किया है।

विचार विमर्श उपरान्त सर्वसम्मति से प्रस्ताव पारित हुआ कि ग्राम सभा की श्री ईश्वर सिंह द्वारा उपरोक्त वर्णित खसरा नम्बरों में स्टोन क्रशर स्थापित करने व माईनिंग करने में कोई आपत्ति नहीं है।

ANAND STY. MART, JAL # 2456888

प्रधान तथा अन्य सदस्यों के हस्ताक्षर



कार्यवाही रजिस्टर (PROCEEDING BOO

(नियम 10 और 34 देखें)

ग्राम पंचायत ..... विकास खण्ड..... जिला.....

तिथि, मास और वर्ष	उपस्थित सदस्यों का नाम	निष्पादित कार्य का विवरण
	अतः हमें इस संबंध को उपरो	
	वर्णित दोनों प्रकरणों (स्टोन क्र	
	व क्रशिंग) के लिए अनापत्ति	
	पत्र (NOC) जारी की जाती है।	

Attested to be True

1/9/2020

॥ जय हिन्द ॥ ॥ जय भारत

कार्यालय ग्राम पंचायत, पालकवाह

विकास खण्ड हरोली, तह० हरोली, जिला ऊना (हि०प्र०)

प्रस्ताव संख्या (3)

आज दिनांक 22-9-17 को ग्राम पंचायत/ग्राम सभा पालकवाह की बैठक प्रधान/उपप्रधान श्री/श्रीमति दीप चन्द की अध्यक्षता में सम्पन्न हुई। बैठक में ..... सदस्यों ने भाग लिया। गणपूर्ति पूर्ण है। सदस्यों की हाजिरी में सम्पन्न हो कर निम्नलिखित कार्यवाही अमल में लाई गई।

दिनांक .....

विषय : ग्राम पंचायत पालकवाह में खसरा नं: 382 मौजा ठाकरां पालकवाह में स्टोन क्रेशर लगाने हेतु अनापत्ति प्रमाण पत्र देने बारे :-

हाजिर ग्राम सभा को सरपंच अध्यक्ष ने यह प्रस्ताव रखा की उपरोक्त खसरा नं: 382 में से जमीन तादादी 4-60-40 हे. 1/- इशर सिंह s/o बलबीर सिंह जाय अपने स्टोन क्रेशर कम्पनी के नाम से क्रेशर व खनन का कार्य हेतु पंचायत से अनापत्ति पर दिया जाना है। हाजिर ग्राम सभा इस बारे विचार करे।

हाजिर ग्राम सभा ने वाद-विचार-विमर्श करने पर सर्वसम्मति से निर्णय लिया की उपरोक्त क्रेशर लगाने हेतु ग्राम सभा को कोई आपत्ति नहीं है। अतः प्रस्ताव सर्वसम्मति से पारित किया जाता!

प्रमाणित किया जाता है कि उपरोक्त सत्य तथ्यों पर आधारित कार्यवाही अमल में लाई गई।

Pardhan,
Gram Panchayat Palkwah
Teh. Haroli Distt. Una (H.P.)

ANNEXURE-VIII(a)

WATER AFFIDAVIT

सत्यमेव जयते

INDIA NON JUDICIAL

Government of Himachal Pradesh

e-Stamp

Certificate No.	:	IN-HP59392655592700X
Certificate Issued Date	:	07-Oct-2025 12:14 PM
Account Reference	:	NEWIMPACC (SV)/ hp19010104/ UNA/ HP-UN
Unique Doc. Reference	:	SUBIN-HPHP19010104115530799557 33X
Purchased by	:	ISHAR SINGH SON OF BALBIR SINGH
Description of Document	:	Article 4 Affidavit
Property Description	:	Not Applicable
Consideration Price (Rs.)	:	0 (Zero)
First Party	:	ISHAR SINGH SON OF BALBIR SINGH
Second Party	:	Not Applicable
Stamp Duty Paid By	:	ISHAR SINGH SON OF BALBIR SINGH
Stamp Duty Amount(Rs.)	:	20 (Twenty only)

S.V. UNA (H.P.) DISTT UNA

Please write or type below this line

NOTARY GOVT. OF INDIA

Statutory Alert:
1. The authenticity of this Stamp certificate should be verified at 'www.shcilestamp.com' or using e-Stamp Mobile App of Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

AFFIDAVIT

I, Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher, Village & P.O. Palakwah, Tehsil Haroli, District Una, H.P. do solemnly affirm and declare on oaths as under:

1. That I have taken area measuring 04-70-61 Hectares (Pvt. Land- Hill Slope) bearing Khasra nos. 382/5, falling in Mohal/Mauza Thakran of Tehsil Haroli, District Una, Himachal Pradeshto carry out mining activities for the extraction/collection of sand, stone & bajri for crusher unitand gives this undertaking that water will be sourced from IPH water supply available at crusher site(31°23'8.79"N& 76°14'17.58"E) ofVillage & P.O. Palakwah, Tehsil Haroli, District Una, H.P.
2. That the above statement is true and correct.

Deponent

Date:

Verification:

I the above-named deponent further affirm and declare that the statement in the affidavit is true and correct to the best of my knowledge and belief.

Deponent

Date:

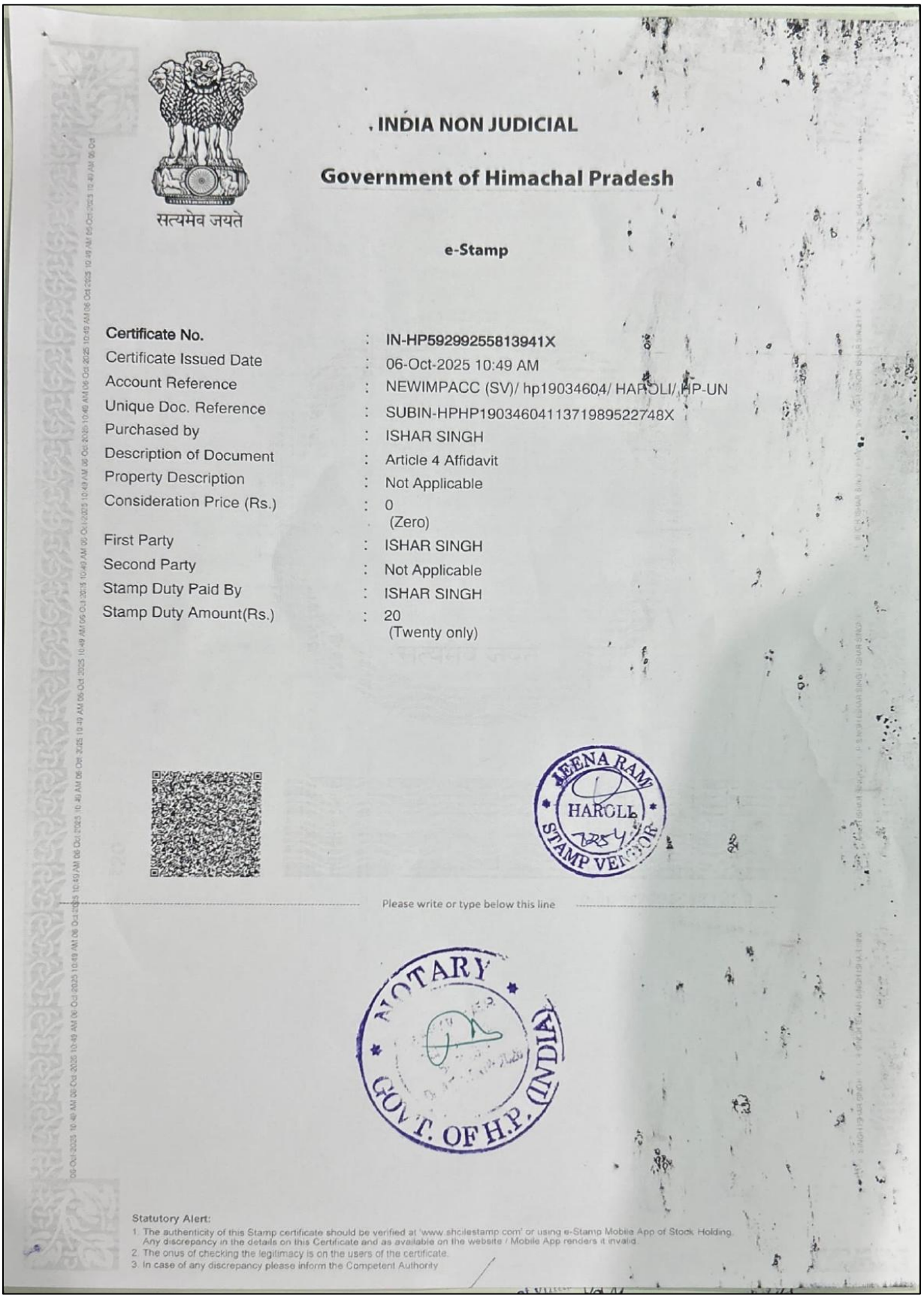
Certified that this ... is presented for attestation by Sh. ... S/o. Sh. ... resident of village ... and who is id ... or who is perso... to me as is entered at serial ... date ... at ... time at ... (Place)

ATTESTED
NOTARY

NOTARY * INDIA * GOVT. OF

ANNEXURE-VIII (b)

PLANTATION AFFIDAVIT



सत्यमेव जयते

INDIA NON JUDICIAL

Government of Himachal Pradesh

e-Stamp

Certificate No.	:	IN-HP59299255813941X
Certificate Issued Date	:	06-Oct-2025 10:49 AM
Account Reference	:	NEWIMPACC (SV)/ hp19034604/ HAROLI/ HP-UN
Unique Doc. Reference	:	SUBIN-HPHP19034604113719895227 48X
Purchased by	:	ISHAR SINGH
Description of Document	:	Article 4 Affidavit
Property Description	:	Not Applicable
Consideration Price (Rs.)	:	0 (Zero)
First Party	:	ISHAR SINGH
Second Party	:	Not Applicable
Stamp Duty Paid By	:	ISHAR SINGH
Stamp Duty Amount(Rs.)	:	20 (Twenty only)

LEENA RAM HAROLI 7254 STAMP VENDOR

Please write or type below this line

NOTARY GOVT. OF H.P. (INDIA)

Statutory Alert:
1. The authenticity of this Stamp certificate should be verified at 'www.shcilestamp.com' or using e-Stamp Mobile App of Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority

AFFIDAVIT

I, Ishar Singh, Prop. M/s Maa Pitambra Stone Crusher, Village & P.O. Palakwah, Tehsil Haroli, District Una, H.P. do solemnly affirm and declare on oaths as under:

1. That I have been granted LOI to carry out mining activities for the extraction/collection of sand, stone & bajri for crusher unit falling in Khasra no.382/5over an area measuring 04-70-61 Ha (Pvt. Land- Hill Slope), falling in Mohal/Mauza Thakran of Tehsil Haroli, District Una, Himachal Pradesh.
2. That I will plant native plant species suited to the agro-climatic conditions of the area, such as Poplar, Amla, and Sahtoot, in accordance with their availability and the specific requirements of Khasra No. 382. The plantation will be carried out on the land situated at latitude 31°23'6.12"N and longitude 76°13'59.16"E, as part of the reclamation process for the mined-out hill slope and along the lease boundary.
3. That I will maintain the plantation to ensure its minimum 80% survival.

Deponent

Date:

Verification:

I the above-named deponent further affirm and declare that the statement in the affidavit is true and correct to the best of my knowledge and belief.

Deponent

Date:

GOVT. OF H.P. (INDIA) NOTARY

ATTESTED 06-10-25 NOTARY

Certified that this ... is presented ... S/o. ... of village ... and who is ... or who is ... at serial ... 06-10-25 ... time at ... (Place)

ANNEXURE-IX

LAND CLARIFICATION

O/C

No.: Udyog (Bhu)-Laghu-UNA-Maa Pitambra SCU 2358 - 2362
Office of the Mining Officer, Una
Distt. Una (H.P.)

Una Dated: 29.11.2024

To,

The Tehsildar Haroli
District Una, Himachal Pradesh.

Subject: Clarification regarding land classification for mining lease and stone crusher application – applied by Sh. Ishwar Singh S/o Sh Balbir Singh R/o ward No -8 Village & PO Palakwah Tehsil Haroli District Una H.P

Sir,

Reference is made to the application received from Sh. Ishwar Singh S/o Sh Balbir Singh R/o ward No -8 Village & PO Palakwah Tehsil Haroli District Una H.P for grant of mining lease and establishment of stone crusher over Khasra No 382 measuring 07-20-38 Hectares falling in Mohal Thakran Ptwar circle Palakwah-II Tehsil Haroli District Una H.P (copy of jamabandi enclosed)in your jurisdiction.

Before proceeding further with the application, it is essential to verify whether the proposed activities can be permitted on the land in question as per its current classification in revenue records as "शामलात देह तरफ रायकियां निस्फ़ रायेजादेयाँ निस्फ़ हस्व हिससज़ जददी" and entry in कैफियत column of jamabandi is खेवट हजा के रकबा को 25 साल (यानि 10.05.2022 से 09.05.2027) तक रेहन ,वै हिब्बा ,तबादला आदि नहीं कर सकते हैं .

You are therefore requested to examine the revenue records of the land under consideration and provide clarification on the following points:

1. The current classification/status of the land in revenue records
2. Whether mining activities are permissible on land bearing this classification
3. Whether establishment of stone crusher is permissible as per land use regulations
4. Any other relevant restrictions or considerations applicable to the said land

Your early response in this matter will help expedite the processing of the application.

Yours faithfully,

O/C

(Neeraj Kant)
Mining Officer,Una
Mobile No +91-9816519502
e.mail: miningofficeruna@gmail.com

Endst. No.: As above _____dated___ .11.2024

Copy to:

1. The Deputy Commissioner Una District Una H.P for information please.
2. The Geologist Zone-II Himachal Pradesh Shimla for information please.
3. The SDM Haroli District Una H.P for information please & necessary directions in this regard please.
4. Sh. Ishwar Singh S/o Sh Balbir Singh R/o ward No -8 Village & PO Palakwah Tehsil Haroli District Una H.P for information please.

o/c

(Neeraj Kant)
Mining Officer,Una
Mobile No +91-9816519502
e.mail: miningofficeruna@gmail.com

Office of the Tehsildar Haroli, Distt. Una, HP.

From,

The Tehsildar Haroli,
Distt. Una (H.P.).

To,

The Mining Officer ,
Una, Distt. Una (H.P.)
No. 1888 /O.K. Dated 05-12-2024

Sub:- **Clarification Regarding Land classification for mining lease and stone crusher application- applied by Sh. Ishwar Singh S/O Sh.Balbir Singh R/O ward No-8 Village & PO Palakwah Tehsil Haroli District Una H.P.**

महोदय,

उपरोक्त विषय पर आपके कार्यालय पृष्ठांकन संख्या Udyog(Bhu)-Laghu-UNA-Maa Pitambra SCU 2358-2362 dated 29-11-2024 के सन्दर्भ में क्षेत्रीय स्टाफ से छानवीन कागजात माल करवाई गई जिसके अनुसार मदवार टिप्पणी निम्न प्रकार से है:-

मद संख्या	मद का विवरण	मद के सम्बन्ध में कार्यालय टिप्पणी
1.	The current classification/status of the land in revenue record	खसरा नम्बर 382 रकवा तादादी 07-20-38 हैक्ट. महाल ठाकरां की किस्म मुताबिक कागजात माल वंजर कदीम है।
2.	Whether mining activities are permissible on the land bearing this classification.	इस सम्बन्ध में कोई भी दिशा-निर्देश राजस्व विभाग के पास उपलब्ध नहीं है।
3.	Whether establish ment of stone crusher is permissible as per land use regulation.	प्रार्थी (हिस्सादार) अपने व्यक्तिगत उपयोग के लिये नियमानुसार रकवा का प्रयोग कर सकता है।
4.	Any other relevant restrictions or considerations applicable to the said land.	खेवट हजा का रकवा वरूये ईन्तकाल नम्बर 63 तबदील मलकीयत द्वारा सरकार हिमाचल प्रदेश वहक शामलात देह तरफ रायकियां निस्फ तरफ रायेजादियां निस्फ हस्व हिस्सा जद्दी व खाना काश्त हिस्सादारन को नोटिफिकेशन नम्बर Rev.(13)-(A)-(3)8/2001 दिनांक 12-12-2001 द्वारा तवदील हुआ है। **हिमाचल प्रदेश शामलात भूमि निधान एवं उपयोग संशोधित अधिनियम, 2005** अनुसार हिस्सादारान रकवा मजकूर को ईन्तकाल तस्दीक तारीख से अरसा पच्चीस साल तक रैहन, वै, हिव्वा आदि नहीं कर सकते हैं। जिनके सम्बन्ध में सरकार द्वारा जारी नोटिफिकेशन की छायाप्रतियां साथ सलंग्न है।

अत: टिप्पणी रिपोर्ट क्षेत्रीय स्टाफ साथ सलंग्न उपरान्त वराये आगामी कार्यवाही हेतू प्रेषित है।

तहसीलदार हरोली,
जिला ऊना (हि.प्र.)

श्रीमान जी,

आपके कार्यालय पृष्ठांकन संख्या 1883/ का.का दिनांक 04.12.2024 की पालना में राजस्व अभिलेख महाल ठाकरां का निरीक्षण किया गया। जिसकी मदवार सूचना इस प्रकार हैः-

i) खसरा नम्बर 382 रकवा तादादी 07-20-38 हैक्ट. महाल ठाकरां की किस्म मुतबिक कागजात माल बंजर कदीम है।

ii) इस सम्बन्ध में कोई भी दिशा-निर्देश राजस्व विभाग के पास उपलब्ध नहीं है।

iii) प्रार्थी (हिस्सादार) अपने व्यक्तिगत उपयोग के लिये नियमानुसार रकवा का प्रयोग कर सकता है।

iv) खेवट हजा का रकवा वरूये ईन्तकाल नम्वर 63 तबदील मलकीयत द्वारा सरकार हिमाचल प्रदेश वहक शामलात देह तरफ रायकियां निस्फ तरफ रायेजादियां निस्फ हस्व हिस्सा जद्दी व खाना काश्त हिस्सादारन को नोटिफिकेशन नम्वर Rev.(13)-(A)-(3)8/2001 दिनांक 12-12-2001 द्वारा तवदील हुआ है। हिमाचल प्रदेश शामलात भूमि निधान एवं उपयोग संशोधित अधिनियम, 2005 अनुसार हिस्सादारान रकवा मजकूर को ईन्तकाल तस्दीक तारीख से अरसा पच्चीस साल तक रैहन, वै, हिव्वा आदि नहीं कर सकते हैं। जिनके सम्बन्ध में सरकार द्वारा जारी नोटिफिकेशन की छायाप्रतियां साथ सलंग्न है।

Patwari Singh 05/12/2024
Patwar Circle.....Gudhera-I
Teh. Haroli....Distt. Una (H.P.)
I/C Palkwah-II.

श्रीमान जी,
निवेदन है कि कोपसा वाले पालना के लिखित रिपोर्ट पहुंचाने स्वच्छ सलंग उपरान्त वसूले जाने योग्य राशि वहित हेतु अग्रिम कार्यवाही हेतु सेवा में प्रेषित है।
5/12/2024

Published in H.P. Govt. Rajpatra on 17-11-2005

Act No. 32 of 2005

THE HIMACHAL PRADESH VILLAGE COMMON LANDS VESTING AND UTILIZATION (AMENDMENT) ACT, 2005

(As Assented to by president on 26th October, 2005)

AN

ACT

further to amend the Himachal Pradesh Village Common Lands Vesting and Utilization Act, 1974 (Act No. 18 of 1974).

BE it enacted by the Legislative Assembly of Himachal Pradesh in the Fifty-sixth Year of the Republic of India as follows :-

Short title and commencement

1. (1) This Act may be called the Himachal Pradesh Village Common Lands Vesting and Utilization (Amendment) Act, 2005.

(2) It shall be deemed to have come into force on the 8th day of July, 2005

Amendment of section-3

18 of 1974

2. In section 3 of the Himachal Pradesh Village Common Lands Vesting and Utilization Act, 1974, after sub-section (2), the following new sub-sections shall be added, namely :-

"(2-a)" The land reverted back to co-sharers under clause (d) of sub-section (2) shall not be transferred by such co-sharers, by way of sale, gift, mortgage of otherwise, during a period of twenty five years from the date of mutation of such land.

16 of 1908

"(2-b)" No Registrar or the Sub-Registrar, appointed under the Registration Act, 1908, shall register any document pertaining to transfer of such land, which is in contravention of sub-section (2-a) and such transfer shall be void ab initio and the land involved in such transfer, if made in contravention of sub-section (2-a), shall vest in the State Government free from all encumbratices."

Repeal of Ordinance No. 7 of 2005 and savings

3. (1) The Himachal Pradesh Village Common Lands Vesting and Utilization (Amendment) Ordinance, 2005 is hereby repealed.

(2) Not withstanding such repeal, anything done or any action taken under the Ordinance so repealed, shall be deemed to have been done or taken under he corresponding provisions of this Act.

No. Rev. B.A.(3)8/2000-V
Government of Himachal Pradesh
Department of Revenue

o

The Deputy Commissioner,
Sirmaur at Nahan, H.P.

Dated : Shimla-171002, the 29-05-2013

ubject: हिमाचल प्रदेश ग्राम शामलात भूमि उपयोग एवं निधान (संशोधन) अधिनियम, 2001 के भू–स्वामियों को वापिस हुई भूमि में कब्जा के हस्तांतरण संबंधी दिशा–निदेश/मार्गदर्शन

ir,

I am directed to refer to your letter No. SIR-S.Ka(1-C)& Shamlat/2012-720 6th March, 2013, on the subject cited above and to clarify that as per amendment carried out I.P. Village Common Lands Vesting and Utilization Act, 1974 carried out in the year 2005 the everted back to co-sharers under clause (d) of sub-section (2) shall not be transferred by suc harers, by way of sale, gift, mortgage or otherwise, during a period of twenty five years fro ate of mutation of such land. In view of aforesaid provisions the land cannot be transferred t o-sharer during a period of twenty five years in any manner whatsoever.

Yours faithfully,
-sd-
Deputy Secretary (Revenue)
Government of Himachal Pra

Screen Reader A+ A A-

राजस्व विभाग- अपनी जमाबंदी/शजरा नस्ब की प्रति देखें

राजस्व विभाग, हिमाचल प्रदेश - नकल जमाबन्दी

रसीद संख्या : 20247624259

ज़िला : ऊना **तहसील :** हरोली **कानूनगो वृत :** हरोली **पटवार वृत :** पालकवाह द्वितीय
हदबस्त न. : 469 **मोहाल :** ठाकरां **साल :** 2020-2021 **रकबा ईकाई :** है-आ-सै

खेवट नं. (हाल/सावका) : 180/175
नाम पत्ती या तरफ मय नाम नम्बरदार : बशरहा खेवट न. (1)
मुताबला व शरह मुआमला व हबूब : 0.00 माल 0.00 स्वाई 0.00
नाम मालिक व एहवाल : शामलात देह तरफ रायकियां निस्फ रायेजादेयां निस्फ हस्व हिस्सज जद्दी

खतौनी नं. / लागान जो मुजारा अदा करता है व तफसील शरह व तादाद	नाम काश्तकार व एहवाल	नाम चाह व दीगर वसायल आबपाशी	नाम खसरा हाल	रकबा हर खेत व मिजान मय किस्म अराजी	हिस्सा या पैमाना हकीयत व तरीका बाछ	कैफियत
206 मिन 202	ईशर सिंह पुत्र वलवीर सिंह पुत्र दुर्गा सिंह हिस्सादार		382	07-20-38 बंजर कदीम	कब्जा व पड़ता बशरह खेवट न. (1)	नोट :- खेवट हजा के रकवा को 25 साल (यानि 10-05-2002 ता 09-05-2027) तक रैहन, वै, हिब्बा, तवादला आदि नहीं कर सकते हैं।

यह नकल राजस्व विभाग, हि.प्र. के केंद्रीय सर्वर पर उपलब्ध डाटा से 04/12/2024 04:35 PM समय पर बनाई गई है।

Save As PDF

मुख्यपृष्ठ | राजस्व विभाग | भू-अभिलेख के बारे में | हिमाचल प्रदेश | सम्पर्क करें

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Best viewed in 1024 x 768 Resolution in internet explorer 6 or above

ANNEXURE-X (a)

TEST REPORTS (NOVEMBER 2023 TO JANUARY 2024)

CHANDIGARH POLLUTION TESTING LABORATORY
(Environmental Monitoring, EIA, NOC, ETP, STP)
NABET Accredited EIA Consultant

H.O. : #372, Sector 15-A, Chandigarh-160 015
Phone : 0172-4669295
Lab : E-126, Phase-VII, Indl. Area, Mohali - 160055
Phone : 0172-5090312
E-mail : cptle126@gmail.com ; lab@cptl.co.in
Website : www.cptl.co.in

TEST CERTIFICATE

REPORTING DATE: 31-01-2024

NAME OF INDUSTRY: **Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Type of Sample:	Ambient Air
Time period for sampling	1440 Minutes
Monitoring Period	06-11-2023 to 24-01-2024
Sample Identification no.	CPTLE/LS/2023/01(A)
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and As per Requirements.
Sample Location	Project Site
Coordinates:	31°21'50.96"N & 76°14'02.35"E
Sample Collected By	Daljeet Singh & team

RESULTS

S. No.	Date	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1.	06-11-2023	34.4	64.4	5.5	10.8	ND
2.	08-11-2023	34.4	65.5	6.4	10.8	ND
3.	13-11-2023	35.5	67.4	5.5	10.6	ND
4.	15-11-2023	36.6	67.7	6.6	10.8	ND
5.	20-11-2023	35.4	64.4	6.4	11.4	ND
6.	22-11-2023	34.7	65.5	6.5	10.5	ND
7.	27-11-2023	37.8	66.6	6.8	10.6	ND
8.	29-11-2023	34.9	65.8	5.4	10.2	ND
9.	04-12-2023	35.5	64.7	6.7	10.2	ND
10.	06-12-2023	38.4	67.5	5.4	9.6	ND
11.	11-12-2023	34.5	67.8	6.8	9.5	ND
12.	13-12-2023	36.6	67.5	6.5	9.8	ND
13.	18-12-2023	35.5	65.4	6.6	9.5	ND
14.	20-12-2023	34.4	68.5	5.5	10.4	ND
15.	25-12-2023	37.5	69.2	5.8	9.1	ND
16.	27-12-2023	38.6	65.8	6.2	10.6	ND
17.	01-01-2024	34.4	67.1	6.6	10.6	ND
18.	03-01-2024	35.4	71.4	5.6	9.5	ND
19.	08-01-2024	36.1	67.6	6.5	10.8	ND
20.	10-01-2024	36.4	65.8	6.4	9.2	ND
21.	15-01-2024	34.2	64.4	6.6	9.6	ND
22.	17-01-2024	31.5	67.6	6.6	9.9	ND
23.	22-01-2024	32.2	65.6	5.6	10.8	ND
24.	24-01-2024	34.3	71.5	5.6	9.2	ND
Prescribed Standard		**60**	**100**	**80**	**80**	**4**

ND-Not Detected

(Chemist In-Charge)
Date: 31/1/24

(Reviewed & Authorized By)
Date: 31/01/2024

- The results are related to test items only.
- This certificate is not to be reproduced wholly or in part and cannot be used as evidence in the court of law.
- Sample will be destroyed after retention time unless otherwise specified.

CHANDIGARH POLLUTION TESTING LABORATORY
(Environmental Monitoring, EIA, NOC, ETP, STP)
NABET Accredited EIA Consultant

H.O. : #372, Sector 15-A, Chandigarh-160 015
Phone : 0172-4669295
Lab : E-126, Phase-VII, Indl. Area, Mohali - 160055
Phone : 0172-5090312
E-mail : cptle126@gmail.com ; lab@cptl.co.in
Website : www.cptl.co.in

TEST CERTIFICATE

REPORTING DATE: 31-01-2024

NAME OF INDUSTRY: **Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Type of Sample:	Ambient Air
Time period for sampling	1440 Minutes
Monitoring Period	06-11-2023 to 24-01-2024
Sample Identification no.	CPTLE/LS/2023/02(A)
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and As per Requirements.
Sample Location	Palakwah
Coordinates:	31°23'40.99"N & 76°14'55.20"E
Sample Collected By	Daljeet Singh & team

RESULTS

S. No.	Date	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1.	06-11-2023	34.4	62.4	6.4	10.5	ND
2.	08-11-2023	35.5	61.5	5.5	10.4	ND
3.	13-11-2023	36.5	64.6	6.5	9.4	ND
4.	15-11-2023	35.6	65.2	6.6	9.5	ND
5.	20-11-2023	34.4	66.3	6.4	10.6	ND
6.	22-11-2023	35.1	66.4	6.7	10.5	ND
7.	27-11-2023	32.2	65.2	4.8	9.4	ND
8.	29-11-2023	33.1	64.5	5.9	10.5	ND
9.	04-12-2023	34.4	65.6	6.5	10.7	ND
10.	06-12-2023	35.1	66.3	5.4	10.5	ND
11.	11-12-2023	36.4	61.5	6.5	10.6	ND
12.	13-12-2023	35.1	62.4	5.6	9.2	ND
13.	18-12-2023	34.4	64.5	6.6	9.4	ND
14.	20-12-2023	35.2	62.6	5.5	11.5	ND
15.	25-12-2023	35.3	62.5	6.8	10.6	ND
16.	27-12-2023	34.2	63.4	6.6	10.4	ND
17.	01-01-2024	35.4	64.2	6.5	11.5	ND
18.	03-01-2024	36.5	65.3	5.6	11.6	ND
19.	08-01-2024	35.6	66.2	5.5	9.5	ND
20.	10-01-2024	34.2	64.4	6.8	10.8	ND
21.	15-01-2024	34.4	65.5	5.5	10.5	ND
22.	17-01-2024	35.5	64.6	6.6	11.5	ND
23.	22-01-2024	35.6	65.6	6.8	10.6	ND
24.	24-01-2024	34.6	64.6	5.8	10.9	ND
Prescribed Standard		**60**	**100**	**80**	**80**	**40**

ND-Not Detected

(Chemist In-Charge)
Date: 31/1/24

(Reviewed & Authorized By)
Date: 31/01/2024

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CHANDIGARH POLLUTION TESTING LABORATORY
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E-mail : cptle126@gmail.com ; lab@cptl.co.in
Website : www.cptl.co.in

TEST CERTIFICATE

REPORTING DATE: 31-01-2024

NAME OF INDUSTRY: **Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Type of Sample:	Ambient Air
Time period for sampling	1440 Minutes
Monitoring Period	06-11-2023 to 24-01-2024
Sample Identification no.	CPTLE/LS/2023/03(A)
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and As per Requirements.
Sample Location	Beeton
Coordinates:	31°20'21.10"N & 76°14'9.52"E
Sample Collected By	Daljeet Singh & team

RESULTS

S. No.	Date	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1.	06-11-2023	34.1	65.5	5.8	9.5	ND
2.	08-11-2023	34.4	64.4	5.6	9.4	ND
3.	13-11-2023	35.5	67.5	6.2	9.6	ND
4.	15-11-2023	36.6	68.6	4.6	9.4	ND
5.	20-11-2023	35.4	69.9	5.4	9.5	ND
6.	22-11-2023	34.7	67.5	6.8	9.2	ND
7.	27-11-2023	35.4	68.8	5.5	10.4	ND
8.	29-11-2023	38.8	61.4	6.6	9.5	ND
9.	04-12-2023	34.5	62.7	5.8	9.6	ND
10.	06-12-2023	37.9	66.4	6.4	9.2	ND
11.	11-12-2023	34.5	63.5	5.7	10.4	ND
12.	13-12-2023	38.6	65.8	6.5	9.8	ND
13.	18-12-2023	35.4	66.6	5.6	10.9	ND
14.	20-12-2023	36.7	64.9	6.6	9.4	ND
15.	25-12-2023	34.4	65.5	5.2	9.5	ND
16.	27-12-2023	35.5	63.5	6.5	10.6	ND
17.	01-01-2024	37.8	64.4	5.6	10.7	ND
18.	03-01-2024	38.9	62.4	6.4	9.4	ND
19.	08-01-2024	35.6	61.8	5.5	9.5	ND
20.	10-01-2024	36.5	62.8	6.6	9.1	ND
21.	15-01-2024	35.4	63.8	6.5	10.2	ND
22.	17-01-2024	34.7	64.4	5.6	10.6	ND
23.	22-01-2024	35.5	62.5	6.5	9.6	ND
24.	24-01-2024	36.6	65.6	6.6	9.2	ND
Prescribed Standard		**60**	**100**	**80**	**80**	**4**

ND-Not Detected

(Chemist In-Charge)
Date: 31/01/24

(Reviewed & Authorized By)
Date: 31/01/2024

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TEST CERTIFICATE

REPORTING DATE: 31-01-2024

NAME OF INDUSTRY: Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).

SAMPLE PARTICULARS

Type of Sample:	Ambient Air
Time period for sampling	1440 Minutes
Monitoring Period	06-11-2023 to 24-01-2024
Sample Identification no.	CPTLE/LS/2023/04(A)
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and As per Requirements.
Sample Location	Tahliwal
Coordinates:	31°20'57.65"N & 76°16'6.53"E
Sample Collected By	Daljeet Singh & team

RESULTS

S. No.	Date	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1.	06-11-2023	34.4	64.4	6.5	10.4	ND
2.	08-11-2023	35.5	65.1	5.4	9.4	ND
3.	13-11-2023	37.6	66.2	6.5	9.5	ND
4.	15-11-2023	34.5	65.3	6.6	10.4	ND
5.	20-11-2023	35.7	67.2	6.5	9.6	ND
6.	22-11-2023	36.8	64.1	5.4	10.2	ND
7.	27-11-2023	35.9	65.4	6.7	10.3	ND
8.	29-11-2023	34.5	66.1	6.4	10.1	ND
9.	04-12-2023	37.4	65.8	5.5	9.5	ND
10.	06-12-2023	34.6	64.2	6.8	9.8	ND
11.	11-12-2023	35.2	67.3	6.5	10.5	ND
12.	13-12-2023	36.4	64.2	6.9	9.6	ND
13.	18-12-2023	35.5	68.1	5.5	9.4	ND
14.	20-12-2023	34.6	65.3	8.4	9.7	ND
15.	25-12-2023	37.4	66.2	5.5	10.4	ND
16.	27-12-2023	35.7	64.1	6.6	9.6	ND
17.	01-01-2024	36.5	65.4	5.5	8.3	ND
18.	03-01-2024	34.6	64.5	6.6	8.9	ND
19.	08-01-2024	38.5	62.6	6.4	9.6	ND
20.	10-01-2024	39.8	66.5	6.6	9.6	ND
21.	15-01-2024	35.6	64.5	6.2	9.4	ND
22.	17-01-2024	34.5	65.5	6.6	9.5	ND
23.	22-01-2024	37.5	66.2	5.5	9.8	ND
24.	24-01-2024	38.5	65.2	6.6	10.9	ND
Prescribed Standard		**60**	**100**	**80**	**80**	**4**

ND-Not Detected

(Chemist In-Charge)
Date: 31/1/24

(Reviewed & Authorized By)
Date: 31/01/2024

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TEST CERTIFICATE

REPORTING DATE: 31-01-2024

NAME OF INDUSTRY: **Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Type of Sample:	Ambient Air
Time period for sampling	1440 Minutes
Monitoring Period	07-11-2023 to 27-01-2024
Sample Identification no.	CPTLE/LS/2023/05(A)
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and As per Requirements.
Sample Location	Haroli
Coordinates	31°25'16.46"N & 76°13'55.78"E
Sample Collected By	Daljeet Singh & team

RESULTS

S. No.	Date	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1.	07-11-2023	35.4	66.5	5.4	9.8	ND
2.	09-11-2023	34.5	64.4	4.5	9.8	ND
3.	14-11-2023	37.6	67.7	5.8	9.9	ND
4.	16-11-2023	38.3	75.	6.4	11.6	ND
5.	21-11-2023	39.2	68.79	6.7	10.6	ND
6.	23-11-2023	37.1	69.6	5.4	10.3	ND
7.	28-11-2023	38.4	65.5	6.8	9.6	ND
8.	30-11-2023	39.5	64.4	6.5	9.5	ND
9.	07-12-2023	36.6	67.7	6.9	9.6	ND
10.	09-12-2023	36.8	65.5	6.4	9.9	ND
11.	14-12-2023	35.5	66.4	5.7	10.3	ND
12.	16-12-2023	34.4	65.6	6.5	10.6	ND
13.	21-12-2023	37.7	66.5	6.9	9.6	ND
14.	23-12-2023	34.8	65.4	6.5	9.1	ND
15.	28-12-2023	35.9	64.7	5.8	9.4	ND
16.	30-12-2023	36.4	67.7	6.9	9.5	ND
17.	04-01-2024	34.5	69.8	5.5	9.6	ND
18.	06-01-2024	35.6	65.6	6.4	10.9	ND
19.	11-01-2024	36.6	66.5	6.7	9.9	ND
20.	13-01-2024	37.5	66.4	5.5	10.2	ND
21.	18-01-2024	34.4	65.5	5.6	9.2	ND
22.	20-01-2024	35.9	71.6	6.9	9.6	ND
23.	25-01-2024	36.4	67.6	6.9	10.8	ND
24.	27-01-2024	35.4	66.6	5.5	9.9	ND
Prescribed Standard		**60**	**100**	**80**	**80**	**4**

ND-Not Detected

Chemist In-Charge)
Date: 31/1/24

(Reviewed & Authorized By)
Date: 31/01/2024

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Website : www.cptl.co.in

TEST CERTIFICATE

REPORTING DATE: 31-01-2024

NAME OF INDUSTRY: **Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Type of Sample:	Ambient Air
Time period for sampling	1440 Minutes
Monitoring Period	07-11-2023 to 27-01-2024
Sample Identification no.	CPTLE/LS/2023/06(A)
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and As per Requirements.
Sample Location	Kuthar Beet
Coordinates	31°21'54.89"N & 76°12'58.67"E
Sample Collected By	Daljeet Singh & team

RESULTS

S. No.	Date	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1.	07-11-2023	35.4	65.4	6.4	10.5	ND
2.	09-11-2023	34.5	64.5	5.7	9.4	ND
3.	14-11-2023	37.8	67.6	6.8	10.5	ND
4.	16-11-2023	36.9	68.5	6.9	9.6	ND
5.	21-11-2023	34.7	69.2	6.5	9.8	ND
6.	23-11-2023	35.8	64.3	5.8	10.9	ND
7.	28-11-2023	38.9	67.4	5.4	9.5	ND
8.	30-11-2023	34.8	65.6	5.7	10.4	ND
9.	07-12-2023	37.7	68.9	6.7	9.7	ND
10.	09-12-2023	35.4	69.5	5.8	9.8	ND
11.	14-12-2023	36.9	65.4	6.9	10.9	ND
12.	16-12-2023	36.8	64.9	5.5	9.9	ND
13.	21-12-2023	34.5	67.5	6.6	10.8	ND
14.	23-12-2023	37.9	64.4	5.9	9.5	ND
15.	28-12-2023	36.4	68.7	6.5	9.6	ND
16.	30-12-2023	36.7	68.8	6.9	10.4	ND
17.	04-01-2024	38.5	68.9	6.8	10.7	ND
18.	06-01-2024	35.9	68.9	5.9	9.8	ND
19.	11-01-2024	39.9	67.8	6.5	9.9	ND
20.	13-01-2024	36.9	66.4	5.8	9.5	ND
21.	18-01-2024	39.5	65.8	6.6	9.6	ND
22.	20-01-2024	35.9	66.5	5.6	9.8	ND
23.	25-01-2024	38.9	69.6	6.6	9.8	ND
24.	27-01-2024	37.9	69.5	5.9	9.9	ND
Prescribed Standard		**60**	**100**	**80**	**80**	**4**

ND-Not Detected

(Chemist In-Charge)
Date: 31/1/24

(Reviewed & Authorized By)
Date: 31/01/2024

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TEST CERTIFICATE

REPORTING DATE: 31-01-2024

NAME OF INDUSTRY: **Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Type of Sample:	Ambient Air
Time period for sampling	1440 Minutes
Monitoring Period	07-11-2023 to 27-01-2024
Sample Identification no.	CPTLE/LS/2023/07(A)
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and As per Requirements.
Sample Location	Dhugge
Coordinates:	31°21'21.61"N & 76°13'14.45"E
Sample Collected By	Daljeet Singh & team

RESULTS

S. No.	Date	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1.	07-11-2023	35.5	66.5	5.4	10.9	ND
2.	09-11-2023	34.4	64.4	4.5	11.8	ND
3.	14-11-2023	37.7	67.5	6.8	11.4	ND
4.	16-11-2023	35.4	68.6	5.7	10.5	ND
5.	21-11-2023	36.5	69.8	6.8	9.6	ND
6.	23-11-2023	34.6	68.7	6.9	9.5	ND
7.	28-11-2023	37.9	67.4	6.6	9.5	ND
8.	30-11-2023	38.9	64.5	5.5	10.6	ND
9.	07-12-2023	34.8	65.6	6.4	10.5	ND
10.	09-12-2023	35.4	66.6	5.7	9.8	ND
11.	14-12-2023	36.5	65.6	5.8	9.9	ND
12.	16-12-2023	35.5	64.6	5.9	10.5	ND
13.	21-12-2023	36.6	67.9	5.5	10.6	ND
14.	23-12-2023	35.5	64.5	5.4	9.4	ND
15.	28-12-2023	38.7	65.9	6.7	9.5	ND
16.	30-12-2023	37.6	66.8	6.8	9.6	ND
17.	04-01-2024	38.5	64.4	5.9	9.6	ND
18.	06-01-2024	39.5	67.5	6.6	10.9	ND
19.	11-01-2024	35.9	64.6	6.5	9.0	ND
20.	13-01-2024	34.5	65.6	5.4	10.3	ND
21.	18-01-2024	37.8	64.3	6.7	10.5	ND
22.	20-01-2024	34.5	64.6	6.9	9.6	ND
23.	25-01-2024	35.6	66.4	6.9	9.5	ND
24.	27-01-2024	38.9	66.5	6.9	9.8	ND
Prescribed Standard		**60**	**100**	**80**	**80**	**4**

ND-Not Detected

(Chemist In-Charge)
Date: 31/1/24

(Reviewed & Authorized By)
Date: 31/01/2024

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TEST CERTIFICATE

REPORTING DATE: 31-01-2024

NAME OF INDUSTRY: **Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Type of Sample:	Ambient Air
Time period for sampling	1440 Minutes
Monitoring Period	07-11-2023 to 27-01-2024
Sample Identification no.	CPTLE/LS/2023/08(A)
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and As per Requirements.
Sample Location	Bathu
Coordinates:	31°19'30.67"N & 76°16'17.83"E
Sample Collected By	Daljeet Singh & team

RESULTS

S. No.	Date	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1.	07-11-2023	34.7	66.5	6.4	10.6	ND
2.	09-11-2023	35.5	64.4	5.5	10.4	ND
3.	14-11-2023	37.6	67.8	4.6	10.2	ND
4.	16-11-2023	38.6	68.7	7.4	9.9	ND
5.	21-11-2023	38.5	69.8	4.7	9.7	ND
6.	23-11-2023	35.4	65.9	5.8	9.8	ND
7.	28-11-2023	39.7	64.9	5.8	9.8	ND
8.	30-11-2023	35.5	67.8	6.9	10.0	ND
9.	07-12-2023	34.8	65.7	5.9	10.4	ND
10.	09-12-2023	37.7	66.9	6.8	9.2	ND
11.	14-12-2023	34.8	66.6	6.4	9.6	ND
12.	16-12-2023	37.9	66.7	5.4	9.1	ND
13.	21-12-2023	37.8	65.8	6.5	10.7	ND
14.	23-12-2023	35.7	65.9	5.6	10.8	ND
15.	28-12-2023	36.7	64.6	6.9	10.7	ND
16.	30-12-2023	34.7	67.8	7.4	9.9	ND
17.	04-01-2024	37.8	68.7	5.5	10.3	ND
18.	06-01-2024	35.9	69.8	6.7	9.1	ND
19.	11-01-2024	36.8	67.9	5.5	9.0	ND
20.	13-01-2024	35.8	68.9	6.6	9.5	ND
21.	18-01-2024	37.9	69.8	5.9	10.6	ND
22.	20-01-2024	37.5	67.6	6.9	10.1	ND
23.	25-01-2024	37.8	68.9	6.8	9.7	ND
24.	27-01-2024	38.7	69.8	6.8	9.8	ND
Prescribed Standard		**60**	**100**	**80**	**80**	**4**

ND-Not Detected

(Chemist-In-Charge)
Date: 31/1/24

(Reviewed & Authorized By)
Date: 31/01/2024

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Website : www.cptl.co.in

TEST CERTIFICATE

REPORTING DATE: 11-11-2023

NAME OF INDUSTRY:	**Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Date of Sample Collection	06-11-2023
Type of Sample	Ground water
Sample Identification No.	CPTLE/LS/2023/01-04(W)
Point of Sample Collection	Borewell- GW_1-Project Site, GW_2–Palakwah, GW_3–Beeton, GW_4– Tahliwal
Coordinates:	GW_1–31°21'50.96"N & 76°14'02.35"E, GW_2–31°23'40.99"N & 76°14'55.20"E, GW_3–31°20'21.10"N & 76°14'9.52"E, GW_4– 31°20'57.65"N & 76°16'6.53"E
Environmental Conditions	Normal
Quantity & Packaging	2.0 liters in plastic bottle +250ml in sterilized glass bottle each
Analysis Duration	07-11-2023 to 11-11-2023
Sample Collected By	Daljeet Singh & Team
Visual Observation	Clear and colorless.

TEST RESULTS

S. N	Parameters	Results				Acceptable Limit	Permissible Limit	Test Method
		GW_1	GW_2	GW_3	GW_4			
1.	pH	7.84	7.55	7.34	7.69	6.5-8.5	No relaxation	IS:3025 (P-11): 2022
2.	Color, HU	<5	<5	<5	<5	5	15	IS:3025 (P-4): 2021
3.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS:3025:P-5:2021
4.	Turbidity, NTU	<1	<1	<1	<1	1 Max.	5	IS:3025 (P-10): 1984 (RA:2017)
5.	Total Dissolved Solids, mg/l	274	282	280	268	500 Max.	2000	IS:3025 (P-16) : 1984 (RA:2019)
6.	Total Hardness (as $CaCO_3$), mg/l	250	245	240	250	200 Max.	600	IS:3025 (P-21): 2009 (RA:2019)
7.	Calcium (as Ca^{++}), mg/l	38.2	32.4	30.2	40.4	75 Max.	200	IS:3025 (P-40): 2004 (RA:2019)
8.	Magnesium (as Mg^{++}), mg/l	12.4	16.8	18.2	14.6	30 Max.	100	IS:3025:P-46: 1994 (RA:2019)
9.	Total Alkalinity (as $CaCO_3$), mg/l	240	250	230	240	200 Max.	600	IS:3025 (P-23): 1986 (RA:2019)
10.	Chloride (as Cl), mg/l	14.4	12.6	14.4	12.2	250 Max.	1000	IS:3025 (P-32): 1988 (RA:2019)
11.	Sulphate (as SO_4), mg/l	18.2	16.4	10.4	18.8	200 Max.	400	IS:3025 (P-24): 2022
12.	Iron (as Fe), mg/l	0.11	0.10	0.11	0.11	1.0 Max.	No relaxation	IS: 3025(Part-53), 2003
13.	Zinc (as Zn), mg/l	ND	ND	ND	ND	5 Max.	15	IS:3025 (P-49) : 1994 (RA:2019)
14.	Nitrate (as NO_3), mg/l	ND	ND	ND	ND	45 Max.	No relaxation	IS: 3025(Part-34), 1986
15.	Chromium (as Cr), mg/l	ND	ND	ND	ND	0.05 Max.	No relaxation	IS:3025 (P-52): 2003 (RA:2019)
16.	Manganese (as Mn), mg/l	ND	ND	ND	ND	0.1 Max.	0.3	APHA-3030D & 3111B, 23rd Edition - 2017

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Website : www.cptl.co.in

Type of Sample	Ground water
Date of Sample Collection	06-11-2023

S. N	Parameters	Results				Acceptable Limit	Permissible Limit	Test Method
		GW_1	GW_2	GW_3	GW_4			
17.	Mercury (as Hg), mg/l	ND	ND	ND	ND	0.001 Max.	No relaxation	IS:3025:P-48:1994 (RA:2019)
18.	Cadmium (as Cd), mg/l	ND	ND	ND	ND	0.003 Max.	No relaxation	IS:3025 (P-41): 1992 (RA:2019)
19.	Fluoride (as F), mg/l	ND	ND	ND	ND	1.0 Max.	1.5	APHA 4500 F- D, 23rd Edition 2017 SPANDS Method.
20.	Residual Chlorine (as Cl_2), mg/l	ND	ND	ND	ND	ND	ND	APHA-4500 Cl B, 23rd Edition-2017.
21.	E.coli/100ml	Absent	Absent	Absent	Absent	Absent	Absent	IS : 1622-1981 ,MPN Method.
22.	Total Coliform, MPN/100ml	<2	<2	<2	<2	<2	<2	IS: 1622-1981(RA2009) ,MPN Method.

ND- Not Detected

(Chemist In-Charge)
Date: 11/11/23

(Reviewed & Authorized By)
Date: 11/11/23

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TEST CERTIFICATE

REPORTING DATE: 14-11-2023

NAME OF INDUSTRY:	**Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Date of Sample Collection	09-11-2023
Type of Sample	Ground water
Sample Identification No.	CPTLE/LS/2023/05-08(W)
Point of Sample Collection	Borewell- GW_5–Haroli., GW_6 – Kuthar Beet, GW_7 – Dhugge, GW_8 –Bathu
Coordinates	GW_5– 31°25'16.46"N & 76°13'55.78"E, GW_6 – 31°21'54.89"N & 76°12'58.67"E, GW_7 – 31°21'21.61"N & 76°13'14.45"E, GW_8 – 31°19'30.67"N & 76°16'17.83"E
Environmental Conditions	Normal
Quantity & Packaging	2.0 liters in plastic bottle +250ml in sterilized glass bottle each
Analysis Duration	10-11-2023 to 14-11-2023
Sample Collected By	Daljeet Singh & Team
Visual Observation	Clear and colorless.

TEST RESULTS

S. N	Parameters	Results				Acceptable Limit	Permissible Limit	Test Method
		GW_5	GW_6	GW_7	GW_8			
1.	pH	7.77	7.89	7.58	7.43	6.5-8.5	No relaxation	IS:3025 (P-11): 2022
2.	Color, HU	<5	<5	<5	<5	5	15	IS:3025 (P-4): 2021
3.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS:3025:P-5:2021
4.	Turbidity, NTU	<1	<1	<1	<1	1 Max.	5	IS:3025 (P-10): 1984 (RA:2017)
5.	Total Dissolved Solids, mg/l	284	270	288	260	500 Max.	2000	IS:3025 (P-16) : 1984 (RA:2019)
6.	Total Hardness (as $CaCO_3$), mg/l	260	260	270	240	200 Max.	600	IS:3025 (P-21): 2009 (RA:2019)
7.	Calcium (as Ca^{++}), mg/l	36.6	38.8	40.4	38.8	75 Max.	200	IS:3025 (P-40): 2004 (RA:2019)
8.	Magnesium (as Mg^{++}), mg/l	10.2	14.4	12.4	10.2	30 Max.	100	IS:3025:P-46: 1994 (RA:2019)
9.	Total Alkalinity (as $CaCO_3$), mg/l	250	240	220	230	200 Max.	600	IS:3025 (P-23): 1986 (RA:2019)
10.	Chloride (as Cl), mg/l	14.6	10.6	16.4	18.2	250 Max.	1000	IS:3025 (P-32): 1988 (RA:2019)
11.	Sulphate (as SO_4), mg/l	22.2	24.6	28.4	22.2	200 Max.	400	IS:3025 (P-24): 2022
12.	Iron (as Fe), mg/l	0.13	0.12	0.12	0.10	1.0 Max.	No relaxation	IS: 3025(Part-53), 2003
13.	Zinc (as Zn), mg/l	ND	ND	ND	ND	5 Max.	15	IS:3025 (P-49) : 1994 (RA:2019)
14.	Nitrate (as NO_3), mg/l	ND	ND	ND	ND	45 Max.	No relaxation	IS: 3025(Part-34), 1986
15.	Chromium (as Cr), mg/l	ND	ND	ND	ND	0.05 Max.	No relaxation	IS:3025 (P-52): 2003 (RA:2019)
16.	Manganese (as Mn), mg/l	ND	ND	ND	ND	0.1 Max.	0.3	APHA-3030D & 3111B, 23rd Edition - 2017

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Website : www.cptl.co.in

Type of Sample	Ground water
Date of Sample Collection	09-11-2023

S. N	Parameters	Results				Acceptable Limit	Permissible Limit	Test Method
		GW_5	GW_6	GW_7	GW_8			
17.	Mercury (as Hg), mg/l	ND	ND	ND	ND	0.001 Max.	No relaxation	IS:3025:P-48:1994 (RA:2019)
18.	Cadmium (as Cd), mg/l	ND	ND	ND	ND	0.003 Max.	No relaxation	IS:3025 (P-41): 1992 (RA:2019)
19.	Fluoride (as F), mg/l	ND	ND	ND	ND	1.5 Max.	1.5	APHA 4500 F- D, 23rd Edition 2017 SPANDS Method.
20.	Residual Chlorine (as Cl_2), mg/l	ND	ND	ND	ND	ND	ND	APHA-4500 Cl B, 23rd Edition-2017.
21.	E.coli/100ml	Absent	Absent	Absent	Absent	Absent	Absent	IS : 1622-1981 ,MPN Method.
22.	Total Coliform, MPN/100ml	<2	<2	<2	<2	<2	<2	IS: 1622-1981(RA2009) ,MPN Method.

ND- Not Detected

(Chemist-In-Charge)
Date: 14/11/23

(Reviewed & Authorized By)
Date: 14/11/2023

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TEST CERTIFICATE

REPORTING DATE: 11-11-2023

NAME OF INDUSTRY:	**Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Date of Sample Collection	06-11-2023
Type of Sample	Soil sample
Sample Identification No.	CPTLE/LS/2023/01-04(S)
Point of Sample Collection	SQ_1-Project Site, SQ_2–Palakwah, SQ_3–Beeton, SQ_4– Tahliwal
Coordinates:	SQ_1- 31°21'50.96"N & 76°14'02.35"E, SQ_2– 31°23'40.99"N & 76°14'55.20"E, SQ_3– 31°20'21.10"N & 76°14'9.52"E ,SQ_4– 31°20'57.65"N & 76°16'6.53"E
Environmental Conditions	Normal
Quantity & Packaging	500 gm in plastic bag each
Analysis Duration	07-11-2023 to 11-11-2023
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

S. N	Parameters	Unit	Results				Test Method
			SQ_1	SQ_2	SQ_3	SQ_4	
1.	pH (1:2.5)	--	7.48	7.58	7.72	7.56	IS:2720(P-26),1987
2.	Electrical Conductivity (1:2)	µmhos/cm	365	325	348	333	IS:14767,2000
3.	Texture	--	Sandy loam	Sandy loam	Sandy loam	Sandy loam	CPTL, Lab SOP No. 58
4.	Bulk Density	(gm/cm^3)	1.45	1.38	1.15	1.58	IS 2720(P-3),1983
5.	Soil Moisture Content	%	10.6	8.8	6.6	4.5	IS 2720(P-2,1973
6.	Color	--	Brown	Brown	Light Brown	Brown	Handbook of Agriculture, ICAR
7.	Available Calcium(as Ca)	(mg/kg)	52.6	44.4	42.6	36.8	Handbook of Agriculture, ICAR
8.	Available Magnesium (as Mg)	(mg/kg)	18.8	16.8	22.2	18.8	Handbook of Agriculture, ICAR
9.	Available Sodium(as Na)	Kg/hac	150	132	128	142	Lab SOP No. 49: 2019
10.	Available Potassium (as K)	Kg/hac	38.8	28.2	36.4	30.6	Lab SOP No. 49: 2019
11.	Available Nitrogen	(%)	1.36	1.42	1.18	1.26	Lab SOP No. SP 53: 2010
12.	Organic Matter	(%)	0.41	0.38	0.42	0.38	IS 2720(P-22),2001
13.	Available Phosphorus (as P)	Kg/hac	8.8	6.6	6.8	5.6	Lab SOP No. SP 51 : 2019
14.	Cation Exchange Capacity	(meq/100gm)	0.55	0.84	0.39	0.45	CPTL, Lab SOP No. 58
15.	Iron (as Fe)	(mg/kg)	1.38	1.42	1.24	1.39	USEPA-3050-B-1996: 1996
16.	Zinc (as Zn)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
17.	Lead (as Pb)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996

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Website : www.cptl.co.in

Type of Sample	Soil
Date of Sample Collection	06-11-2023

S. N	Parameters	Unit	Results				Test Method
			SQ_1	SQ_2	SQ_3	SQ_4	
18.	Manganese (as Mn)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
19.	Chromium (as Cr)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
20.	Cadmium (as Cd)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
21.	Copper (as Cu)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996

ND- Not Detected

(Chemist In-Charge)
Date: 21/11/23

(Reviewed & Authorized By)
Date: 21/11/2023

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TEST CERTIFICATE

REPORTING DATE: 14-11-2023

NAME OF INDUSTRY:	**Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Date of Sample Collection	09-11-2023
Type of Sample	Soil sample
Sample Identification No.	CPTLE/LS/2023/05-08(S)
Point of Sample Collection	SQ_5–Haroli., SQ_6– Kuthar Beet, SQ_7– Dhugge, SQ_8- Bathu
Coordinates:	SQ_5–31°25'16.46"N & 76°13'55.78"E, SQ_6–31°21'54.89"N & 76°12'58.67"E, SQ_7–31°21'21.61"N & 76°13'14.45"E , SQ_8- 31°19'30.67"N & 76°16'17.83"E
Environmental Conditions	Normal
Quantity & Packaging	500 gm in plastic bag each
Analysis Duration	10-11-2023 to 14-11-2023
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

S. N	Parameters	Unit	Results				Test Method
			SQ_5	SQ_6	SQ_7	SQ_8	
1.	pH (1:2.5)	--	7.78	7.58	7.44	7.38	IS:2720(P-26),1987
2.	Electrical Conductivity (1:2)	µmhos/cm	358	336	321	318	IS:14767,2000
3.	Texture	--	Sandy loam	Sandy loam	Sandy loam	Sandy loam	CPTL, Lab SOP No. 58
4.	Bulk Density	(gm/cm^3)	1.32	1.28	1.46	1.33	IS 2720(P-3),1983
5.	Soil Moisture Content	%	8.8	9.9	10.2	8.8	IS 2720(P-2,1973
6.	Color	--	Brown	Brown	Light Brown	Brown	Handbook of Agriculture, ICAR
7.	Available Calcium(as Ca)	(mg/kg)	63.4	52.5	46.6	50.8	Handbook of Agriculture, ICAR
8.	Available Magnesium (as Mg)	(mg/kg)	28.8	26.6	22.6	24.8	Handbook of Agriculture, ICAR
9.	Available Sodium(as Na)	Kg/hac	164	152	148	138	Lab SOP No. 49: 2019
10.	Available Potassium (as K)	Kg/hac	34.4	40.4	36.6	38.4	Lab SOP No. 49: 2019
11.	Available Nitrogen	(%)	1.54	1.52	1.36	1.84	Lab SOP No. SP 53: 2010
12.	Organic Matter	(%)	0.52	0.44	0.39	0.46	IS 2720(P-22),2001
13.	Available Phosphorus (as P)	Kg/hac	8.9	10.4	8.6	5.6	Lab SOP No. SP 51 : 2019
14.	Cation Exchange Capacity	(meq/100gm)	0.58	0.84	0.66	0.52	CPTL, Lab SOP No. 58
15.	Iron (as Fe)	(mg/kg)	1.38	1.36	1.44	1.58	USEPA-3050-B-1996: 1996
16.	Zinc (as Zn)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
17.	Lead (as Pb)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996

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Website : www.cptl.co.in

Type of Sample	Soil
Date of Sample Collection	09-11-2023

S. N	Parameters	Unit	Results				Test Method
			SQ_5	SQ_6	SQ_7	SQ_8	
18.	Manganese (as Mn)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
19.	Chromium (as Cr)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
20.	Cadmium (as Cd)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
21.	Copper (as Cu)	(mg/kg)	ND	ND	ND	ND	USEPA-3050-B-1996: 1996

ND- Not Detected

(Chemist-In-Charge)
Date: 14/11/23

(Reviewed & Authorized By)
Date: 14/11/2023

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TEST CERTIFICATE

REPORTING DATE: 14-11-2023

NAME OF INDUSTRY:	**Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Sampling Plan Ref. No:	CPTL/NM/08	**Type of Sample:**	Air Quality w.r.t Noise
Date of Monitoring:	06-11-2023 & 09-11-2023	**Environmental Conditions:**	Normal
Sample Identification No.:	CPTLE/LS/2023/01-08(AN)	**Monitoring Done By:**	Daljeet Singh & Team
Nature of Sample:	Noise Level		

TECHNICAL DATA

S. No.	Locations	Value in dB(A) (Average)		Test Method
		Day Time (1 Hour)	Night Time (1 Hour)	
01.	Project Site (31°21'50.96"N 76°14'02.35"E)	48.4	35.4	IS 9989:1981(Rev.2001)
02.	Beeton (31°20'21.10"N 76°14'9.52"E)	46.5	33.5	IS 9989:1981(Rev.2001)
03.	Dhugge (31°21'21.61"N 76°13'14.45"E)	45.7	31.6	IS 9989:1981(Rev.2001)
04.	Chhetran (31°21'28.16"N 76°13'19.00"E)	44.8	34.2	IS 9989:1981(Rev.2001)
05.	Nangal Khurd (31°21'59.60"N 76°15'27.97"E)	45.9	32.3	IS 9989:1981(Rev.2001)
06.	Palakwah (31°23'40.99"N 76°14'55.20"E)	46.9	33.6	IS 9989:1981(Rev.2001)
07.	Kuthar beet (31°21'54.89"N 76°12'58.67"E)	43.6	32.5	IS 9989:1981(Rev.2001)
08.	Kungrat (31°21'10.01"N 76°15'28.76"E)	44.6	31.7	IS 9989:1981(Rev.2001)

(Chemist-In-Charge)
Date: 14/11/23

(Reviewed & Authorized By)
Date: 14/11/2023

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CHANDIGARH POLLUTION TESTING LABORATORY
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NABET Accredited EIA Consultant

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Phone : 0172-5090312
E-mail : cptle126@gmail.com ; lab@cptl.co.in
Website : www.cptl.co.in

TEST CERTIFICATE

REPORTING DATE: 14-11-2023

NAME OF INDUSTRY:	**Sh. LAKHWINDER SINGH (Prop.), M/s. LAKHWINDER SINGH STONE CRUSHER & SCREENING PLANT, KHASRA No.-358,553 & 557 FALLING IN MAUZA/MOHAL KUNGRAT, TEHSIL- HAROLI, UNA (H.P).**

SAMPLE PARTICULARS

Type of Sample	Surface Water
Quantity & Packaging	2.0 liters in plastic bottle+250ml in sterilized glass bottle
Sample Identification No.	CPTLE/LS/2023/01 (SW)
Point of Sample Collection	Soan Khad
Coordinates	Upstream- 31°23'32.43"N & 76°16'58.92"E
Date of Sample Collection	09-11-2023
Date of Sample Received in Lab	10-11-2023
Analysis Duration	10-11-2023 to 14-11-2023
Sample Collected By	Daljeet Singh & Team
Sampling Protocol	IS: 3025 (P-1) 1987 R1998 Amdt-1

TEST RESULTS

S. No.	Parameters	Upstream	Test Method
1.	pH	7.33	IS:3025 (P-11): 1983
2.	Color, HU	<5	IS:3025:P-4:1983
3.	Odour	Agreeable	IS:3025:P-5:1983
4.	Turbidity, NTU	<1	IS:3025 (P-10): 1984
5.	Total Dissolved Solids, mg/l	168	IS:3025 (P-16): 1984
6.	Total Suspended Solids, mg/l	6.8	IS:3025 (P-17): 1984
7.	Total Hardness (as $CaCO_3$), mg/l	118	IS:3025 (P-21): 2009
8.	Total Alkalinity (as $CaCO_3$), mg/l	74.0	IS:3025 (P-23): 1986
9.	Chemical Oxygen Demand,mg/l	8.8	IS:3025 (P-58): 2006
10.	BOD(at 27°C) for 3 days,mg/l	2.6	IS:3025(P-44)1993
11.	Dissolved Oxygen,mg/l	6.6	IS:3025 (P-38): 1989
12.	Calcium(as Ca^{++}),mg/l	32.8	IS:3025:P-40:1991:RA:2003
13.	Magnesium (as Mg^{++}), mg/l	10.4	IS:3025:P-46: 1994
14.	Sodium (as Na^{+}), mg/l	16.2	IS:3025:P-45:1983:RA:2003
15.	Potassium (as K), mg/l	7.8	IS:3025:P-45:1983
16.	Nitrate (as NO_3),mg/l	2.2	IS:3025 (P-34) : 1988
17.	Chloride (as Cl), mg/l	4.4	IS:3025 (P-32): 1988
18.	Sulphate (as SO_4), mg/l	6.4	IS:3025 P-24 : 1986
19.	Iron (as Fe), mg/l	1.2	IS:3025(Part-53), 2003 & C/1, 10 Phenanthroline Method.
20.	Total Chromium (as Cr), mg/l	ND	IS:3025 (P-52): 2003
21.	Zinc (as Zn), mg/l	1.12	IS:3025 (P-49) : 1994
22.	Fluoride (as F) mg/l	1.2	IS:3025 (P-60) : 2008
23.	Mercury (as Hg) mg/l	ND	IS:3025:P-48):1994:RA-2003
24.	Boron (as B),mg/l	ND	IS:3025 (P-57): 2005
25.	Aluminum (as Al) mg/l	ND	IS:3025:(P-55):2003

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Website : www.cptl.co.in

Type of Sample	Surface Water (Soan River)
Date of Sample Received in Lab	10-11-2023

S. No.	Parameters	Upstream	Test Method
26.	Cadmium (as Cd), mg/l	ND	IS:3025 (P-41): 1992
27.	Fecal Coliform, MPN/100 ml	30.0	IS:1622-1981-(RA2009)
28.	Total Coliform, MPN/100 ml	70	IS:1622-1981-(RA2009)

ND-Not Detected

(Chemist In-Charge)
Date: 14/11/23

(Reviewed & Authorized By)
Date: 14/11/2023

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ANNEXURE-X (b)

TEST REPORTS (NOVEMBER, 2025)

CHANDIGARH POLLUTION TESTING LABORATORY
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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(AA)

REPORT No. CPTLE/MPSC/2025/11/01/01-08(A)
REPORTING DATE: 04-12-2025

NAME OF INDUSTRY: SH. ISHAR SINGH (PROP).,
M/s. MAA PITAMBRA STONE CRUSHER,
KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN,
TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Type of Sample	Ambient Air
Time period for Sampling	1440 Minutes
Sampling Plan Ref. No.	CPTLF7.3-I
Samling Method	CPTL/SM/01
Date of Sampling	03-11-2025, 05-11-2025, 10-11-2025, 12-11-2025, 17-11-2025, 19-11-2025, 24-11-2025 & 26-11-2025
Point of Sample Collection	Project Site (31°23'4.40"N & 76°13'50.75"E)
Environmental Conditions	Normal
Sample Identification No.	CPTLE/MPSC/2025/11/01/01-08(A)
Analysis Duration	04-11-2025 To 29-11-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

Date of Sample Received	PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	NH_3 (µg/m³)	O_3 (µg/m³)	Benzene (µg/m³)	BaP (ng/m³)	CO (mg/m3)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m³)
04-11-2025	68.2	35.4	5.4	8.2	BDL	20.2	BDL	BDL	0.55	BDL	BDL	BDL
06-11-2025	66.1	33.3	5.4	9.8	BDL	21.3	BDL	BDL	0.51	BDL	BDL	BDL
11-11-2025	67.2	32.5	5.2	8.6	BDL	21.4	BDL	BDL	0.54	BDL	BDL	BDL
13-11-2025	68.8	33.8	5.4	8.5	BDL	20.4	BDL	BDL	0.52	BDL	BDL	BDL
18-11-2025	66.8	33.9	5.5	9.4	BDL	20.3	BDL	BDL	0.55	BDL	BDL	BDL
20-11-2025	63.4	32.5	5.4	7.6	BDL	20.1	BDL	BDL	0.52	BDL	BDL	BDL
25-11-2025	70.4	35.0	5.3	8.3	BDL	20.2	BDL	BDL	0.51	BDL	BDL	BDL
27-11-2025	68.6	33.3	5.3	8.2	BDL	21.6	BDL	BDL	0.52	BDL	BDL	BDL
Prescribed Standard	**100**	**60**	**80**	**80**	**400**	**100**	**05**	**01**	**4.0**	**1.0**	**20.0**	**06**
DL	-	-	-	-	**20.0**	-	**0.5**	**0.9**	-	**0.1**	**5.0**	**0.7**
Test Methods	**IS:5182 (P-23)**	**IS:5182 (P-24)**	**IS:5182 (P-2)**	**IS:5182 (P-6)**	**IS:5182 (P-25)**	**IS:5182 (P-9)**	**IS:5182 (P-11)**	**IS:5182 (P-12)**	**IS:5182 (P-10)**	**IS:5182 (P-22)**	**IS:5182 (P-26)**	**CPCB Manual**

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 04/12/25

(Reviewed & Authorized By)
Date: 04/12/2025

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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(AA)

REPORT No. CPTLE/MPSC/2025/07/01-08(A)
REPORTING DATE: 04-12-2025

NAME OF INDUSTRY: SH. ISHAR SINGH (PROP)., M/s. MAA PITAMBRA STONE CRUSHER, KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN, TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Type of Sample	Ambient Air
Time period for Sampling	1440 Minutes
Sampling Plan Ref. No.	CPTLF7.3-I
Samling Method	CPTL/SM/01
Date of Sampling	06-11-2025, 08-11-2025, 13-11-2025, 15-11-2025, 20-11-2025, 22-11-2025, 27-11-2025 & 29-11-2025
Point of Sample Collection	Dhugge (31°21'16.03"N & 76°13'19.17"E)
Environmental Conditions	Normal
Sample Identification No.	CPTLE/MPSC/2025/07/01-08(A)
Analysis Duration	07-11-2025 To 03-12-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

Date of Sample Received	PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	NH_3 (µg/m³)	O_3 (µg/m³)	Benzene (µg/m³)	BaP (ng/m³)	CO (mg/m3)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m³)
07-11-2025	65.5	35.4	5.2	10.2	BDL	21.6	BDL	BDL	0.51	BDL	BDL	BDL
10-11-2025	63.4	32.1	6.3	9.8	BDL	20.3	BDL	BDL	0.56	BDL	BDL	BDL
14-11-2025	61.7	34.2	6.4	9.6	BDL	20.1	BDL	BDL	0.55	BDL	BDL	BDL
17-11-2025	64.8	33.8	6.6	10.1	BDL	22.2	BDL	BDL	0.54	BDL	BDL	BDL
21-11-2025	63.5	36.7	6.6	10.4	BDL	20.3	BDL	BDL	0.53	BDL	BDL	BDL
24-11-2025	62.5	38.3	5.9	9.9	BDL	20.4	BDL	BDL	0.54	BDL	BDL	BDL
28-11-2025	61.4	35.4	5.8	9.8	BDL	21.6	BDL	BDL	0.55	BDL	BDL	BDL
01-12-2025	64.3	36.7	6.4	10.3	BDL	22.2	BDL	BDL	0.53	BDL	BDL	BDL
Prescribed Standard	**100**	**60**	**80**	**80**	**400**	**100**	**05**	**01**	**4.0**	**1.0**	**20.0**	**06**
DL	-	-	-	-	**20.0**	-	**0.5**	**0.9**	-	**0.1**	**5.0**	**0.7**
Test Methods	**IS:5182 (P-23)**	**IS:5182 (P-24)**	**IS:5182 (P-2)**	**IS:5182 (P-6)**	**IS:5182 (P-25)**	**IS:5182 (P-9)**	**IS:5182 (P-11)**	**IS:5182 (P-12)**	**IS:5182 (P-10)**	**IS:5182 (P-22)**	**IS:5182 (P-26)**	**CPCB Manual**

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 04/12/25

(Reviewed & Authorized By)
Date: 04/12/2025

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Phone : 0172-5090312
E-mail : cptle126@gmail.com ; lab@cptl.co.in
Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(AA)

REPORT No. CPTLE/MPSC/2025/06/01-08(A)
REPORTING DATE: 04-12-2025

NAME OF INDUSTRY: SH. ISHAR SINGH (PROP)., M/s. MAA PITAMBRA STONE CRUSHER, KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN, TEHSIL.-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Type of Sample	Ambient Air
Time period for Sampling	1440 Minutes
Sampling Plan Ref. No.	CPTLF7.3-I
Samling Method	CPTL/SM/01
Date of Sampling	06-11-2025, 08-11-2025, 13-11-2025, 15-11-2025, 20-11-2025, 22-11-2025, 27-11-2025 & 29-11-2025
Point of Sample Collection	Kutharbeet (31°22'0.78"N & 76°11'34.24"E)
Environmental Conditions	Normal
Sample Identification No.	CPTLE/MPSC/2025/06/01-08(A)
Analysis Duration	07-11-2025 To 03-12-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

Date of Sample Received	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	NH_3 ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	BaP (ng/m^3)	CO (mg/m3)	Pb ($\mu g/m^3$)	Ni (ng/m^3)	As (ng/m^3)
07-11-2025	64.8	32.9	5.9	10.2	BDL	20.2	BDL	BDL	0.52	BDL	BDL	BDL
10-11-2025	62.7	32.9	6.1	9.9	BDL	19.6	BDL	BDL	0.53	BDL	BDL	BDL
14-11-2025	63.8	31.3	6.2	9.8	BDL	21.3	BDL	BDL	0.52	BDL	BDL	BDL
17-11-2025	61.9	32.4	5.8	10.1	BDL	20.2	BDL	BDL	0.52	BDL	BDL	BDL
21-11-2025	62.9	33.3	6.3	10.1	BDL	20.2	BDL	BDL	0.53	BDL	BDL	BDL
24-11-2025	63.9	31.3	6.2	9.6	BDL	21.4	BDL	BDL	0.51	BDL	BDL	BDL
28-11-2025	64.5	31.9	6.3	9.9	BDL	21.2	BDL	BDL	0.51	BDL	BDL	BDL
01-12-2025	62.3	31.3	6.3	9.8	BDL	20.2	BDL	BDL	0.53	BDL	BDL	BDL
Prescribed Standard	**100**	**60**	**80**	**80**	**400**	**100**	**05**	**01**	**4.0**	**1.0**	**20.0**	**06**
DL	-	-	-	-	20.0	-	0.5	0.9	-	0.1	5.0	0.7
Test Methods	IS:5182 (P-23)	IS:5182 (P-24)	IS:5182 (P-2)	IS:5182 (P-6)	IS:5182 (P-25)	IS:5182 (P-9)	IS:5182 (P-11)	IS:5182 (P-12)	IS:5182 (P-10)	IS:5182 (P-22)	IS:5182 (P-26)	CPCB Manual

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 04/12/25

(Reviewed & Authorized By)
Date: 04/12/2025

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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(AA)

REPORT No. CPTLE/MPSC/2025/11/05/01-08(A)
REPORTING DATE: 04-12-2025

NAME OF INDUSTRY: SH. ISHAR SINGH (PROP)., M/s. MAA PITAMBRA STONE CRUSHER, KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN, TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Type of Sample	Ambient Air
Time period for Sampling	1440 Minutes
Sampling Plan Ref. No.	CPTLF7.3-I
Samling Method	CPTL/SM/01
Date of Sampling	06-11-2025, 08-11-2025, 13-11-2025, 15-11-2025, 20-11-2025, 22-11-2025, 27-11-2025 & 29-11-2025
Point of Sample Collection	Haroli (31°25'1.09"N & 76°13'27.49"E)
Environmental Conditions	Normal
Sample Identification No.	CPTLE/MPSC/2025/11/05/01-08(A)
Analysis Duration	07-11-2025 To 03-12-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

Date of Sample Received	PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	NH_3 (µg/m³)	O_3 (µg/m³)	Benzene (µg/m³)	BaP (ng/m³)	CO (mg/m3)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m³)
07-11-2025	62.4	31.7	6.1	9.8	BDL	21.3	BDL	BDL	0.51	BDL	BDL	BDL
10-11-2025	63.5	33.3	6.2	9.9	BDL	20.3	BDL	BDL	0.53	BDL	BDL	BDL
14-11-2025	65.7	30.8	5.9	8.2	BDL	20.2	BDL	BDL	0.51	BDL	BDL	BDL
17-11-2025	63.8	33.3	5.8	9.9	BDL	22.2	BDL	BDL	0.51	BDL	BDL	BDL
21-11-2025	64.5	32.1	6.1	9.8	BDL	21.4	BDL	BDL	0.52	BDL	BDL	BDL
24-11-2025	63.3	33.3	6.2	8.9	BDL	22.3	BDL	BDL	0.51	BDL	BDL	BDL
28-11-2025	64.6	32.5	6.3	7.1	BDL	20.5	BDL	BDL	0.51	BDL	BDL	BDL
01-12-2025	64.3	30.4	6.0	8.9	BDL	20.6	BDL	BDL	0.52	BDL	BDL	BDL
Prescribed Standard	**100**	**60**	**80**	**80**	**400**	**100**	**05**	**01**	**4.0**	**1.0**	**20.0**	**06**
DL	-	-	-	-	**20.0**	-	**0.5**	**0.9**	-	**0.1**	**5.0**	**0.7**
Test Methods	**IS:5182 (P-23)**	**IS:5182 (P-24)**	**IS:5182 (P-2)**	**IS:5182 (P-6)**	**IS:5182 (P-25)**	**IS:5182 (P-9)**	**IS:5182 (P-11)**	**IS:5182 (P-12)**	**IS:5182 (P-10)**	**IS:5182 (P-22)**	**IS:5182 (P-26)**	**CPCB Manual**

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 04/12/25

(Reviewed & Authorized By)
Date: 04/12/2025

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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(AA)

REPORT No. CPTLE/MPSC/2025/08/01-08(A)
REPORTING DATE: 04-12-2025

NAME OF INDUSTRY: SH. ISHAR SINGH (PROP)., M/s. MAA PITAMBRA STONE CRUSHER, KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN, TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Type of Sample	Ambient Air
Time period for Sampling	1440 Minutes
Sampling Plan Ref. No.	CPTLF7.3-I
Samling Method	CPTL/SM/01
Date of Sampling	06-11-2025, 08-11-2025, 13-11-2025, 15-11-2025, 20-11-2025, 22-11-2025, 27-11-2025 & 29-11-2025
Point of Sample Collection	Bathu (31°19'41.31"N & 76°16'8.66"E)
Environmental Conditions	Normal
Sample Identification No.	CPTLE/MPSC/2025/08/01-08(A)
Analysis Duration	07-11-2025 To 03-12-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

Date of Sample Received	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	NH_3 ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	BaP (ng/m^3)	CO (mg/m3)	Pb ($\mu g/m^3$)	Ni (ng/m^3)	As (ng/m^3)
07-11-2025	64.5	31.7	5.5	8.1	BDL	20.2	BDL	BDL	0.51	BDL	BDL	BDL
10-11-2025	66.4	32.5	5.6	6.9	BDL	20.2	BDL	BDL	0.50	BDL	BDL	BDL
14-11-2025	63.7	33.8	6.3	7.6	BDL	20.2	BDL	BDL	0.51	BDL	BDL	BDL
17-11-2025	64.4	32.5	6.3	8.5	BDL	20.3	BDL	BDL	0.50	BDL	BDL	BDL
21-11-2025	63.5	31.7	6.5	8.8	BDL	21.2	BDL	BDL	0.50	BDL	BDL	BDL
24-11-2025	66.2	33.3	6.4	7.1	BDL	22.2	BDL	BDL	0.51	BDL	BDL	BDL
28-11-2025	64.3	32.5	6.5	8.6	BDL	20.4	BDL	BDL	0.51	BDL	BDL	BDL
01-12-2025	66.6	32.5	5.8	8.9	BDL	20.6	BDL	BDL	0.52	BDL	BDL	BDL
Prescribed Standard	**100**	**60**	**80**	**80**	**400**	**100**	**05**	**01**	**4.0**	**1.0**	**20.0**	**06**
DL	-	-	-	-	20.0	-	0.5	0.9	-	0.1	5.0	0.7
Test Methods	IS:5182 (P-23)	IS:5182 (P-24)	IS:5182 (P-2)	IS:5182 (P-6)	IS:5182 (P-25)	IS:5182 (P-9)	IS:5182 (P-11)	IS:5182 (P-12)	IS:5182 (P-10)	IS:5182 (P-22)	IS:5182 (P-26)	CPCB Manual

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 04/12/25

(Reviewed & Authorized By)
Date: 04/12/2025

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END OF REPORT

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Phone : 0172-5090312
E-mail : cptle126@gmail.com ; lab@cptl.co.in
Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(AA)

REPORT No. CPTLE/MPSC/2025/11/04/01-08(A)
REPORTING DATE: 04-12-2025

NAME OF INDUSTRY: SH. ISHAR SINGH (PROP.), M/s. MAA PITAMBRA STONE CRUSHER, KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN, TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Type of Sample	Ambient Air
Time period for Sampling	1440 Minutes
Sampling Plan Ref. No.	CPTLF7.3-1
Samling Method	CPTL/SM/01
Date of Sampling	03-11-2025, 05-11-2025, 10-11-2025, 12-11-2025, 17-11-2025, 19-11-2025, 24-11-2025 & 26-11-2025
Point of Sample Collection	Tahliwal (31°21'10.71"N & 76°15'24.65"E)
Environmental Conditions	Normal
Sample Identification No.	CPTLE/MPSC/2025/11/04/01-08(A)
Analysis Duration	04-11-2025 To 29-11-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

Date of Sample Received	PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	NH_3 (µg/m³)	O_3 (µg/m³)	Benzene (µg/m³)	BaP (ng/m³)	CO (mg/m3)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m³)
04-11-2025	64.4	32.1	6.3	9.8	BDL	20.3	BDL	BDL	0.53	BDL	BDL	BDL
06-11-2025	63.5	31.3	6.2	8.9	BDL	20.4	BDL	BDL	0.52	BDL	BDL	BDL
11-11-2025	61.6	32.1	5.9	7.2	BDL	21.6	BDL	BDL	0.50	BDL	BDL	BDL
13-11-2025	59.7	32.5	6.4	8.6	BDL	22.2	BDL	BDL	0.51	BDL	BDL	BDL
18-11-2025	63.5	31.7	6.6	8.4	BDL	22.2	BDL	BDL	0.52	BDL	BDL	BDL
20-11-2025	62.3	30.4	6.3	6.2	BDL	21.3	BDL	BDL	0.50	BDL	BDL	BDL
25-11-2025	62.3	30.0	5.9	5.6	BDL	20.0	BDL	BDL	0.52	BDL	BDL	BDL
27-11-2025	61.4	31.7	6.3	5.4	BDL	21.3	BDL	BDL	0.53	BDL	BDL	BDL
Prescribed Standard	**100**	**60**	**80**	**80**	**400**	**100**	**05**	**01**	**4.0**	**1.0**	**20.0**	**06**
DL	-	-	-	-	**20.0**	-	**0.5**	**0.9**	-	**0.1**	**5.0**	**0.7**
Test Methods	**IS:5182 (P-23)**	**IS:5182 (P-24)**	**IS:5182 (P-2)**	**IS:5182 (P-6)**	**IS:5182 (P-25)**	**IS:5182 (P-9)**	**IS:5182 (P-11)**	**IS:5182 (P-12)**	**IS:5182 (P-10)**	**IS:5182 (P-22)**	**IS:5182 (P-26)**	**CPCB Manual**

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 04/12/25

(Reviewed & Authorized By)
Date: 04/12/2025

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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(AA)

REPORT No. CPTLE/MPSC/2025/11/03/01-08(A)
REPORTING DATE: 04-12-2025

NAME OF INDUSTRY: SH. ISHAR SINGH (PROP).,
M/s. MAA PITAMBRA STONE CRUSHER,
KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN,
TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Type of Sample	Ambient Air
Time period for Sampling	1440 Minutes
Sampling Plan Ref. No.	CPTLF7.3-I
Samling Method	CPTL/SM/01
Date of Sampling	03-11-2025, 05-11-2025, 10-11-2025, 12-11-2025, 17-11-2025, 19-11-2025, 24-11-2025 & 26-11-2025
Point of Sample Collection	Beeton (31°20'20.90"N & 76°14'9.01"E)
Environmental Conditions	Normal
Sample Identification No.	CPTLE/MPSC/2025/11/03/01-08(A)
Analysis Duration	04-11-2025 To 29-11-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

Date of Sample Received	PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	NH_3 (µg/m³)	O_3 (µg/m³)	Benzene (µg/m³)	BaP (ng/m³)	CO (mg/m3)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m³)
04-11-2025	66.4	31.7	5.6	8.9	BDL	21.3	BDL	BDL	0.53	BDL	BDL	BDL
06-11-2025	64.7	32.5	5.4	9.3	BDL	22.2	BDL	BDL	0.55	BDL	BDL	BDL
11-11-2025	65.8	34.6	6.2	6.2	BDL	21.4	BDL	BDL	0.52	BDL	BDL	BDL
13-11-2025	62.5	32.5	5.3	6.1	BDL	20.6	BDL	BDL	0.51	BDL	BDL	BDL
18-11-2025	63.6	33.3	5.4	7.5	BDL	20.2	BDL	BDL	0.50	BDL	BDL	BDL
20-11-2025	64.3	33.5	5.3	8.6	BDL	22.2	BDL	BDL	0.51	BDL	BDL	BDL
25-11-2025	63.6	32.1	5.5	8.2	BDL	20.3	BDL	BDL	0.52	BDL	BDL	BDL
27-11-2025	62.8	31.3	5.3	6.4	BDL	21.4	BDL	BDL	0.51	BDL	BDL	BDL
Prescribed Standard	**100**	**60**	**80**	**80**	**400**	**100**	**05**	**01**	**4.0**	**1.0**	**20.0**	**06**
DL	-	-	-	-	20.0	-	0.5	0.9	-	0.1	5.0	0.7
Test Methods	IS:5182 (P-23)	IS:5182 (P-24)	IS:5182 (P-2)	IS:5182 (P-6)	IS:5182 (P-25)	IS:5182 (P-9)	IS:5182 (P-11)	IS:5182 (P-12)	IS:5182 (P-10)	IS:5182 (P-22)	IS:5182 (P-26)	CPCB Manual

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 04/12/25

(Reviewed & Authorized By)
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E-mail : cptle126@gmail.com ; lab@cptl.co.in
Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(AA)

REPORT No. CPTLE/MPSC/2025/11/02/01-08(A)
REPORTING DATE: 04-12-2025

NAME OF INDUSTRY: SH. ISHAR SINGH (PROP).,
M/s. MAA PITAMBRA STONE CRUSHER,
KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN,
TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Type of Sample	Ambient Air
Time period for Sampling	1440 Minutes
Sampling Plan Ref. No.	CPTLF7.3-1
Samling Method	CPTL/SM/01
Date of Sampling	03-11-2025, 05-11-2025, 10-11-2025, 12-11-2025, 17-11-2025, 19-11-2025, 24-11-2025 & 26-11-2025
Point of Sample Collection	Palakwah (31°23'45.76"N & 76°14'40.32"E)
Environmental Conditions	Normal
Sample Identification No.	CPTLE/MPSC/2025/11/02/01-08(A)
Analysis Duration	04-11-2025 To 29-11-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

Date of Sample Received	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	NH_3 ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	BaP (ng/m^3)	CO (mg/m3)	Pb ($\mu g/m^3$)	Ni (ng/m^3)	As (ng/m^3)
04-11-2025	64.6	31.3	5.4	7.6	BDL	20.3	BDL	BDL	0.51	BDL	BDL	BDL
06-11-2025	65.2	32.5	5.2	7.2	BDL	21.4	BDL	BDL	0.52	BDL	BDL	BDL
11-11-2025	69.3	33.8	5.3	8.2	BDL	20.2	BDL	BDL	0.51	BDL	BDL	BDL
13-11-2025	63.5	32.5	5.5	8.3	BDL	20.4	BDL	BDL	0.54	BDL	BDL	BDL
18-11-2025	61.4	31.3	5.1	5.8	BDL	20.3	BDL	BDL	0.51	BDL	BDL	BDL
20-11-2025	62.2	32.5	5.4	8.9	BDL	21.1	BDL	BDL	0.52	BDL	BDL	BDL
25-11-2025	63.3	33.3	5.1	8.4	BDL	20.3	BDL	BDL	0.53	BDL	BDL	BDL
27-11-2025	61.6	33.3	5.3	6.3	BDL	20.4	BDL	BDL	0.52	BDL	BDL	BDL
Prescribed Standard	**100**	**60**	**80**	**80**	**400**	**100**	**05**	**01**	**4.0**	**1.0**	**20.0**	**06**
DL	-	-	-	-	**20.0**	-	**0.5**	**0.9**	-	**0.1**	**5.0**	**0.7**
Test Methods	**IS:5182 (P-23)**	**IS:5182 (P-24)**	**IS:5182 (P-2)**	**IS:5182 (P-6)**	**IS:5182 (P-25)**	**IS:5182 (P-9)**	**IS:5182 (P-11)**	**IS:5182 (P-12)**	**IS:5182 (P-10)**	**IS:5182 (P-22)**	**IS:5182 (P-26)**	**CPCB Manual**

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 04/12/25

(Reviewed & Authorized By)
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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(S)

REPORT No. CPTLE/MPSC/2025/11/01-04(S)
REPORTING DATE: 10-11-2025

NAME OF INDUSTRY: **SH. ISHAR SINGH (PROP).,
M/s. MAA PITAMBRA STONE CRUSHER,
KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN,
TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.**

SAMPLE PARTICULARS

Date of Sample Collection	05-11-2025
Date of Sample Received in Lab.	06-11-2025
Type of Sample	Soil sample
Sampling Plan Ref. No.	CPTLF7.3-I
Samling Method	CPTL/SM/01
Sample Identification No.	CPTLE/MPSC/2025/11/01-04(S)
Point of Sample Collection	SQ_1-Project Site (31°23'4.40"N & 76°13'50.75"E), SQ_2 –Palakwah (31°23'45.76"N & 76°14'40.32"E), SQ_3 –Beeton (31°20'20.90"N & 76°14'9.01"E), SQ_4 – Tahliwal (31°21'10.71"N & 76°15'24.65"E)
Environmental Conditions	Normal
Quantity & Packaging	500 gm in plastic bag each
Analysis Duration	06-11-2025 To 10-11-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

S. N	Parameters	Unit	Results				Test Method
			SQ_1	SQ_2	SQ_3	SQ_4	
1.	pH (1:2.5)	--	7.33	7.54	7.29	7.42	IS 2720(P-26),1987
2.	Electrical Conductivity (1:2)	µmhos/cm	258	233	264	225	IS 14767,2000
3.	Texture	--	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Methods Manual for Soil Testing Govt. of India: 2011
4.	Bulk Density	(g/cc)	1.10	1.26	1.32	1.11	IS 2720(P-3),1983 (RA-2021)
5.	Soil Moisture Content	%	8.4	6.8	4.8	5.6	Methods Manual for Soil Testing Govt. of India: 2011
6.	Color	--	Brown	Light Brown	Brown	Dark Brown	Methods Manual for Soil Testing Govt. of India: 2011
7.	Available Calcium(as Ca)	meq/l	72.8	81.9	85.8	80.6	Methods Manual for Soil Testing Govt. of India: 2011
8.	Available Magnesium (as Mg)	meq/l	18.5	25.0	19.5	20.5	Methods Manual for Soil Testing Govt. of India: 2011
9.	Available Sodium(as Na)	kg/hac	85.6	66.2	54.2	55.6	Methods Manual for Soil Testing Govt. of India: 2011
10.	Available Potassium (as K)	kg/hac	110	120	120	90.0	Methods Manual for Soil Testing Govt. of India: 2011
11.	Available Nitrogen	(%)	5.6	4.8	6.8	8.8	Methods Manual for Soil Testing Govt. of India: 2011
12.	Organic Matter	(%)	0.61	0.55	0.56	0.52	Methods Manual for Soil Testing Govt. of India: 2011
13.	Available Phosphorus (as P)	Kg/hac	42.4	54.2	38.2	45.6	Methods Manual for Soil Testing Govt. of India: 2011
14.	Cation Exchange Capacity	(meq/100gm)	13.8	10.4	12.4	10.2	Methods Manual for Soil Testing Govt. of India: 2011
15.	Iron (as Fe)	(mg/kg)	48.9	59.6	42.6	38.9	USEPA-3050-B-1996: 1996
16.	Zinc (as Zn)	(mg/kg)	10.2	8.8	10.2	8.8	USEPA-3050-B-1996: 1996
17.	Lead (as Pb)	(mg/kg)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	USEPA-3050-B-1996: 1996

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E-mail : cptle126@gmail.com ; lab@cptl.co.in
Website : www.cptl.co.in

Type of Sample	Soil
Date of Sample Received in Lab	06-11-2025

S. N	Parameters	Unit	Results				Test Method
			SQ_1	SQ_2	SQ_3	SQ_4	
18.	Manganese (as Mn)	(mg/kg)	42.0	32.0	28.2	26.0	USEPA-3050-B-1996: 1996
19.	Chromium (as Cr)	(mg/kg)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	USEPA-3050-B-1996: 1996
20.	Cadmium (as Cd)	(mg/kg)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	USEPA-3050-B-1996: 1996
21.	Copper (as Cu)	(mg/kg)	14.6	16.4	10.2	8.8	USEPA-3050-B-1996: 1996

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 10/11/25

(Reviewed & Authorized By)
Date: 10/11/2025

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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(S)

REPORT No. CPTLE/MPSC/2025/11/05-08(S)
REPORTING DATE: 11-11-2025

NAME OF INDUSTRY: **SH. ISHAR SINGH (PROP).,**
M/s. MAA PITAMBRA STONE CRUSHER,
KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN,
TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Date of Sample Collection	06-11-2025
Date of Sample Received in Lab.	07-11-2025
Type of Sample	Soil sample
Sampling Plan Ref. No.	CPTLF7.3-I
Samling Method	CPTL/SM/01
Sample Identification No.	CPTLE/MPSC/2025/11/05-08(S)
Point of Sample Collection	SQ_5—Haroli (31°25'1.09"N & 76°13'27.49"E), SQ_6 –Kutharbeet (31°22'0.78"N & 76°11'34.24"E), SQ_7 –Dhugge (31°21'16.03"N & 76°13'19.17"E), SQ_8 – Bathu (31°19'41.31"N & 76°16'8.66"E)
Environmental Conditions	Normal
Quantity & Packaging	500 gm in plastic bag each
Analysis Duration	07-11-2025 To 11-11-2025
Sample Collected By	Daljeet Singh & Team

TEST RESULTS

S. N	Parameters	Unit	Results				Test Method
			SQ_5	SQ_6	SQ_7	SQ_8	
1.	pH (1:2.5)	--	7.45	7.15	7.33	7.48	IS 2720(P-26),1987
2.	Electrical Conductivity (1:2)	µmhos/cm	235	214	232	218	IS 14767,2000
3.	Texture	--	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Methods Manual for Soil Testing Govt. of India: 2011
4.	Bulk Density	(g/cc)	1.12	1.22	1.14	1.33	IS 2720(P-3),1983 (RA-2021)
5.	Soil Moisture Content	%	12.4	8.6	6.8	12.6	Methods Manual for Soil Testing Govt. of India: 2011
6.	Color	--	Brown	Light Brown	Brown	Dark Brown	Methods Manual for Soil Testing Govt. of India: 2011
7.	Available Calcium (as Ca)	meq/l	64.4	62.4	74.4	60.4	Methods Manual for Soil Testing Govt. of India: 2011
8.	Available Magnesium (as Mg)	meq/l	22.6	16.8	18.2	16.4	Methods Manual for Soil Testing Govt. of India: 2011
9.	Available Sodium (as Na)	kg/hac	72.8	58.8	50.8	62.6	Methods Manual for Soil Testing Govt. of India: 2011
10.	Available Potassium (as K)	kg/hac	98.6	84.8	86.5	82.6	Methods Manual for Soil Testing Govt. of India: 2011
11.	Available Nitrogen	(%)	4.5	5.6	4.9	7.7	Methods Manual for Soil Testing Govt. of India: 2011
12.	Organic Matter	(%)	0.53	0.48	0.41	0.45	Methods Manual for Soil Testing Govt. of India: 2011
13.	Available Phosphorus (as P)	Kg/hac	42.4	54.2	38.2	45.6	Methods Manual for Soil Testing Govt. of India: 2011
14.	Cation Exchange Capacity	(meq/100gm)	10.4	12.6	14.2	8.8	Methods Manual for Soil Testing Govt. of India: 2011
15.	Iron (as Fe)	(mg/kg)	58.9	58.6	44.6	56.9	USEPA-3050-B-1996: 1996
16.	Zinc (as Zn)	(mg/kg)	8.2	10.8	7.8	6.9	USEPA-3050-B-1996: 1996
17.	Lead (as Pb)	(mg/kg)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	USEPA-3050-B-1996: 1996

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E-mail : cptle126@gmail.com ; lab@cptl.co.in
Website : www.cptl.co.in

Type of Sample	Soil
Date of Sample Received in Lab	07-11-2025

S. N	Parameters	Unit	Results				Test Method
			SQ_5	SQ_6	SQ_7	SQ_8	
18.	Manganese (as Mn)	(mg/kg)	8.8	12.6	10.8	8.8	USEPA-3050-B-1996: 1996
19.	Chromium (as Cr)	(mg/kg)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	BDL (DL-2.0)	USEPA-3050-B-1996: 1996
20.	Cadmium (as Cd)	(mg/kg)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	USEPA-3050-B-1996: 1996
21.	Copper (as Cu)	(mg/kg)	12.8	18.6	12.4	13.8	USEPA-3050-B-1996: 1996

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 11/11/25

(Reviewed & Authorized By)
Date: 11/11/2025

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END OF REPORT

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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(W)

REPORT No. CPTLE/MPSC/2025/11/01-04(W)
REPORTING DATE: 10-11-2025

NAME OF INDUSTRY:	**SH. ISHAR SINGH (PROP).,** **M/s. MAA PITAMBRA STONE CRUSHER,** **KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN,** **TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.**

SAMPLE PARTICULARS

Date of Sample Collection	05-11-2025
Date of Sample Received in Lab.	06-11-2025
Type of Sample	Ground water
Sampling Plan Ref. No.	CPTLF7.3-I
Samling Method	CPTL/SM/01
Sample Identification No.	CPTLE/MPSC/2025/11/01-04(W)
Point of Sample Collection	GW_1-Project Site(31°23'4.40"N & 76°13'50.75"E), GW_2 –Palakwah (31°23'45.76"N & 76°14'40.32"E), GW_3 – Beeton (31°20'20.90"N & 76°14'9.01"E), GW_4 – Tahliwal (31°21'10.71"N & 76°15'24.65"E)
Environmental Conditions	Normal
Quantity & Packaging	2.0 liters in plastic bottle +250ml in sterilized glass bottle each
Analysis Duration	06-11-2025 To 10-11-2025
Sample Collected By	Daljeet Singh & Team
Visual Observation	Clear and colorless.

TEST RESULTS

S. N	Parameters	Results				Acceptable Limit	Permissible Limit	Test Method
		GW_1	GW_2	GW_3	GW_4			
1.	pH	7.45	7.33	7.29	7.56	6.5-8.5	No relaxation	IS:3025 (P-11): 2022
2.	Color, HU	<5	<5	<5	<5	5	15	IS:3025 (P-4): 2021
3.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS:3025:P-5:20218
4.	Turbidity, NTU	<1	<1	<1	<1	1 Max.	5	IS:3025 (P-10): 2023
5.	Total Dissolved Solids, mg/l	235	243	210	236	500 Max.	2000	IS:3025 (P-16) :2023
6.	Total Hardness (as $CaCO_3$), mg/l	210	220	190	220	200 Max.	600	IS:3025 (P-21): 2009
7.	Calcium (as Ca^{++}), mg/l	62.0	58.0	52.0	48.0	75 Max.	200	IS:3025 (P-40): 2004 (RA:2019)
8.	Magnesium (as Mg^{++}), mg/l	13.2	18.0	14.4	24.0	30 Max.	100	IS:3025:P-46:2023
9.	Total Alkalinity (as $CaCO_3$), mg/l	190	210	180	220	200 Max.	600	IS:3025 (P-23):2023
10.	Chloride (as Cl), mg/l	17.5	12.4	22.4	12.5	250 Max.	1000	IS:3025 (P-32): 1988
11.	Sulphate (as SO_4), mg/l	15.4	18.6	16.4	14.6	200 Max.	400	IS:3025 (P-24): Sec-1:2022
12.	Iron (as Fe), mg/l	0.15	0.16	0.21	0.18	1.0 Max.	No relaxation	IS: 3025(P-53), 2024
13.	Zinc (as Zn), mg/l	BDL (DL-0.02)	BDL (DL-0.02)	BDL (DL-0.02)	BDL (DL-0.02)	5 Max.	15	IS:3025 (P-49) : 1994
14.	Nitrate (as NO_3), mg/l	BDL (DL-0.2)	BDL (DL-0.2)	BDL (DL-0.2)	BDL (DL-0.2)	45 Max.	No relaxation	IS: 3025(P-34) Sec-1:2023
15.	Chromium (as Cr), mg/l	BDL (DL-0.005)	BDL (DL-0.005)	BDL (DL-0.005)	BDL (DL-0.005)	0.05 Max.	No relaxation	IS:3025 (P-52): 2021
16.	Manganese (as Mn), mg/l	BDL (DL-0.09)	BDL (DL-0.09)	BDL (DL-0.09)	BDL (DL-0.09)	0.1 Max.	0.3	IS:3025 (P-59): 2023

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Website : www.cptl.co.in

Type of Sample	Ground water
Date of Sample Received in Lab	06-11-2025

S. N	Parameters	Results				Acceptable Limit	Permissible Limit	Test Method
		GW_1	GW_2	GW_3	GW_4			
17.	Mercury (as Hg), mg/l	BDL (0.0008)	BDL (0.0008)	BDL (0.0008)	BDL (0.0008)	0.001 Max.	No relaxation	IS:3025:P-48:1994
18.	Cadmium (as Cd), mg/l	BDL (DL-.001)	BDL (DL-.001)	BDL (DL-.001)	BDL (DL-.001)	0.003 Max.	No relaxation	IS:3025 (P-41):2023
19.	Fluoride (as F), mg/l	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	1.0 Max.	1.5	APHA 24th Edition 4500-F (D) SPADNS Method: 2023
20.	Selenium (as Se), mg/l	BDL (DL-0.005)	BDL (DL-0.005)	BDL (DL-0.005)	BDL (DL-0.005)	0.01	No relaxation	IS:3025 (P-56) : 2003
21.	Residual Chlorine (as Cl_2), mg/l	BDL (DL-0.03)	BDL (DL-0.003)	BDL (DL-0.003)	BDL (DL-0.003)	0.2	1.0	IS:3025 (P-26) :2021
22.	E.coli/100ml	Absent	Absent	Absent	Absent	Absent	Absent	IS: 15185: 2016
23.	Total Coliform, MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent	IS: 15185: 2016

BDL- Below Detection Limit, DL-Detection Limit

(Chemist In-Charge)
Date: 10/11/25

(Reviewed & Authorized By)
Date: 19/11/2025

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*****END OF REPORT*****

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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLF7.8-I(W)

REPORT No. CPTLE/MPSC/2025/11/01(SW)
REPORTING DATE: 10-11-2025

NAME OF INDUSTRY: **SH. ISHAR SINGH (PROP).,**
M/s. MAA PITAMBRA STONE CRUSHER,
KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN,
TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Date of Sample Collection	05.11.2025
Sample Received in Lab	06.11.2025
Type of Sample	CPTLE/MPSC/2025/11/01(S.W)
Sampling Plan Ref. No.	CPTLF7.3-I
Sampling Method	CPTL/SM/01
Point of Sample Collection	Soan River (Lat. 31.355209 & Long. 76.310479)
Quantity & Packaging	2.0 liters in plastic bottle+250ml in sterilized glass bottle
Environmental Conditions	Normal
Sample Identification No.	CPTLE/MPSC/2025/11/01(SW)
Analysis Duration	06.11.2025 to 10.11.2025
Sample Collected By	Daljeet Singh & Team
Visual Observation	Liquid with fine suspended & settleable matter

TEST RESULTS

S. No.	Parameters	Results	Test Method
1.	pH	7.56	IS:3025 (P-11): 1983
2.	Color, HU	<5	IS:3025:P-4:1983
3.	Odour	Agreeable	IS:3025:P-5:1983
4.	Turbidity, NTU	<1	IS:3025 (P-10): 1984
5.	Total Dissolved Solids, mg/l	142	IS:3025 (P-16): 1984
6.	Total Suspended Solids, mg/l	8.4	IS:3025 (P-17): 1984
7.	Total Hardness (as $CaCO_3$), mg/l	120.0	IS:3025 (P-21): 2009
8.	Total Alkalinity (as $CaCO_3$), mg/l	80.0	IS:3025 (P-23): 1986
9.	Chemical Oxygen Demand,mg/l	10.0	IS:3025 (P-58): 2006
10.	BOD(at 27°C) for 3 days,mg/l	<2	IS:3025(P-44)1993
11.	Dissolved Oxygen,mg/l	6.5	IS:3025 (P-38): 1989
12.	Calcium(as Ca^{++}),mg/l	30.0	IS:3025:P-40:1991:RA:2003
13.	Magnesium (as Mg^{++}), mg/l	7.2	IS:3025:P-46: 1994
14.	Sodium (as Na^{+}), mg/l	14.2	IS:3025:P-45:1983:RA:2003
15.	Potassium (as K), mg/l	8.8	IS:3025:P-45:1983
16.	Nitrate (as NO_3),mg/l	ND (DL-1.0)	IS:3025 (P-34) : 1988
17.	Chloride (as Cl), mg/l	12.4	IS:3025 (P-32): 1988
18.	Sulphate (as SO_4), mg/l	16.4	IS:3025 P-24 : 1986
19.	Iron (as Fe), mg/l	0.24	IS:3025(Part-53), 2003 & C/1, 10 Phenanthroline Method.
20.	Total Chromium (as Cr), mg/l	ND (DL-0.04)	IS:3025 (P-52): 2003

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Website : www.cptl.co.in

Type of Sample	Surface Water (Soan)
Date of Sample Received in Lab	06.11.2025

S. No.	Parameters	Results	Test Method
21.	Zinc (as Zn), , mg/l	1.12	IS:3025 (P-49) : 1994
22.	Fluoride (as F) mg/l	ND (DL-1.0)	IS:3025 (P-60) : 2008
23.	Mercury (as Hg) mg/l	ND (DL-0.001)	IS:3025:P-48):1994:RA-2003
24.	Boron (as B),mg/l	ND (DL-0.001)	IS:3025 (P-57): 2005
25.	Aluminum (as Al) mg/l	ND (DL-0.001)	IS:3025:(P-55):2003
26.	Cadmium (as Cd), mg/l	ND (DL-0.001)	IS:3025 (P-41): 1992
27.	Fecal Coliform, MPN/100 ml	50.0	IS:1622-1981-(RA2009)
28.	Total Coliform, MPN/100 ml	110	IS:1622-1981-(RA2009)

ND-Not Detected, DL-Detection Limit

(Chemist In-Charge)
Date: 10/11/25

(Reviewed & Authorized By)
Date: 10/11/2025

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Website : www.cptl.co.in

TEST CERTIFICATE

Format No. CPTLEIA(AN)

REPORT No. CPTLE/MPSC/2025/11/01-08(AN)
REPORTING DATE: 11-11-2025

NAME OF INDUSTRY: SH. ISHAR SINGH (PROP)., M/s. MAA PITAMBRA STONE CRUSHER, KHASRA No.-382/5, FALLING IN MOHAL/MAUZA THAKRAN, TEHSIL-HAROLI, DISTT.- UNA, HIMACHAL PRADESH.

SAMPLE PARTICULARS

Samling Method:	CPTLF7.3-I	**Type of Sample:**	Air Quality w.r.t Noise
Sampling Plan Ref. No:	CPTL/SM/01	**Sampling Locations:**	At different locations
Sample Identification No.	CPTLE/MPSC/2025/11/01-08(N)	**Environmental Conditions:**	Normal
Date of Monitoring:	05-11-2025 & 06-11-2025	**Monitoring Done By:**	Daljeet Singh & Team
Nature of Sample:	Noise Level		

TECHNICAL DATA

S. No.	Locations	Value in dB(A) (Average)		Test Method
		Day Time (1 Hour)	Night Time (1 Hour)	
01.	Project Site (31°23'4.40"N & 76°13'50.75"E)	47.9	31.5	IS 9989:1981(Rev.2001)
02.	Thakran (31°23'7.59"N & 76°13'38.00"E)	49.6	32.4	IS 9989:1981(Rev.2001)
03.	Palakwah (31°23'45.76"N & 76°14'40.32"E)	46.5	33.8	IS 9989:1981(Rev.2001)
04.	Chandpur (31°22'57.01"N & 76°15'3.51"E)	45.4	34.5	IS 9989:1981(Rev.2001)
05.	Kungrat (31°22'9.63"N & 76°14'0.08"E)	46.2	31.3	IS 9989:1981(Rev.2001)

(Chemist In-Charge)
Date: 11/11/25

(Reviewed & Authorized By)
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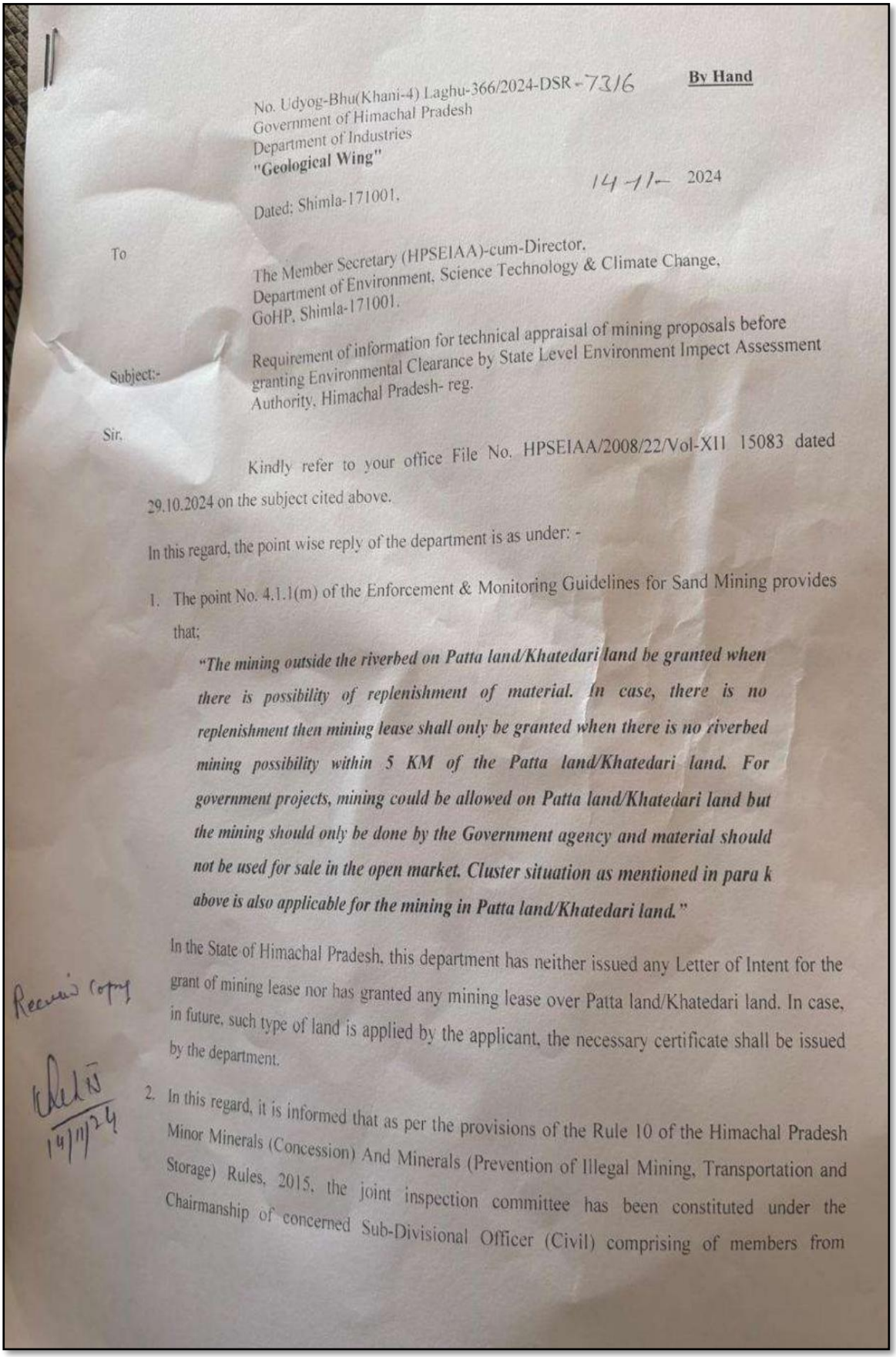
END OF REPORT

ANNEXURE-XI

LETTER FROM INDUSTRY DEPARTMENT



No. Udyog-Bhu(Khani-4) Laghu-366/2024-DSR-7316 **By Hand**
Government of Himachal Pradesh
Department of Industries
"Geological Wing"

Dated: Shimla-171001. 14-11- 2024

To

The Member Secretary (HPSEIAA)-cum-Director,
Department of Environment, Science Technology & Climate Change,
GoHP, Shimla-171001.

Subject:- Requirement of information for technical appraisal of mining proposals before granting Environmental Clearance by State Level Environment Impect Assessment Authority, Himachal Pradesh- reg.

Sir,

Kindly refer to your office File No. HPSEIAA/2008/22/Vol-XII 15083 dated 29.10.2024 on the subject cited above.

In this regard, the point wise reply of the department is as under: -

1. The point No. 4.1.1(m) of the Enforcement & Monitoring Guidelines for Sand Mining provides that;

   "The mining outside the riverbed on Patta land/Khatedari land be granted when there is possibility of replenishment of material. In case, there is no replenishment then mining lease shall only be granted when there is no riverbed mining possibility within 5 KM of the Patta land/Khatedari land. For government projects, mining could be allowed on Patta land/Khatedari land but the mining should only be done by the Government agency and material should not be used for sale in the open market. Cluster situation as mentioned in para k above is also applicable for the mining in Patta land/Khatedari land."

   In the State of Himachal Pradesh, this department has neither issued any Letter of Intent for the grant of mining lease nor has granted any mining lease over Patta land/Khatedari land. In case, in future, such type of land is applied by the applicant, the necessary certificate shall be issued by the department.

Recvd copy
14/11/24

2. In this regard, it is informed that as per the provisions of the Rule 10 of the Himachal Pradesh Minor Minerals (Concession) And Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules, 2015, the joint inspection committee has been constituted under the Chairmanship of concerned Sub-Divisional Officer (Civil) comprising of members from

Department of Forest, HPPWD, Jal Shakti Vibhag, HP State Pollution Control Board (HPSPCB), Industries (Mining Officer) etc. The above representatives of departments at the time inspection provide their observations/recommendations for grant of mining lease. Since, in the afore committee, Environment Engineer of HPSPCB is also a member who after carrying out inspection, expresses opinion on the issue of impact on surrounding environment on account of proposed mining activities and suggests preventive measures thereof. Accordingly, keeping in view the recommendations of joint inspection committee including the Environment Engineer, this department processes the case for issuance of Letter of Intent. Furthermore, in order to ensure the mining activities in ecofriendly manner, sufficient provisions are also made in Rule 35 of ibid Rules wherein all aspects w.r.t protection of environment etc. have been taken care of as per the mandate of this Rule.

3. As far as the issue regarding issuance of certificate about the no violation/illegal mining done by the applicant is concerned, it is to inform that issuance of no mining dues certificate from concerned Mining Officer is pre-requisite document to apply for the grant of mining lease as per Rule 7(d) of the ibid Rules which clearly indicates that any person who is applying for mining lease is not involved in illegal mining. Thus, the Letter of Intent is only issued to the applicant who is not in violation of mining Rules.

Keeping in view the facts stated above, it is informed that this department can issue only the relevant certificate(s) which are permissible under the Mines and Minerals (Development & Regulation) Act, 1957 and Rules framed thereunder. If any document/certificate is required under the Environment Protection Act, 1986, the same may be procured directly from the concerned department otherwise an undertaking from the applicant may be obtained.

You are therefore requested to process the pending environment clearance cases at the earliest so as to ensure legal supply of minerals in the State and in the larger interest of Govt. revenue.

Yours faithfully,

Director of Industries,
Himachal Pradesh.