DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

OF

MINING OF MINOR MINERALS

Project name	**Extraction of Sand, Stone & Bajri by Sh. Tarun Sharma; Prop: M/s Shree Ganga Stone Crusher & Screening Unit.**
Location	**Khasra no. 592, 593, 595, 604, 636, 2226/586, 2227/586 and 2228/591 falling in Mauza and Mohal Sanjhot, District Una, H.P.**
Land Status/ Type	**Private Land/ Hill Slope**
Mining Area	**02-91-57 Ha**
Category (as per EIA Notification, 2006)	**Category B1 (Due to cluster formation)**
Cluster Area	**10-16-69 Ha**
Production	**56,260 MTPA**
TOR Letter No.	**HPSEIAA/2024/1161 dated 26.06.2024**
Baseline study period	**January 2024- March 2024; Monitoring d*one by Chandigarh Pollution Testing Laboratory, Mohali (*NABL accreditation TC-6728 Valid till: 08/11/2024)**

APPLICANT

Sh. Tarun Sharma S/o Sh. Ashok Kumar

Prop: M/s Shree Ganga Stone Crusher and Screening Unit

Village & P.O. Upper Basal, Tehsil & District Una, Himachal Pradesh

PREPARED BY

Chandigarh Pollution Testing Laboratory- EIA Division

(QCI/ NABET Certificate No: NABET/EIA/2225/RA 0250)

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Website : www.cptl.co.in

Date: 19-07-2024

DECLARATION BY CONSULTANT

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. Tarun Sharma; Prop: M/s Shree Ganga Stone Crusher & Screening Unit located at Khasra no. 592, 593, 595, 604, 636, 2226/586, 2227/586 and 2228/591 (Private land-Hill- Slope) having mining lease area of 02.9157 hectare falling in Mauza and Mohal Sanjhot, District Una, H.P. has been prepared by as per "Terms of reference" and information supplied by the project proponent.

Sital Singh
CEO
Chandigarh Pollution Testing Lab

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PROJECT AT A GLANCE

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<tr><td>2.</td><td>Type of project</td><td>Mining of Minor Minerals (Sand, Stone and Bajri)</td></tr>
<tr><td>3.</td><td>Location</td><td>Khasra no. 592, 593, 595, 604, 636, 2226/586 2227/586 and 2228/591, falling in Mauza/Mohal Sanjhot, Tehsil Haroli, District Una, H.P.</td></tr>
<tr><td>4.</td><td>Lease Area Co-ordinates</td><td>
<table>
<tr><th>Pillar No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>P1</td><td>31°34'18.51"N</td><td>76°15'34.43"E</td></tr>
<tr><td>P2</td><td>31°34'20.66"N</td><td>76°15'44.83"E</td></tr>
<tr><td>P3</td><td>31°34'15.65"N</td><td>76°15'49.90"E</td></tr>
<tr><td>P4</td><td>31°34'11.26"N</td><td>76°15'41.89"E</td></tr>
<tr><td>P5</td><td>31°34'14.81"N</td><td>76°15'37.54"E</td></tr>
</table>
</td></tr>
<tr><td>5.</td><td>Elevation (Altitude at origin)</td><td>Highest 508 meters above MSL.
Lowest 450 meters above MSL.</td></tr>
<tr><td>6.</td><td>Land Status/ Type</td><td>Private Land/ Hill Slope</td></tr>
<tr><td>7.</td><td>Mining Area</td><td>02-91-57 Ha</td></tr>
<tr><td></td><td>Cluster Area</td><td>10-16-69 Ha</td></tr>
<tr><td>8.</td><td>Products</td><td>Sand, Stone and Bajri</td></tr>
<tr><td>9.</td><td>Production Capacity</td><td>Approx. 56,260 MT/year or 2,81,300 MT over a period of five years.</td></tr>
<tr><td>10.</td><td>Bench Level</td><td>6 X 6 meters</td></tr>
<tr><td>11.</td><td>Project Cost</td><td>Rs. 30 lakhs</td></tr>
<tr><td>12.</td><td>Source of Electricity</td><td>Not required</td></tr>
<tr><td>13.</td><td>Alternative source</td><td>Nil</td></tr>
<tr><td>14.</td><td>Power Requirement at mining area</td><td>Not required</td></tr>
<tr><td>15.</td><td>Water consumption</td><td>6.0 KLD</td></tr>
<tr><td>16.</td><td>Source of water supply</td><td>Borewell</td></tr>
<tr><td>17.</td><td>Air pollution control at mining site</td><td>Water sprinklers & tree plantations</td></tr>
</table>

18.	**Hazardous chemical**	Nil.
19.	**Hazardous waste**	Nil.
20.	**Manpower requirement**	54 persons
21.	**Validity of Lease**	As per grant order
22.	**Method of mining**	Manual
23.	**Working Days**	280
24.	**Waste (silt/clay)**	Approx. 18752 MT/year or 93,760 MT over a period of five years.

TOR LETTER

सत्यमेव जयते

File No: HPSEIAA/2024/1161
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), HIMACHAL PRADESH)
***

Dated **26/06/2024**

To,

Sh. TARUN SHARMA
Village and Post office- Upper Basal, Tehsil & District- Una, Himachal Pradesh , UNA, HIMACHAL PRADESH, 174303
gangatarunsharma@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 & bajri by Sh. Tarun Sharma; Prop: M/s Shree Ganga Stone Crusher & Screening Plant , Khasra no. 592, 593, 595, 604, 636, 2226/586, 2227/586, 2228/591 measuring 02-91-57 Ha in Mauza/Mohal Sanjhot, Tehsil & District Una, Himachal Pradesh submitted to Ministry vide proposal number SIA/HP/MIN/456121/2023 dated 24/04/2024.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO23B0108HP5587828N
(ii) File No.	HPSEIAA/2024/1161
(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 & bajri by Sh. Tarun Sharma; Prop: M/s Shree Ganga Stone Crusher & Screening Plant , Khasra no. 592, 593, 595, 604, 636, 2226/586, 2227/586, 2228/591 measuring 02-91-57 Ha in Mauza/Mohal Sanjhot, Tehsil & District Una, Himachal Pradesh
(viii) Name of Company/Organization	TARUN SHARMA
(ix) Location of Project (District, State)	UNA, HIMACHAL PRADESH
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no
(xiii) Applicability of Specific Conditions	no

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 AssessmentAuthority(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 AssessmentAuthority(SEIAA) Appraisal Committee of SEIAA in the meeting held on 18/06/2024. 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 18/06/2024, 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. TARUN SHARMA 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, MoEF&CC, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi- 110003.
2. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi- 110032.
3. The Chairman, State Pollution Control Board, Shimla-9.
4. The Director, Env., Sci. Tech., Paryavaran Bhawan, US Club, Shimla-1.
5. The Advisor (IA),Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi- 110003.
6. The Regional Officer, MOEF&CC, at Shimla, HP.
7. Monitoring Cell, MOEF&CC, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi- 110003.

Annexure 1

Specific Terms of Reference for (Mining Of Minerals)

1. Revenue Record

S. No	Terms of Reference
1.1	**The project proponent while submitting the case for grant of Environment Clearance before SEAC, shall ensure to submit the Jamabandi (in original) mentioning his/her name as owner or lease holder in the Jamabandi.**

2. Clarification

S. No	Terms of Reference
2.1	The project proponent shall submit the clarification on validity date of lease w.e.f. 1/11/2023 to 31/10/2023 mentioned in the Jamabandi.

3. District Survey Report

S. No	Terms of Reference
3.1	The project proponent shall ensure that the approved Mining Plans, Letter of Intents/ Mining Lease shall refer updated and recommended/ approved DSRs of the concerned district by SEIAA & SEAC, Himachal Pradesh.

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	If the washery is located within the mine lease or near to the mine lease its location should be cited seperately also, providing pillar cordinates and site layout plan. Insuch cases cumulative impact of mine operation with washery to be assessd and EMP measure to be drawn to the worst scenario
1.2	Plan of mechanized transportation of coal to coal washery also for rejects and washed coal to be drawn
1.3	Propoer KML file with pin drop and coordinate of mine at 500-1000 m interval be provided
1.4	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines, coal washery and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also
1.5	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
1.7	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need eloboration in form of lengthe, quantity and quality of water to be diverted

S. No	Terms of Reference
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
1.9	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
1.10	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
1.11	A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
1.12	Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
1.13	One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&CC certification of the respective laborartory and NABET accreditation of the consultant to be provided.
1.14	Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
1.15	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and

S. No	Terms of Reference
	accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided
1.16	A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.
1.17	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.
1.18	The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.
1.19	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
1.20	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
1.21	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
1.22	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
1.23	Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
1.24	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs
1.25	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal. The measures adopted to conserve energy or use of renewable sources shall be explored

S. No	Terms of Reference
1.26	PP to evaluate the green house emission gases from the mine operation/ washery plant and corresponding carbon absorption plan.
1.27	PP shall explore the use of vent gases as generated from under ground Mine for use of energy generation/ in house energy consumption
1.28	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.
1.29	Impact of stowing by using coal washery rejects/ flyash/ bottom ash shall be assessed in term of leachate generation and its characteristics
1.30	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
1.31	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
1.32	Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
1.33	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
1.34	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
1.35	Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
1.36	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
1.37	Adequate greenbelt nearby areas, coal stock yard and transportaion area of coal shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route and CHP.
1.38	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
1.39	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic

S. No	Terms of Reference
	status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
1.40	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
1.41	Corporate Environment Responsibility:
1.42	a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
1.43	b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
1.44	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
1.45	d) To have proper checks and balances, the company should have a well laid down 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.
1.46	e) Environment Managament Cell and its responsibilities to be clearly spleel out in EIA/ EMP report
1.47	f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
1.48	Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
1.49	Status of any litigations/ court cases filed/pending on the project should be provided.
1.50	PP shall submit clarification from PCCF that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.
1.51	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.
1.52	In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report
1.53	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional

S. No	Terms of Reference
	language, an authenticated English Translation of the same should be provided.
1.54	PP shall carry out survey through drone highlighting the ground reality for atleast 10 minutes
1.55	Detailed Chronology of the project starting from the first lease deed alloted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.
1.56	A copy of application submitted for 5 star rating system to Ministry of coal for expansion cases may be provided. Certificate /rating given to project shall be provided with EIA-EMP report
1.57	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET acrreditation) and Laboratory (NABL / MoEF & CC certification)
1.58	The compliances of ToR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report in all the chapter,s section.

Additional Terms of Reference

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 be permitted to carry out mining activities manually only.

3) 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.

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 Guidelines for Sand Mining, 2020 published by MoEF&CC, GoI.

5. The project proponent while submitting the case for grant of Environment Clearance before SEAC, shall ensure to submit the Jamabandi (in original) mentioning his/her name as owner or lease holder in the Jamabandi.

6. The project proponent shall submit the clarification on validity date of lease w.e.f. 1/11/2023 to 31/10/2023 mentioned in the Jamabandi.

7. The project proponent shall ensure that the approved Mining Plans, Letter of Intents/ Mining Lease shall refer updated and recommended/ approved DSRs of the concerned district by SEIAA & SEAC, Himachal Pradesh.

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Quantity	Unit	Mode of Transportation/ Transmission	Remarks (eg: CAS number)
Sand, Stone & Bajri	Sand, Stone & Bajri	56260	Tons per Annum (TPA)	Road	NA

TOR COMPLIANCE

<table>
<tr><th>S.No.</th><th>Terms of Reference</th><th>TOR Compliance</th><th>Reference in EIA</th></tr>
<tr><td colspan="4">Specific Terms of Reference for (Mining of Minerals)</td></tr>
<tr><td>1.</td><td colspan="3">Revenue Record</td></tr>
<tr><td>1.1</td><td>The project proponent while submitting the case for grant of Environment Clearance before SEAC, shall ensure to submit the Jamabandi (in original) mentioning his/her name as owner or lease holder in the Jamabandi.</td><td>The Jamabandi (in original) mentioning the name of lease holder will be provided at the time of final submission of EIA Report. The copy of the Jamabandi highlighting the name of Project Proponent by Patwari is attached as Annexure III.</td><td>Annexure III.</td></tr>
<tr><td>2.</td><td colspan="3">Air Modeling</td></tr>
<tr><td>2.1</td><td>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.</td><td>Air quality modeling including GLC-2.5 a/w with the wind rose diagram included in EIA report. State of the art water jet spray at mining site and water sprinkling on haul road will be practiced as pollution control device. The predicted GLC of PM2.5 is 0.07 µg/m3.</td><td>Chapter 4 (Figure & Table 4.1)</td></tr>
<tr><td>3.</td><td colspan="3">Site Restoration</td></tr>
<tr><td>3.1</td><td>The project proponent will assess and ensure 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.</td><td>The plantation will be done on the exhausted/excavated benches and the applied mining lease area after leaving the safety zone. Year-wise plan proposed for plantation with number and species of trees to be planted is tabulated below:
Details of Plantation
<table>
<tr><th>Year</th><th>Area to be covered (in Sq. meter)</th><th>Number of trees to be planted</th><th>Species to be planted</th></tr>
<tr><td>First</td><td>3180</td><td>477</td><td>Siris</td></tr>
<tr><td>Second</td><td>3180</td><td>477</td><td>Sahtoot</td></tr>
<tr><td>Third</td><td>3180</td><td>477</td><td>Mango</td></tr>
<tr><td>Fourth</td><td>3180</td><td>477</td><td>Curry tree</td></tr>
<tr><td>Fifth</td><td>3180</td><td>477</td><td>Neem</td></tr>
<tr><td>Total</td><td>15900</td><td>2385</td><td></td></tr>
</table></td><td>Chapter 2; Para 2.12 (Table 2.12 and Table 2.13)</td></tr>
</table>

<table>
<tr><td>4.</td><td colspan="3">District Survey Report</td></tr>
<tr><td>4.1</td><td>The project proponent shall ensure that the approved Mining Plans, Letter of Intents/ Mining Lease shall refer updated and recommended/ approved DSRs of the concerned district by SEIAA & SEAC, Himachal Pradesh.</td><td>Noted & complied.
The DSR and its approval is pending at the end of Authority. It will be incorporated in the Final EIA report.</td><td></td></tr>
<tr><td colspan="4">1. Standard Terms of Reference for (Mining of Minerals)</td></tr>
<tr><td>1.1</td><td>If the washery is located within the mine lease or near to the mine lease its location should be cited separately also, providing pillar co-ordinates and site layout plan. In such cases cumulative impact of mine operation with washery to be assessed and EMP measure to be drawn to the worst scenario.</td><td>Not applicable as the project involves mining & screening only.</td><td></td></tr>
<tr><td>1.2</td><td>Plan of mechanized transportation of coal-to-coal washery also for rejects and washed coal to be drawn.</td><td>Not applicable as it is not a coal mining proposal.</td><td></td></tr>
<tr><td>1.3</td><td>Proper KML file with pin drop and coordinate of mine at 500-1000 m interval be provided.</td><td>Agreed and will be complied while submitting the case for Environmental Clearance.</td><td>Parivesh Portal 2.0</td></tr>
<tr><td>1.4</td><td>A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines, coal washery and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also.</td><td>The 10 km Toposheet map clearly delineating the major topographical features is attached as Figure 3.1. There is no Notified Wild Life Sanctuary/National Park/ Biosphere Reserve within 10 Km distance of the mining site. Pong Dam Lake Wildlife Sanctuary is about 52.30 Km from the proposed mining site. Certificate of the same from DFO is attached as Annexure- IX.
The list of Protected and Reserved Forest existing within 10 km radius of the project site is tabulated below:
List of Protected and Reserved Forest
<table>
<tr><th>S.No.</th><th>Protected Forest (PF)/ Reserved Forest (RF)</th></tr>
<tr><td>1.</td><td>Chaukimaniar PF</td></tr>
<tr><td>2.</td><td>Kharialta PF</td></tr>
<tr><td>3.</td><td>Namad Da Kut</td></tr>
<tr><td>4.</td><td>Dhanet PF</td></tr>
<tr><td>5.</td><td>Momaniar PF</td></tr>
<tr><td>6.</td><td>Sar PF</td></tr>
</table></td><td>Chapter 3; Para 3.13.1 (Table 3.21 and Figure 3.1 and 3.11)</td></tr>
<tr><td>1.5</td><td>Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc. should be furnished.</td><td>Detailed LULC map delineating the land use classification has been provided in Figure 3.6 of the EIA report.</td><td>Chapter 3; Para 3.10 (Table 3.6; page no. 81 & Figure 3.6; page no. 77)</td></tr>
</table>

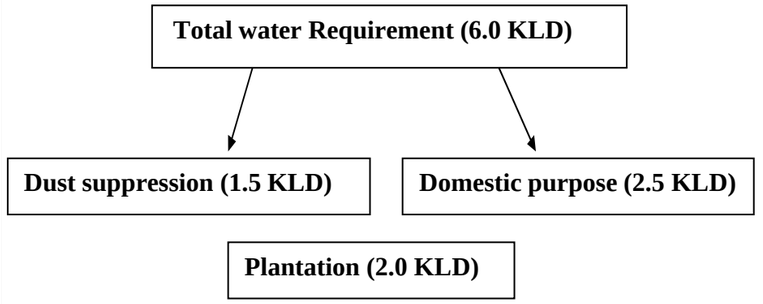
1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.	Agreed & complied in EIA Report.	
1.7	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need elaboration in form of length, quantity and quality of water to be diverted.	Agreed & complied in EIA Report.	
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.	The details of mineral and geological reserves of the study area along with the progressive stage wise working scheme is provided in Chapter 2. The geological/ surface plan is shown in figure 2.1 and five-year pit plan is shown figure 2.2 to 2.6. The progressive mine development (Reclamation plan, Mine waste, Top soil arrangement, Preventive retaining structures and Plantation work) is incorporated in Chapter 2 (Para 2.8). The final mine closure plan i.e. Post reclamation plan is shown in figure 2.7.	Chapter 2; Table 2.1 to table 2.7 and Table 2.9 to Table 2.14. Figure 2.1- 2.11.
1.9	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.	There will be no use of any machinery as the mining activity will be done manually only.	
1.10	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.	Mining will be done in Hill-Slope. No modification of natural drainage, diversion and the channeling of the existing rivers/water course will be done as the mining will be done manually.	
1.11	A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channeling of the water courses, etc., approach roads, major haul roads, etc. should be indicated.	A detailed site plan of mine as per the approved mining plan has been provided in the EIA/EMP report. The mine lease area is 02-82-77 Ha which is Hill Slope not involving any overburden (OB). **Greenbelt:** A strip of 7.5m wide land around the periphery of lease has been proposed as safety zone where greenbelt will be developed. The greenbelt area works out to be 15900 sqm. i.e. 1.59 Ha in which 2385 tress @1500/Ha. of local varieties in consultation with concerned DFO will be planted and taken care of to ensure their 80% survival. **Building & Infrastructure:** No residential building except the site office & store will be constructed as the workplace will be sourced locally. In addition, a rest room will be provided at site. Farther can access route from the mining site to the	

		connecting link road will be developed & regularly maintained. The proposal does not involve CHP (Co-gen) plant and ETP as no effluents are generated in the mining process. No stockyard will be developed at the mining site. The top soil due to the weathering of rock will be temporary stores in the safety zone before its spreading for regressing of mined out benches. No township/colony exists within and adjacent to the mining lease near the lease area. The entire area is drained by natural drainage. No waterbody exists near the site. The project does not intrude into any natural drainage and no such modification is involved. Since, it is a hill slope mining, there will be no construction and modification of embankments which are limited to river bed mining. The proposal does not involve diversion/rechanneling of eater courses. The only approach road connecting the project and SH- 32 will be properly maintained. **Management of mine waste:** The waste generated due to screening will be partly simultaneously used for haul road maintenance & backfilling of mined out benches and the balance will be stored & stabilized for extended use at the crusher site. In no case, the waste will be stored at mining site. **Plantation along the haul roads:** As estimated 890 trees each at a distance of 9.0 m with 9.0 m spacing is proposed along both sides of 3.97 km stretch of road which will start with the grant of E.C.	
1.12	Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished	There is no endangered flora and fauna found in the study area. The list of flora & fauna found in the core zone and study area (buffer zone) is tabulated in table 3.19 (a) and 3.19 (b) respectively.	Chapter 3; Para 3.13 (Table 3.19 (a) and 3.19 (b).)

1.13	One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc.), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&CC certification of the respective laboratory and NABET accreditation of the consultant to be provided.	Baseline data (Water quality, noise level, soil, flora & fauna, AAQ and Meteorological data) for the period Jan to March, 2024 within the study area is elaborated in chapter- III of EIA report along with the details of NABL accredited testing laboratory & NABET accreditation of consultant.	
1.14	Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.	Map of the study area (core and buffer zone) showing the location of various samplings (Ambient Air locations in Fig- 3.5, Soil locations in Fig – 3.9, Surface and Ground water locations in Fig – 3.11 and Noise locations in Fig – 3.12) stations superimposed with location of habitats, other industries/mines, polluting sources has been provided Chapter 3.	
1.15	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided.	Location of Ambient Air Quality Monitoring stations has been fixed by studying the wind rose pattern of the area and the baseline samples collected in the project area both in upwind and downwind directions including the project site.	
1.16	A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.	A no. of villages exists within 10km radius of study area. However, there is no habitation within 100m distance on either side of approach road to the project site. The project site is connected with SH-32 via 3.97 km of partly kaccha road having carriage way of 25 feet. There is negligible traffic on this road which does not need widening but regular maintenance. Transportation will be done via this road & ultimately through either side of SH-32. The state highway is two lane (two way), each lane 3.5m wide but without physical divider and having design service volume of 1900 PCU/hr. With the project operation, an estimated 28 trucks/ tipper each @10-ton accounting to 63 PCU/day (8 PCU/hr) will be added to the existing volume of traffic on the SH-32. This meagre increase will not result in significant change in the LOS & performance of road.	

		Measures for fugitive emission control: There is very likelihood of fugitive dust generation on the approach road for which safeguards will be provided as below: • The vehicles used for transportation will be properly serviced and mechanically maintained & PUC complied. • No overloading will be permitted. • Transportation will be done under covered tarpaulin. • Depending on the season, the road will be water sprinkled to avoid dust generation. • The approach road will be regularly maintained. • Speed limit will be fixed for transport vehicles. • Trees having thick canopy, broad leaves & quick growing will be planted alongside the road. **Carbon Emission Control:** Gasoline & diesel used in transportation adds to the buildup of GHG is atmosphere leading to climate change, we are experiencing today to achieve Net Zero Carbon, the following measures are proposed: • Using zero emission vehicles is with no tail piece emissions e.g. battery operated, electric plug-in hybrid electric & fuel cell electric vehicles. • Use of low carbon fuels e.g. mineable diesel & ethanol. • High vehicle load factor shall be maintained. • Tree plantation @1500 trees/ha in 7.5m periphery of lease area.	
1.17	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.	Socio- economic study of buffer zone was conducted in February, 2024 by field Survey. The data so collected was collated with the primary census data- 2011 available from the census of India | District Census Handbook. The demographic profile of the study area based on the field survey and the primary demographic data as per Census- 2011 along with their findings is tabulated in EIA report.	
1.18	The Ecology and Biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.	The common wild life of the area is not likely to be impacted by the operation of proposed project	

1.19	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.	The details of baseline health status of population in the 10 km radius of project are given in EIA report. The occupational safety & health of all the workers will be maintained as provided in the Mines, Rules- 1955 as detailed in Chapter-IV. Other preventive measures e.g. rest room/shelter, drinking water, sanitation facilities & rotation of workers exposed to high noise etc. shall be in place with the commencement of operations.	
1.20	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted	As per CGWA, hydrogeological study of Una Distt. (H.P.). The average depth of water level pre & post monsoon is 200- 45m bgl & 1.5- 42m bgl respectively. The static water level is 1.45- 43.0m bgl. In the case of proposed project, the highest and lowest altitudes at origin are 502m above msl & 454m above msl respectively. The mining will be done as 4x4m benches. No water will be used in mining nor will the water table will be intersected. In view of these topographical features of project site hydrological regime will not be affected due to project operation. As such Hydrological study of the area has not been done. However, adequate safeguards as detailed in EIA/EMP report has been proposed to minimize contamination of groundwater.	
1.21	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.	There will be no impact of project operation on the groundwater regime & the surface water quality as the proposal involves hill slope mining involving no intersection of water level and no abstraction of groundwater. No mining will be done in monsoon which will affect surface water. However, necessary measures for containing water pollution have been proposed in the EIA/EMP report.	
1.22	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.	The method of mining is open cast manual. Subsidence study is not applicable as the same is not underground mining. Mining will be done in day time and non- monsoon period. In 4x4m benches there will be no chance of pet failure. Detail of occupations health & safety is given in Chapter- IV.	
1.23	Detailed water balance should be provided. The breakup of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.	The breakup of water requirement as per different activities in the mining operations is given below:	Chapter 2; Para 2.15

		 The water will be sourced from borewell (at crusher site). Affidavit for the same has been provided as Annexures VIII.	
1.24	PP shall submit design details of all Air Pollution Control Equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs	The air pollution control equipment shall be hydro jet at the mining site & water sprinkler on the haul roads. These equipments are considered adequate to control air pollution. In the absence of APCE, the dust generation has been estimated as 0.632 kg/hr. However, with the implementation of APCE's, the same will be reduced by (1/3 & the estimated emission rate will be 0.422 kg/hr which has been considered air quality modeling as per details provided in EIA/EMP report.	
1.25	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal. The measures adopted to conserve energy or use of renewable sources shall be explored.	The use of gaseous fuels e.g. CNG/LNG in semi mechanized machinery & transport vehicles will be explored as & when made commercially available.	
1.26	PP to evaluate the greenhouse emission gases from the mine operation/ washery plant and corresponding carbon absorption plan.	The project does not involve mineral beneficiation using washing. The mining operation will be mostly manual. The only impact of GHG emission will be due to mineral transportation which has been evaluated as below: The material will be transported by truck/tipper & an estimated 28 vehicles/day will be employed each @10 MT and an estimated 25 km of transport route. Though Co_2e is calculated by the formula. $Co_2e = Co_2 + 25 X CH4+298 X N_2O$ Only GHG emission in terms of CO2 has been considered. Based on the truck capacity of 12-16 tonnes, average payload of 10-ton, diesel consumption 0.019 litre/km, emission factors 0.05 kg CO2/ km as per India GHG factors for transport sector has been considered. Taking 280	

		working days/year, the annual GHG emission w.r.t. to CO_2e works out to be: 98 ton as per calculation: $0.05X10X25X28X280/10^3$. The measures proposed for offsetting GHG emissions/ decarburization are: - Energy efficiency improvement in vehicle with internal combustion engine. - Stressing the use of electric vehicles. - Higher use of bio-fuels in place of diesel & gasoline. This GHG emission is based on scope-2 emissions which on indirect emissions as a consequence of activity of project but from sources not owned or controlled by it.	
1.27	PP shall explore the use of vent gases as generated from underground Mine for use of energy generation/ in house energy consumption.	Not applicable as the proposal pertains to open cast road metal minerals only.	
1.28	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.	Site specific impact prediction & mitigation measure, risk assessment & disaster preparedness and management plan have been detailed in chapter VII of EIA report.	Chapter- 7
1.29	Impact of stowing by using coal washery rejects/ fly ash/ bottom ash shall be assessed in term of leachate generation and its characteristics	Not applicable as the project is open cast mineral mining without mineral beneficiation.	
1.30	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc., Impact of blasting, noise and vibrations should be provided.	Not applicable as the project is open cast Hill Slope mineral mining for extraction of stone. Therefore, the project does not involve any heavy machinery.	
1.31	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc., management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.	There will not be any significant impact on local transport infrastructure due to the proposed project. An estimated 28 truck/ tippers and 2-4 two wheelers, all amounting to 8 PCU/hr will be added to the existing volume of traffic on the existing road infrastructure. The SH- 32 having design service volume of 1900 PCU/hr is adequate for taking care of additional volume of traffic due to project operations. Facilities as rest shelter, drinking water and PPE's will be available at mining site and the sanitation facilities at the nearby crusher site. Since, locals from the nearby villages will be employed who will have their own eating/tea arrangement, canteen facility will therefore be not proposed.	

1.32	Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.	Not applicable, being on open cast mineral mining.	
1.33	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.	Most of the mine workers will be drawn from the surrounding villages having their own cycles/ motorcycles which will be ported near the site but away from road. A rest room/ shelter will also be provided. The workers will meet their drinking water requirement from the water tankers and sanitation facilities at the nearby stone crusher. Septic treated waste water at stone crusher will be disposed off on land for plantation at crusher site.	
1.34	The number and efficiency of mobile/static water jet, fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.	A mobile water tanker with water sprinklers will be hired for water sprinkling on haul road. Depending upon the season, water will be sprayed to suppress dust generation. In addition, the mining benches will be kept wet with the help of hydrogen. Similarly, the waste stockpile of mine waste will be kept wet to avoid its being air- borne.	
1.35	Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided	Not applicable as combined heat & Power (CHD)/ Co. gen is not involved in the proposed project.	
1.36	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined-out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.	Broad objectives of main closure are: ▪ To create productive & sustainable after use for the site. ▪ To protect public health & safety of surroundings. ▪ To minimize environmental change. ▪ To overcome valuable attributes & aesthetics. ▪ To overcome adverse socio-economic impacts. To achieve the closure criteria the following is envisaged. ▪ All anthropogenic structures such as mine working, waste dumps, shelters etc. will be physically stabilized so as to prevent any public health & safety hazard. ▪ It will be ensured that the resources within the mine are chemically stable & may not pose public health & safety hazard due to leading of metals, salts or organic compounds. ▪ Periodic monitoring w.r.t. air, water & soil well be done.	

		▪ Mine site will be rehabilitated to ensure biological stability by providing: ▪ Erosion control effectively. ▪ Seeding & fatalization of revegetation. ▪ Regressing of mined and benches after backfilling with mine waste covered with layer of top soil. ▪ Plantation in 7.5m periphery of safety zone. ▪ Construction of parapet wall at the base to restrict unauthorized entry. ▪ Proper dressing of sides of benches to prevent accidents	
1.37	Adequate greenbelt nearby areas, coal stock yard and transportation area of coal shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route and CHP.	The project does not involve coal mining. However, adequate greenbelt will be developed in 7.5m periphery of safety zone, mined out pits, around waste dumps and the haul road as per the details provided in the EIA/EMP report.	
1.38	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.		
1.39	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc. and costs along with the schedule of the implementation of the R&R Plan should be given.	As no habitation is present in the project site, no displacement & settlement will be involved. Hence, no R/R plan is envisaged.	
1.40	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.	The details of CSR/CER scheme is given in the chapter IX of EIA report in the tabular form.	
1.41	**Corporate Environment Responsibility:**		
1.42 (a)	The Company must have a well laid down Environment Policy approved by the Board of Directors.	The project will formulate a comprehensive environmental policy and the same will be executed by duly constituted EMC.	
1.43 (b)	The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	Agreed.	
1.44 (c)	The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.	Agreed in view of point 1.42 (a).	

1.45 (d)	To have proper checks and balances, the company should have a well laid down 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.	Agreed.	
1.46 (e)	Environment Managament Cell and its responsibilities to be clearly spleel out in EIA/ EMP report.	Agreed & complied.	
1.47 (f)	In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.	Self-regulation includes the processes of self-monitoring, self-evaluation and self-reinforcement for which detailed EMP has been prepared which includes self-monitoring with environment regulations. In addition: - Environmental audit of various mitigation measures proposed for different environmental components/ sections. - Setting up of environmental management cell (EMC) & formulation of monitoring protocol of various environment components has been proposed in EIA.EMP report.	
1.48	Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.	Does not apply.	
1.49	Status of any litigations/ court cases filed/pending on the project should be provided.	None.	
1.50	PP shall submit clarification from PCCF that mine does not fall under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary	Complied, necessary certificate enclosed in EIA report.	
1.51	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.	Complied, all the tested certificate/clearances enclosed in EIA report.	
1.52	In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report.	Not applicable as it is a green field proposal.	
1.53	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.	Noted, details will be included in Final EIA report after conduct of public hearing.	
1.54	PP shall carry out survey through drone highlighting the ground reality for at least 10 minutes.	Agreed for compliance, drone survey will be displayed at the time of appraisal.	
1.55	Detailed Chronology of the project starting from the first lease deed allotted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest	Noted & complied.	

	NOC(s), CGWA permissions, Power permissions, etc. as per the requisites respectively to be furnished in tabular form.		
1.56	A copy of application submitted for 5-star rating system to Ministry of coal for expansion cases may be provided. Certificate /rating given to project shall be provided with EIA-EMP report	Not applicable.	
1.57	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET accreditation) and Laboratory (NABL / MoEF & CC certification	Complied.	
1.58	The compliances of TOR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective TOR complied within the EIA-EMP report in all the chapters section.	Complied.	
Additional Terms of Reference			
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.	Noted & complied.	Chapter- 4
2.	The project proponent will be permitted to carry out mining activities manually only.	Noted.	
3.	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.	Noted for compliance.	
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 Guidelines for Sand Mining, 2020 published by MoEF&CC, GoI.	Agreed for compliance.	
5.	The project proponent while submitting the case for grant of Environment Clearance before SEAC, shall ensure to submit the Jamabandi (in original) mentioning his/her name as owner or lease holder in the Jamabandi.	Noted.	Annexure III.
6.	The project proponent shall ensure that the approved Mining Plans, Letter of Intents/ Mining Lease shall refer updated and recommended/ approved DSRs of the concerned district by SEIAA & SEAC, Himachal Pradesh.	Noted & agreed.	

Details of Products & By-products

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

Sand, Stone & Bajri	Sand, Stone & Bajri	56260	Tons per Annum (TPA)	Road

EXECUTIVE SUMMARY

1.0 PROJECT NAME AND LOCATION:

Sh. Tarun Sharma S/o Sh. Ashok Kumar, Prop: M/s Shree Ganga Stone Crusher & Screening Plant, Village & P.O. Upper Basal, Tehsil & District Una, Himachal Pradesh has been issued "Letter of Intent" for grant of mining lease vide letter No. Udyog- Bhu (Khani-4)Laghu-180/2023-4227 on dated 27/07/2023 for extraction/ collection of sand, stone & bajri from Hill slope over an area measuring 02-91-57 Hectares bearing Khasra no. 592, 593, 595, 604, 636, 2226/586, 2227/586 and 2228/591 (Private land) falling in Mauza/Mohal Sanjhot, Tehsil & District Una, State- Himachal Pradesh. **The project itself falls in category B2, however due to cluster situation having the cluster area of 10-16-69 Ha, the project is categorized as Category B1 as per EIA Notification.**

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 proposal involves the extraction/collection of minor minerals such as sand, stone & bajri from the mine lease area of 02-91-57 Ha in Mauza/Mohal Sanjhot, Tehsil & District Una, State- Himachal Pradesh. The project proponent has engaged ***QCI NABET Accredited Environmental Consultant, Chandigarh Pollution Testing Laboratory-EIA Division*** for conducting EIA study and preparation of EIA/EMP report. The letter of intent has been issued by the Industries Department GoHP. vide letter No. Udyog- Bhu (Khani-4) Laghu-180/2023-4227 on dated 27.07.2023 for the purpose of obtaining Environment Clearance.

DETAILS OF THE PROJECT:

<table>
<tr><td>Name of the project</td><td>Extraction of Sand, Stone & Bajri by Sh. Tarun Sharma S/o Sh. Ashok Kumar; Prop: M/s Shree Ganga Stone Crusher & Screening Unit</td></tr>
<tr><td>Type of project</td><td>Mining of Minor Minerals (Sand, Stone and Bajri)</td></tr>
<tr><td>Location</td><td>Khasra no. 592, 593, 595, 604, 636, 2226/586 2227/586 and 2228/591, falling in Mauza/Mohal Sanjhot, Tehsil Haroli, District Una, H.P.</td></tr>
<tr><td>Lease Area Co-ordinates</td><td>
<table>
<tr><th>Pillar No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>P1</td><td>31°34'18.51"N</td><td>76°15'34.43"E</td></tr>
<tr><td>P2</td><td>31°34'20.66"N</td><td>76°15'44.83"E</td></tr>
</table>
</td></tr>
</table>

	P3	31°34'15.65"N	76°15'49.90"E
	P4	31°34'11.26"N	76°15'41.89"E
	P5	31°34'14.81"N	76°15'37.54"E
Elevation (Altitude at origin)	Highest 508 meters above MSL. Lowest 450 meters above MSL.		
Land Type	Private Land, Hill Slope		
Mining Area	02-91-57 Ha		
Cluster Area	10-16-69 Ha		
Products	Sand, Stone and Bajri		
Capacity	Approx. 56,260 MT/year or 2,81,300 MT over a period of five years.		
Bench Level	6 X 6 meters		
Method of mining	Manual		
Working Days	280		
Waste (silt/clay/top soil)	Approx. 18752 MT/year or 93,760 MT over a period of five years.		
Water consumption	6.0 KLD		
Source of water supply	Borewell		
Manpower	50 persons		
Cost Details			
Cost of project	Rs. 30 Lakhs.		
Cost of EMP	Rs. 14.0 Lakhs (Capital) Rs. 1.7 Lakhs (Recurring)/Annum		
Environmental sensitivities of the area			
Ecological sensitive area (national parks, Wildlife sanctuaries, Biosphere reserves etc.)	None within 10 km radius.		
International boundary within 5 km radius	None		
Nearest highway	SH-32 (3.97 km)		

Nearest railhead/Railway station	Una railway station (10.71 km)
Nearest airport	Gaggal airport (65.28 km)
Nearest Major City	Una (10.0Km)
Nearest Major Settlement	Una (10.0 km)

3.0 PROJECT DESCRIPTION:

The proposed project involves the mining of sand, stone & bajri by open cast mining method in the Hill Slope over an area measuring 02-91-57 Ha with proposed production capacity of 56,260 MT/Annum.

Details of the production during the five-year period are produced below.

Table showing year-wise production programme of mining in mineable area

Period	Bench Level (in meters)	Opening reserves of useable Mineral of bench (M.T.)	Useable Material consumed from the Bench (M.T.)	Closing reserves of the bench (M.T.)	Wastage (Mining wastage+Top soil)
1st year	502	67500	56260	11240	18753
2nd year	502, 496	95615	56260	39355	18653
3rd year	496, 490	127105	56260	70845	18854
4th year	490	70845	56260	14595	18750
5th year	490, 484	103695	56260	47445	18750
Total			**281300**	**183480**	**93760**

**Source: Approved Mine Plan*

4.0 WASTE DISPOSAL & ARRANGEMENT:

During mining operation, low grade minerals like silty sand and top soil as mine waste will be produced after screening in the stone crusher. The waste material 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 following table: -

Showing year wise generation of Silty sand & Top soil

S. No.	Year	Quantity of Wastage (MT)
1.	**1st year**	18753
2.	**2nd year**	18653
3.	**3rd year**	18854
4.	**4th year**	18750
5.	**5th year**	18750
Total		**93,760**

*Source: Approved Mine Plan

5.0 DESCRIPTION OF ENVIRONMENT:

The baseline data in respect of environmental components: Air, Soil, Noise, Water, Ecology & Biodiversity has been collected for non-monsoon season from ***January– March 2024.*** The EIA study has been carried out for mine lease (core zone) & area within 10 km radius of lease area (buffer zone).

BASELINE STATUS

Attribute	Baseline Study
Ambient Air Quality	• AAQ monitoring was carried out at 8 locations. The maximum value of 74.2 ug/m^3 for PM 10 was observed at Barera and the minimum value of 55.9 ug/m^3 was observed at Pallian. P98 remained as 63.65 µg/m^3 during this study period. • The maximum value of 46.7 ug/m3 for PM 2.5 was observed at Project site & minimum of 31.1 ug/m^3 at Chalola. P98 remained as 38.9 µg/m^3 during study period. • In respect of SO2, the maximum concentration of 6.9 ug/m^3 was observed at Project site & minimum of 4.4 ug/m3 at Chalola. P98 remained as 5.65 µg/m^3 during study period. • In case of NOx, the maximum value of 15.6 ug/m^3 was observed at Project

	site & minimum of 0.53 ug/m^3 at Nangal Salangari station. • CO was not detected at any of the stations.
Noise Levels	• Of the eight-noise monitoring locations, maximum day time noise of 59.2 dB (A) was observed at project site and minimum 42.3 dB (A) at Barera. • For night time noise levels, the maximum of 36.4 dB (A) was observed at Pallian & the minimum of 32.7 dB (A) at Amroh.
Water Quality	**Groundwater** • The monitoring was done at 8 locations. • The pH was found to vary from 7.28 to 7.71. • Total hardness ranged from 226 to 260 mg/L. • TDS ranged from 258 to 290 mg/L. • Fluoride was not detected. **Surface water** Surface water (Soan River) was analyzed at one location. • pH of the surface water has been found to be 7.45 • Total hardness was found to be 124 mg/l. • TDS was found to be 168 mg/l. The tolerance limit is 1,500 mg/l as per IS:2296 • Fecal Coliform was observed in the range 80.0 MPN/100 ml. • Total Coliform was 110 MPN/100 ml. • COD was 18.0 mg/L. • BOD was < 2 mg/L.
Soil Quality	Soil was analyzed for 8 locations. • pH varies from 7.22 to 7.69. • EC was observed maximum at 387 µmhos/cm at Amroh and minimum 328 µmhos/cm at Pallian. • Organic matter ranged from 0.18 to 0.84 %. • Measured conc. in respect of N, P & K was moderate at all the locations.

5.1 BIOLOGICAL ENVIRONMENT:

The biological environment has been studied based on the site observation and secondary data. There are no rare or critically endangered and threatened plant species in the study area as per the IUCN category. The species found in the study area are common and widely distributed.

Floral Species in the Study Area (Core Zone)			
S.No.	**Common Name**	**English Name**	**Botanical Name**
1.	Bakkar bel	Black creeper	*Ichnocarpus frutescens*
2.	Bans Bainj, Sotha	Male bamboo	*Dendrocalamus strictus*
3.	Kehmal	Indian ash tree	*Lannea coromandelica*
4.	Curry Patta	Curry leaves or Sweet neem	*Murraya koenigii*
5.	Rajain, Pardesi	Indian elm, kanju	*Holoptelea integrifolia*
6.	Shisham, Tali	Bombay blackwood, Indian rosewood, sissoo	*Dalbergia sissoo*
7.	Simble	Silk cotton tree	*Bombax ceiba*
8.	Nimba tree or Nim tree	Neem	*Azadirachta indica*
9.	Jaman	Black-plum	*Syzygium cumini*
10.	Kachnar Karal	Malabar ebony, mountain ebony	*Bauhinia malabarica*
Faunal Species in the Study Area (Core Zone)			
S.No.	**Common Name**	**English Name**	**Scientific Name**
1.	Jangli Soor	Wild Boar	*Sus sacrofa*
2.	Kakkar	Barking Deer	*Muntiacus Muntjak (vaginlis)*
3.	Bandar	Monkey	*Macaca mulatta*
4.	Jangli Murga	Red Jungle Fowl	*Gallus gallus*
5.	Kala Titar	Black Partridge	*Framcolinus francolinus*
6.	Titar	Grey Partridge	*F pondicrianus*

7.	Lomari	Fox	*Vulpie bengalensis*

Source: DFO, Una

Year-wise plan for plantation is shown in the table below:

Table showing details of plantation

Year	Area to be covered (in Sq. meter)	Number of trees to be planted
First	3180	477
Second	3180	477
Third	3180	477
Fourth	3180	477
Fifth	3180	477
Total	**15900**	**2385**

5.2 SOCIO-ECONOMIC ENVIRONMENT:

Study of socio-economic environment refers to the systematic analysis of various social, economic characteristics of human beings living in the given geographical area which in the present case includes the study area and the impact zone. The underlying idea of study is to evaluate the cultural, social & environmental impacts of the proposed development on the social set up of the people of the area.

The demographic profile of the study area is tabulated below:

DEMOGRAPHY & SOCIO-ECONOMY

Name of villages	No. of Households	Total Population	Male	Female	Child (0-6)	Literacy (%)		Scheduled Caste	Scheduled Tribe	Total workers	Main workers	Marginal workers
						Male	Female					
Project site	131	678	345	333	101	93.26	81.69	99	0	418	163	255
Bareda	68	316	142	174	41	80.67	69.87	0	0	187	23	164
Chalola-I	173	808	392	416	96	97.15	86.70	282	0	384	200	184
Amroh	111	446	215	231	55	92.02	82.76	119	0	180	37	143
Dhamandri	295	1405	707	698	158	92.81	81.80	592	3	928	234	694
Kuriala	286	1366	680	686	133	89.24	75.20	610	0	374	315	59
Ambhera Dhiraj	66	335	166	169	43	87.14	78.29	68	0	197	31	166

(Source: Census of India, 2011)

6.0 ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES:

Environment	Anticipated Impacts	Mitigation measures
Air environment	• Opencast mining operations are generally prone to generation of high levels of PM_{10} and to a limited extent SO_2, NO_x due to fossil fuel-based vehicles/ machines. • Loading & unloading operation during manual & semi-mechanized mining results in the generation of dust which depends upon the emission rate of pollutant & its dispersal and the meteorological conditions. • Air pollution mainly due to PM10, SO2	• Emissions inventory for SPM, RSPM, SO2, NOx shall be undertaken to satisfy the statuary requirements. • Mining shall be done in a controlled manner. • Dust suppressions shall be done by water sprayers, avoiding overloads of transported vehicles, water spray on access routes/haul roads. • Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried out in day time only. • Plantation will be carried out on approach roads and in Lease boundary. • Haul road shall be covered with gravels. • Ambient Air Quality Monitoring will be conducted on regularly basis to assess the quality of ambient air. • Persons working in dusty area to be provided with

	and NOx may result in irritation and inflammation of eyes and congestion of throat and infection in lungs.	protective gears such as helmets, dust masks, ear muffs etc.
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. • Surface water contaminants due to waste water disposal. • Excessive mining results in the thickness of natural layer which may reduce the recharge of groundwater.	• Mining operation shall be undertaken as per approved mining plan; hence, there shall not be noticeable effect on surrounding ground water resources due to mining. • Damage in the water body, depends on its assimilative capacity. Since, no water will be used in the mining operations, therefore, no waste water will be generated, thereby no impact on groundwater and surface water quality. Small amount of domestic waste water shall be treated in septic tanks and soak pits at crusher site before to put use for plantation. • No overburden or loose sediments will be kept in the working benches particularly during monsoon season. • Check dams and gully checks will be raised to reduce the velocity of runoffs, thereby minimizing the flooding & carryover of deposits to the receiving waters.

		• Mine waste dumps will be stabilized during the course of their retention. • 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	• The proposed mining activity will be done manually. Hence the only impact anticipated is due to movement of vehicles deployed for transportation of minerals. The area is away from the habitation and the noise shall be caused only by use of mechanical device which shall be below the permissible limit prescribed. There is no blasting involved. The noise level will not exceed the required level.	• Well maintained vehicles will be used in order to reduce the noise during movement of vehicles. Regular and proper maintenance of vehicles will be ensured. • No vehicular movement during night time. • Only trained drivers will be allowed to operate vehicles during mining to reduce any chance of accidents. • Plantation of trees along the mining area will be done to dampen the noise.
Land Environment	• Change in the Topography of the Land / Land Degradation.	• The proposed mining activity is carried out in Hill- Slope, therefore the broken area will be reclaimed by systematic backfilling and

		rehabilitated by afforestation so that landscape of the area is improved.
	• Solid waste generation.	• The waste will back-filled in the mined-out areas on which plantation will be raised.
	• Soil erosion.	• Soil erosion shall be prevented by constructing gully checks, check dams, etc.
	• Impact on the Agricultural Practice at nearby area due to dust generation.	• Agriculture activities practiced nearby areas may get impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul roads, excavation sites will be strictly followed so that impact is minimized.
Ecology & Biodiversity	• Disturbance to free movement / living of wild fauna viz. Birds, Reptiles etc.	• Noise produced due to vehicular movement for carrying sand materials will be within permissible noise limit. Higher noise level in the area may lead to restlessness and failure in detection of calls of mates and young ones. • If wild animals/birds are noticed crossing the core zone, they will not be disturbed at all.

		• Noise level will be maintained within permissible limit (silent zone-50dB (A) during day time or residential zone 55dB (A) as per Noise Pollution (Regulation and Control) Rules 2000, CPCB norms.
	• Impact on Agriculture, land use and vegetation.	• There will be no impact on the agriculture. Dust generated will be suppressed during mining operation at mining site as well as during transportation will be suppressed by sprinkling. • No tree cutting will be allowed. • Greenbelt development- Green cover in mining area not only help in reducing pollution level, but also improves the ecological conditions to great extent.
	• Impact on forest resources, economically important plants, medicinal plants and threat to rare, endemic and endangered species.	• Regeneration of rare and endangered plants of economic importance including medicinal plants.
Solid waste	• Generation of solid waste.	• There will not be generation of solid waste from the project as all the mined material will be processed at crusher.

		• Domestic sewage after septic treatment at nearly crusher site will be disposed on to land for plantation. • The silt & clay mixture generated during mining will be processed at crusher along with after minerals.
Soil Environment	• Soil erosion/loss of fertile top soil.	• Proper garland to be constructed around the waste dump to avoid soil erosion. • The areas where topsoil could be utilized for landscape prior to stripping of top soil will be utilized and this topsoil will be later used for reclamation of the mining site as part of mine closure.
Health and Safety	• Fugitive dust emission could have potential impact on human health.	• Persons working in dusty area to be provided with protective gears such as helmets, dust masks, ear muff etc. • Regular water sprinkling at dust generating areas, haul roads. • Occupational health checkup of all workers working in mine, and Pulmonary function test for workers working in dusty areas. • There will be restriction on vehicle speed to

		avoid accidents. • Regular health checkup of all the workers working in mine will be done.
Socio-economic	• As such no negative impact will be anticipated there.	• The project will generate direct employment opportunities for around 48-50 locals in addition to the indirect employment for many. • The project will contribute to the social and environmental well-being by way of CSR & CER. • Ancillary development in the area.
Traffic environment	• There will be increase in traffic density which will lead to air pollution in terms of particulates & gaseous emissions. • The vehicular movement results in noise pollution. • Increased traffic may cause accidental incidences.	• Only PUC certified vehicles will be used for transportation. • Unnecessary blowing of horns will be prohibited. • Workers will be periodically examined for health checkups. • To avoid accidents the speed of vehicles will be low near the habitation areas. • Speed breakers will be constructed at accident prone areas to calm the traffic and its speed.

7.0 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.

8.0 ENVIRONMENTAL MANAGEMENT PLAN:

No major environmental impacts are associated 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 Rs. 14.0 Lakhs as capital cost and Rs. 1.7 Lakhs as recurring cost has been made for environmental management. In addition, provision has been made for occupational health & safety of workers. Regular Environmental Monitoring has been instituted in the environmental monitoring program.

Conclusion: As the proposed project results in the economic, social & environmental upliftment of the area and the initiative through the CSR & CER, there will be positive impact in the region. The project may therefore be implemented at the earliest.

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 Sand, Stone & Bajri is 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. Sand, 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 Shree Ganga Stone Crusher and Screening Unit** is committed to producing high-quality of Sand, 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. Tarun Sharma; Prop: M/s Shree Ganga Stone***

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.

CATEGORY OF THE PROJECT:

As per amended MoEF & CC notification no. S.O 3977 (E) dated 14th August, 2018, the lease area being <100 Ha is categorized as **'Category B'** project and its 'EC' lies with the state government. The public consultation is to be conducted for the proposed project as three mining leases exist within 500m radius of the project site. Therefore, the project is categorized as ***'Category B1'*** project. Accordingly, the draft EIA report has been prepared for this purpose.

1.2 IDENTIFICATION OF THE PROJECT & PROJECT PROPONENT:

1.2.1 IDENTIFICATION OF THE PROJECT:

The proposal pertains to the EC for the lease area of 02-91-57 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

1.	**Name of the applicant**	**Sh. Tarun Sharma, S/o Sh. Ashok Kumar**
2.	**Name & Address**	Village & P.O. Upper Basal, Tehsil-Una, District Una, Himachal Pradesh**.**
3.	**Area (Ha)**	02-91-57 Hectares
4.	**Postal address**	Village & P.O. Upper Basal, Tehsil-Una, District Una, Himachal Pradesh**.**
5.	**Status of mine**	Application for fresh EC

1.2.2 PROJECT PROPONENT:

Sh. Tarun Sharma S/o Sh. Ashok Kumar, is involved in this business considering motive of sustainable and ecofriendly work culture and no harm to surrounding environment from the project activities.

1.3 LEGAL PROVISION:

The proponent satisfies all legal requirements necessary for the projects such as **Letter of Intent** attached as Annexure-I, **Approval letter of mine plan** from concerned authority as Annexure-II, , Jambandi as Annexure III, **500-meter radius certificate** as Annexure-IV and duly signed **Joint Inspection Report** as Annexure-V.

1.4 BRIEF DESCRIPTION:

1.4.1 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.

1.4.2 SIZE OF THE PROJECT

The project lease area is 02-91-57 Hectares and the production capacity is 56,260 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 280 days.

1.4.3 LOCATION OF THE PROJECT:

The mining area is situated in the form of a Hill Slope near the village Sanjhot of Tehsil & Distt. Una, Himachal Pradesh. The total lease area of mining measuring 02-91-57 Hectares. The mining lease area is approachable through kaccha road Dhamadari- Sanjhot diverting LHS from village Sanjhot. The mining lease area lies at a distance of 12 kms from Una and 28 kms from Amb. The applied area is approachable through Kaccha road Dhamadari- Sanjhot diverting LHS from village Sanjhot.

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 Number	592, 593, 595, 604, 636, 2226/586, 2227/586 and 2228/591
Owner of land	Private Land
Kism	Khadaitar
Mauza/Mohal	Sanjhot
Name of the Panchayat	Nangal Salangri
Area (Hectares)	02-91-57 Hectare

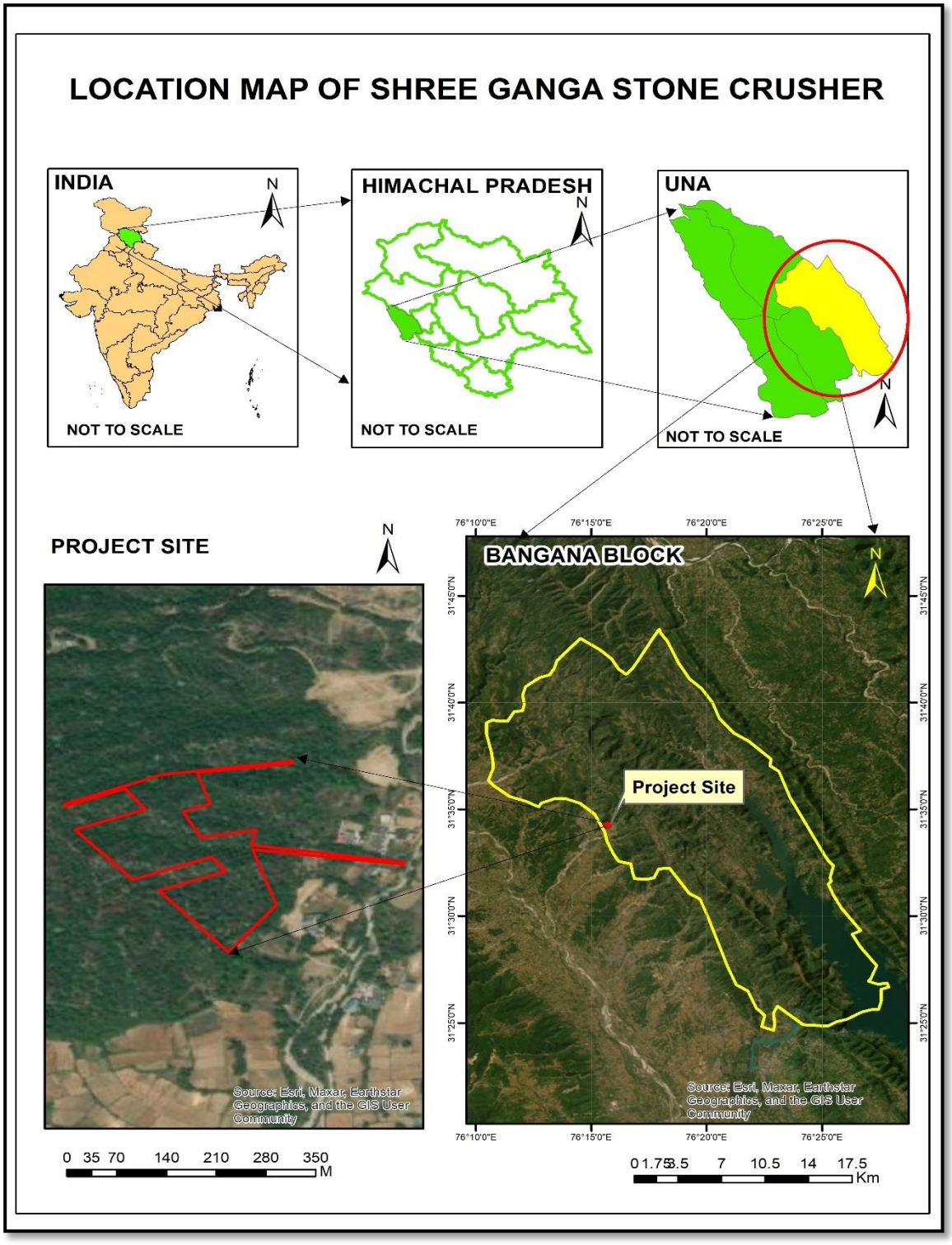
1.4.4 DETAIL OF ROAD TRANSPORT:

The mining site is located in the form of Hill slope beside the village Sanjhot. The mining lease area is approachable through kaccha road Dhamadari- Sanjhot diverting LHS from village Sanjhot. The mining lease area lies at a distance of 12 kms from Una and 28 kms from Amb. The applied area is approachable through Kaccha road Dhamadari- Sanjhot diverting LHS from village Sanjhot which is sufficiently good in condition to bear this additional traffic load. The approach road map is shown in Fig. 1.2

The average proposed annual production from the lease area is 56,260 metric tonnes of mineral. Around 14-16 trucks/tippers with 15 metric tonnes capacity are required to transport the material.

Figure – 1.1

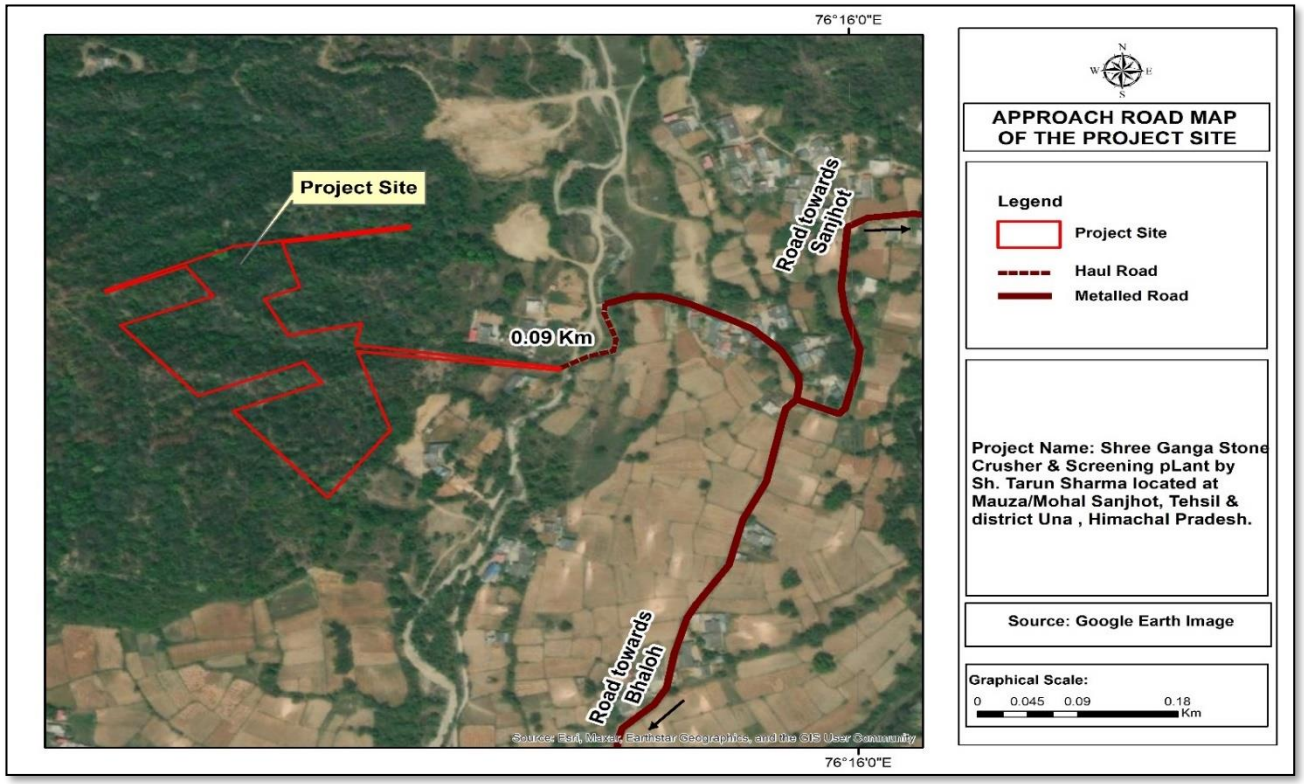
Location Map (From India Map to Local Map)



(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 proposed mining lease is in the form of a Hill Slope. The site is located near the village Sanjhot of Tehsil- Una, Distt. Una, Himachal Pradesh. The site is approachable through Kaccha road Dhamadari- Sanjhot diverting LHS from village Sanjhot. The mining lease area lies at a distance of 13 kms from Una and 28 kms from Amb.

Figure 1.3

Google Earth map of the Mining Area

(Source: Google Earth Image)

1.5 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 theworkers.
- 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.

1.5.1 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 overthe baseline quality.

- Formulation of Environmental management plan for implementation in the proposed project.

1.6 IMPORTANCE TO THE COUNTRY OR REGION:

The mine lease area is 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. Tarun Sharma, Prop: M/s Shree Ganga Stone Crusher & Screening Unit has proposed a new project of non-coal mining for obtaining E.C from the concerned authority having production capacity approx. 56,260 MT. The project itself falls in **category B2, however due to cluster situation having the cluster area of 10-16-69 Ha, the project is categorized as Category B1 as per EIA Notification**, 2006 amended till date. In this project, mining of minor minerals is manual in the Hill Slope having an area of 02-91-57 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 6 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

Period	Bench Level (in meters)	Opening reserves of useable Mineral of bench (M.T.)	Useable Material consumed from the Bench (M.T.)	Closing reserves of the bench (M.T.)	Wastage (Mining wastage+ Top soil)
1st year	502	67500	56260	11240	18753
2nd year	502, 496	95615	56260	39355	18653
3rd year	496, 490	127105	56260	70845	18854
4th year	490	70845	56260	14595	18750
5th year	490, 484	103695	56260	47445	18750
Total			**281300**	**183480**	**93760**

Thus, during five-year total production of minerals will be approx. **2,81,300 *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 40.00 meters intervals. The specific gravity of the conglomerate has been taken 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)	750150
Useable (Mineable – Wastage)	562614
Wastage (Mineable – Useable)	187536

2.3.1 DEVELOPMENT AND PRODUCTION AT THE END OF 1ST YEAR:

During this year, material from bench at 560 M.R.L. shall be opened with total usable reserves of 67500 MT.

- 56,260 MT of usable minerals will be extracted by the development of these benches.
- 18753 MT of waste will be generated by developing these benches.

- Plantation will be done in the areas as shown in map (Plate – 8).
- Waste shall be dumped in the areas as shown in map.
- Retaining walls will be constructed with a length of 8.00 meters and 1.5 meters height at C-1 location shown in plate-8.

Details of the production of the stone, silty sand and top soil for the first year is given below in table 2.3.

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

Period	Bench Level (in meters)	Opening reserves of useable Mineral of Bench (M.T.)	Useable Material consumed from the Bench (M.T.)	Closing reserves of the bench (M.T.)	Wastage (Mining wastage+ Top soil)
1st year	502	67500	56260	11240	18753
	Total	**67500**	**56260**	**11240**	**18753**

2.3.2 DEVELOPMENT AND PRODUCTION AT THE END OF 2ND YEAR:

During the 2nd year, the remaining material from benches at 502 and new bench at 496 M.R.L shall be opened with total reserves of 95615 MT.

- 56,260 MT of usable minerals will be extracted by the development of these benches.
- 18,653 MT of waste will be generated by developing these benches
- Plantation will be done in the areas as shown in map (Plate- 9).
- Waste shall be dumped in the areas as shown in map.
- Retaining walls will be constructed with a length of 8.00 meters and 1.5-meter height at C-2 location.

Details of the production of the stone, silty sand and top soil for the second year is given below in table 2.4.

Table: 2.4 Showing the production details for the 2nd Year

Period	Bench Level (in meters)	Opening reserves of useable Mineral of Bench (M.T.)	Useable Material consumed from the Bench (M.T.)	Closing reserves of the bench (M.T.)	Wastage (Mining wastage+ Top soil)
2nd Year	502	11240	11240	0	3747
	496	84375	45020	39355	14906
	Total	**95615**	**56260**	**39355**	**18653**

2.3.3 DEVELOPMENT AND PRODUCTION AT END OF 3rd YEAR:

During the 3rd year, the remaining material from benches at 496 and new bench at 490 M.R.L shall be opened with total reserves of 127105 MT.

- 56,260 MT of usable minerals will be extracted by the development of these benches.
- 18,854 MT of waste will be generated by developing these benches.
- Plantation will be done in the areas as shown in map.
- Waste shall be dumped in the areas as shown in map (plate no.10).
- Retaining walls will be constructed with a length of 8.00 metres and 1.5-meter height at C-3 location.

Details of the production of the stone, silty sand and top soil for the third year is given below in table 2.5.

Table: 2.5 Showing the production details for the 3rd Year

Period	Bench Level (in meters)	Opening reserves of useable Mineral of Bench (M.T.)	Useable Material consumed from the Bench (M.T.)	Closing reserves of the bench (M.T.)	Wastage (Mining wastage+ Top soil)
3rd Year	496	39355	39355	0	13219
	490	87750	16905	70845	5635
	Total	**127105**	**56260**	**70845**	**18854**

2.3.4 DEVELOPMENT AND PRODUCTION AT END OF 4th YEAR:

During this year, the remaining material from 490 M.R.L. shall be extracted to meet the requirements of 56250 metric tonnes of stone, boulder, pebbles & sand.

- 56,250 MT of usable minerals will be extracted by the development of these benches.
- 18750 MT of waste will be generated by developing these benches.
- Plantation will be done in the areas as shown in maps (Plate- 11).
- Waste shall be dumped in the areas as shown in maps.
- Retaining walls will be constructed with a length of 8.00 metres and 1.5-meter height at C-4 location.

Details of the production of the stone, silty sand and top soil for the fourth year is given below in table 2.6.

Table: 2.6 Showing the production details for the 4th Year

Period	Bench Level (in meters)	Opening reserves of useable Mineral of Bench (M.T.)	Useable Material consumed from the Bench (M.T.)	Closing reserves of the bench (M.T.)	Wastage (Mining wastage+ Top soil)
4th Year	490	70845	56250	14595	18750
	Total	**70845**	**56250**	**14595**	**18750**

2.3.5 DEVELOPMENT AND PRODUCTION AT END OF 5th YEAR:

During this year, the remaining material from benches at 490 and new bench at 484 M.R.L shall be opened with total useable reserves of 103695 MT.

- 56,250 MT of usable minerals will be extracted by the development of these benches.
- 18750 MT of waste will be generated by developing these benches.
- Plantation will be done in the areas as shown in maps (Plate- 12).
- Waste shall be dumped in the areas as shown in maps.
- Retaining walls will be constructed with a length of 8.00 meters and 1.5-meter height at C-5 location.

Details of the production of the stone, silty sand and top soil for the fifth year is given below in table 2.7.

Table: 2.7 Showing the production details for the 5th Year

Period	Bench Level (in meters)	Opening reserves of useable Mineral of Bench (M.T.)	Useable Material consumed from the Bench (M.T.)	Closing reserves of the bench (M.T.)	Wastage (Mining wastage+ Top soil)
5th Year	490	14595	14595	0	4865
	484	89100	41655	47445	13885
	Total	**103695**	**56250**	**47445**	**18750**

2.4 END USE OF MINERAL:

The extracted material after screening will be used in the already established stone crusher unit for manufacturing grit and manufactured sand.

2.5 GEOLOGY:

The geology of the Applied Lease Area

The Siwalik Group mainly represents the rocks of the district. In addition to this at few places the newer alluvium of Quaternary age is also present. In the advent of Neocene, a depression was formed in front of the rising mountains (Prto-Himalaya). This depression becomes a repository of a thick sequence of the molasses sediments of the Siwalik Group comprising conglomerates in general are poorly cemented but at places they are very hard. These consist mainly of pebbles and cobbles of quartzite, the stray pebbles of granite, limestone, sandstone, breccias and lumps of clay stone are also observed at places. Often the size of pebbles is large enough to be called as boulders. The conglomerates not only occur as regular band but also as lenticular bands alternate with micaceous sandstone and clay beds. The sediments were bough down 2 to 25 million years ago by the numerous fast flowing rivers issuing forth from rapidly rising mountain mass of the Himalaya in the north. The Siwalik Groupis divisible into three sub-groups respectively the lower, Middle and upper on the basis of the litho-Stratigraphy.

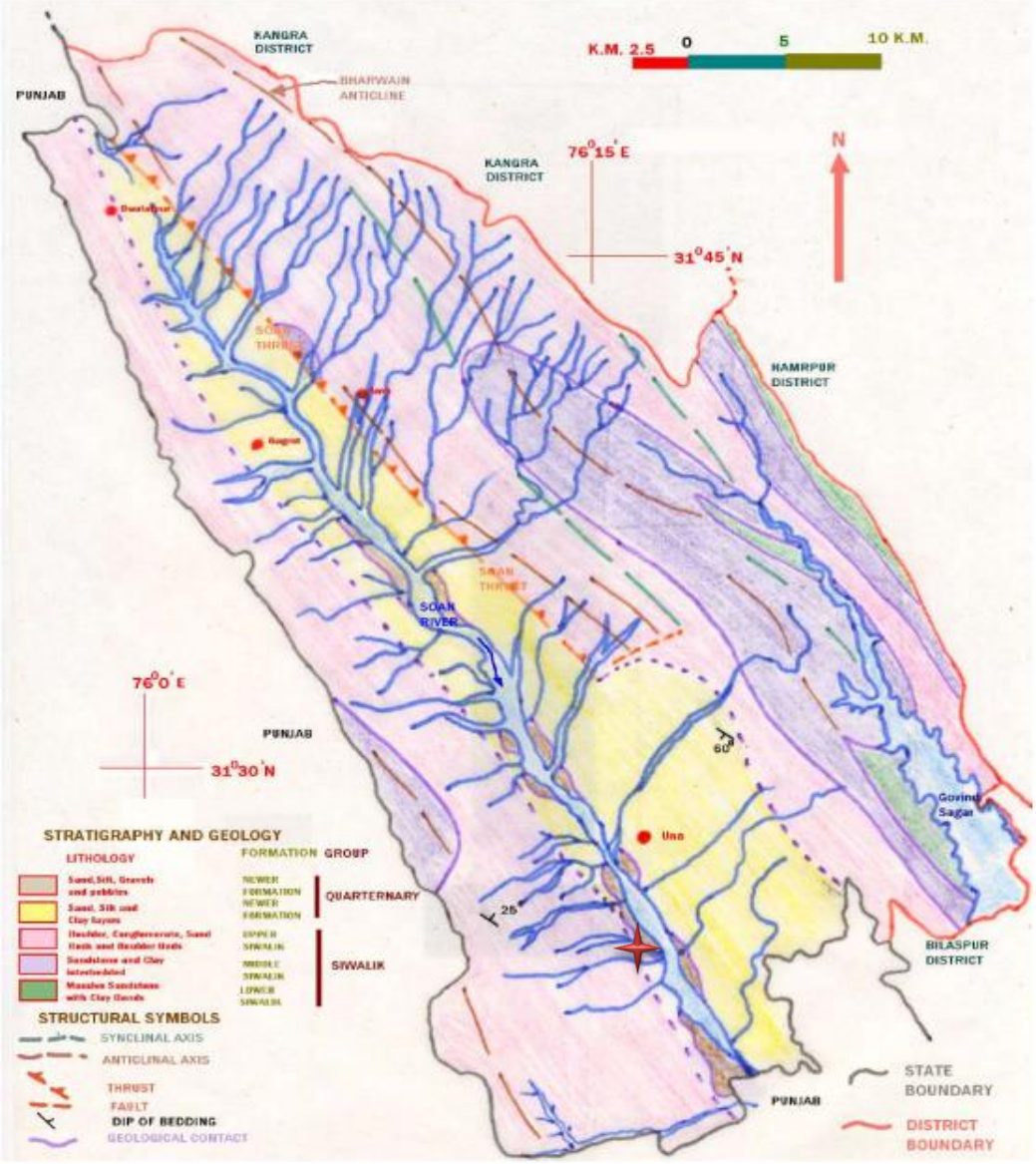


Fig: Geological map of District Una

Source- DSR, Una

Siwalik Group

The Siwalik Group in the Himachal Himalaya forms a parallel foot-hill belt in the Sub- Himalayan zone, extending along the southern margin of the Paleogene Sirmur Group belt from the Ravi to the Yamuna and forms part of the larger Sub- Himalayan mega belt extending from Potwar basin in NW to the Arunachal foot-hill in SE. In the Himachal Himalaya it has maximumwidth between Hoshiarpur and Joginder agar.

The Siwalik sediments through occurring as an independent structural belt, are also seen to overlie the Muree in the Jammu Sector of the Kashmir Himalayan and the Kasauli in the Himachal Himalayan Pilgrim (1910) recorded a gradual transition from Muree beds to Lower Siwalik in the Rawalpindi and Jhelum districts of Pakistan and from Kasauli to Lower siwalik (Nahan) in the Himachal Himalaya. This fact assumes importance because there is a tendency to ignore this normal relationship between the Siwalik and Sirmour Groups at Dharamshala, Sarkaghat and Nalagarh.

At Haritalyangar near Bilaspur, the Lower Siwalik is seen resting on the Dagshai with an unconformity, which is described as the most striking discordance in the whole sequences of freshwater deposits and evidently representing a period of considerable earth movements (Pascoe, 1964).

The Siwalik Group is divisible into three subgroups respectively the Lower, Middle and Upper on the basis of lithostratigraphy (Table—Karunakaran and Ranga Rao, 1979).

Lower Siwalik Subgroup

The Lower Siwalik subgroup consists essentially of sandstone-clay alternation. The lower boundary of the Lower Siwalik does not crop out at surface in the Jawalamukhi sector. In a deep well drilled in the over Thrust block of the Jawalamukhi Thrust, however the Lower Siwalik is found conformably is also marked by an increase in the percentage of heavy minerals giving a dark appearance to the rock and incoming of less rounded heavy minerals like staurolite and unstable types like zosite and epidote. The lithostratigraphy of the Siwalik Group is shown in table 2.8.

Table 2.8 Showing Lithostratigraphy of the Siwalik Group

Group			**Lithology**	**Age**	**(Approx.) Thickness**
Newer Alluvium			**Sand, Silt, Gravel and Pebbles**	**Quaternary**	**Variable**
Siwalik Group	Upper Siwalik	**B**	Predominantly massive boulders with red orange clay as matrix and minor sandstone andearth, buff and	**Neogene**	**2300 meters**

			brown clay stone.		
		A	Sandstone, clay and conglomerate alternation		
	Middle Siwalik	**B**	Massive sandstone with minor conglomerateand local variegated clay stone.		**1400 to 2000 meter**
		A	Predominantly medium to coarse- gained sandstone and red clay alternation, soft pebbly with subordinate clay stone, locally thick prism of conglomerate.		
	Lower Siwalik	**B**	Alternation of fine to medium-grain sporadically pebbly sandstone, calcareous cement a prominent chocolate and maroon clays tone in the middle part.		**1600 meter**
		A	Red and mauve clay stone with medium to fine-grained sandstone. Thin intercalation of		

Source- District Survey Report, District Una, H.P

2.6 GEOLOGY OF THE PROJECT SITE:

As the mining site is the part of Hill Slope which is covered with B members of the Upper Siwalik Formation. The Hill is mainly comprised of a thick boulder bed of the B member of the Upper Siwalik Formation comprising of boulders, cobbles, pebbles, river-borne bajri, clay and sand/silt

deposits of terrace alluvium. The study of the rocks in and around the applied mining lease area belongs to the Siwalik Group comprising of Boulders, Pebbles, Cobbles, Clay, Sand and Silt.

2.7 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 100 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 2.9:

Table 2.9 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'	4400	100	440000	264000	990000	594000
B-B'	3200	100	320000	192000	720000	432000
TOTAL					**1458000**	**874800**

2.8 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.

2.9 WASTE DISPOSAL ARRANGEMENT:

During mining operation, low grade mineral like silty sand and top soil as mine waste will be produced after screening in the stone crusher. The waste material 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 2.10:

Table 2.11 Showing year wise generation of Silty sand & Top soil

S. No.	Year	Quantity of Wastage (MT)
1.	**1st year**	18753
2.	**2nd year**	18653
3.	**3rd year**	18854
4.	**4th year**	18750
5.	**5th year**	18750
Total		**93760**

2.9.1 YEAR WISE DISPOSAL OF MINE WASTE:

As the mining is proposed in Hill slope, the waste material/Top soil shall be dumped in the dumps and spread over the worked-out benches for raising plantation or for the development of agriculture fields. There is an occasional demand of this material in the market for use as a leveling and filling in road construction and for other purposes.

2.9.2 COST OF MINE WASTE DEVELOPMENT:

The material will be brought to the dump site by trucks as well as manually adding little addition to the mining cost of around Rs. 5/- per tonne of waste. The total waste production in 5 years is 1,00,000 tonnes. The total cost of dumping will be around Rs. 500000.

2.10 TOPSOIL UTILIZATION:

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

2.11 PREVENTIVE RETAINING STRUCTURES:

- Five nos. of retaining structures/gabion/crate wire structure of 08 meters in length and 1.5 meters in height have been proposed to be raised in five years.

- Each retaining structure/gabion/crate wire structure shall cost Rs. 60,000 and the total cost for construction of these in five years shall be Rs. 3,00,000.

The year-wise details of retaining structures are shown in table 2.11

Table 2.11 Showing Year wise Plan of Retaining structures

Year	Retaining walls/crate wire structures	Length (m)	Height (m)	Width (m)	cost (in Rs.)
1	**C-1**	8	1.5	1	1,20,000
2	**C-2**	8	1.5	1	1,20,000
3	**C-3**	8	1.5	1	1,20,000
4	**C-4**	8	1.5	1	1,20,000
5	**C-5**	8	1.5	1	1,20,000
Total					**6,00,000**

2.12 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 area proposed for plantation with number and species of trees to be planted is given in the table 2.12 and 2.13.

Table: 2.12 Details of plantation

Year	Area to be covered (in Sq. meter)	Number of trees to be planted
First	3180	477
Second	3180	477
Third	3180	477
Fourth	3180	477
Fifth	3180	477
Total	**15900**	**2385**

Table: 2.13 Species to be planted

Common name	Botanical name	Family	Habitat
Siris	*Albizia Lebbeck*	Fabaceae	Tree
Sahtoot	*Morus Alba*	Moraceae	Tree
Mango	*Magnifera Indica*	Anacardiaceae	Tree
Curry tree	*Murrayakoenigii*	Rutaceae	Shrub
Neem	*Azadirachta indica*	Meliaceae	Tree

The total cost of plantation including its maintenance for five years shall be approx. 3.0 Lakhs. The cost includes cost of plants, mineable and other labor activities. The estimated ***survival rate*** proposed to be achieved shall be 80%.

2.13 MANPOWER REQUIREMENT:

Total production for five years including waste = 2,81,300 MT

Total production for one year = 56,260 MT

Total production for one day = 200 MT

1 Labor cater 4 Ton material per day

Therefore, the manpower required for the mining process will be around 48-50 persons. The details of the same is given in table 2.14 below:

Table: 2.14 Manpower Details

MANPOWER DETAILS	
Mining Engineer	1
Geologist	1
Foreman	1
Accountant	1
Driver	4
Labour	42
Total	**50**

2.14 TYPE OF MINING & MINING METHOD:

The method of mining will be manual. The mining operations shall be carried out in the mining lease area after leaving 05 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 502 mR.L. and upto the level of 484 mR.L. onwards by preparing 6 X 6 meters (Height X Width) benches.
- 04 number of benches are proposed to be developed while excavating the mineral from the mining lease area.
- No blasting is required /undertaken.
- The angle of repose has been kept at 40° – 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.

2.15 WATER REQUIREMENT:

Total amount of water required for the project is 6.0 KLD. Water will be sourced from borewell. A water storage tank of appropriate capacity shall be provided for domestic use in emergency cases. About 1.5 KLD will be required for dust suppression, 2.0 KLD for plantation purpose and about 2.5 KLD for domestic purposes.

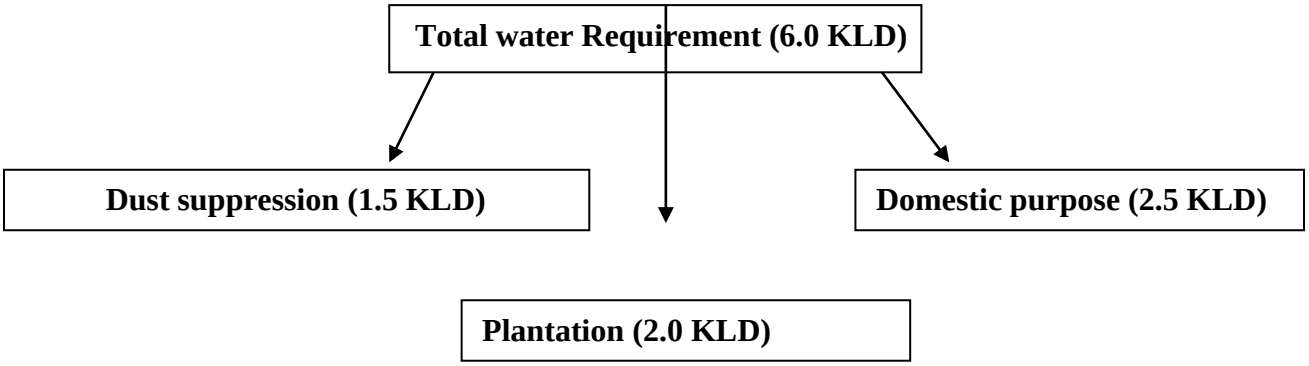


Figure - 2.1

Surface and Geological Feature Map

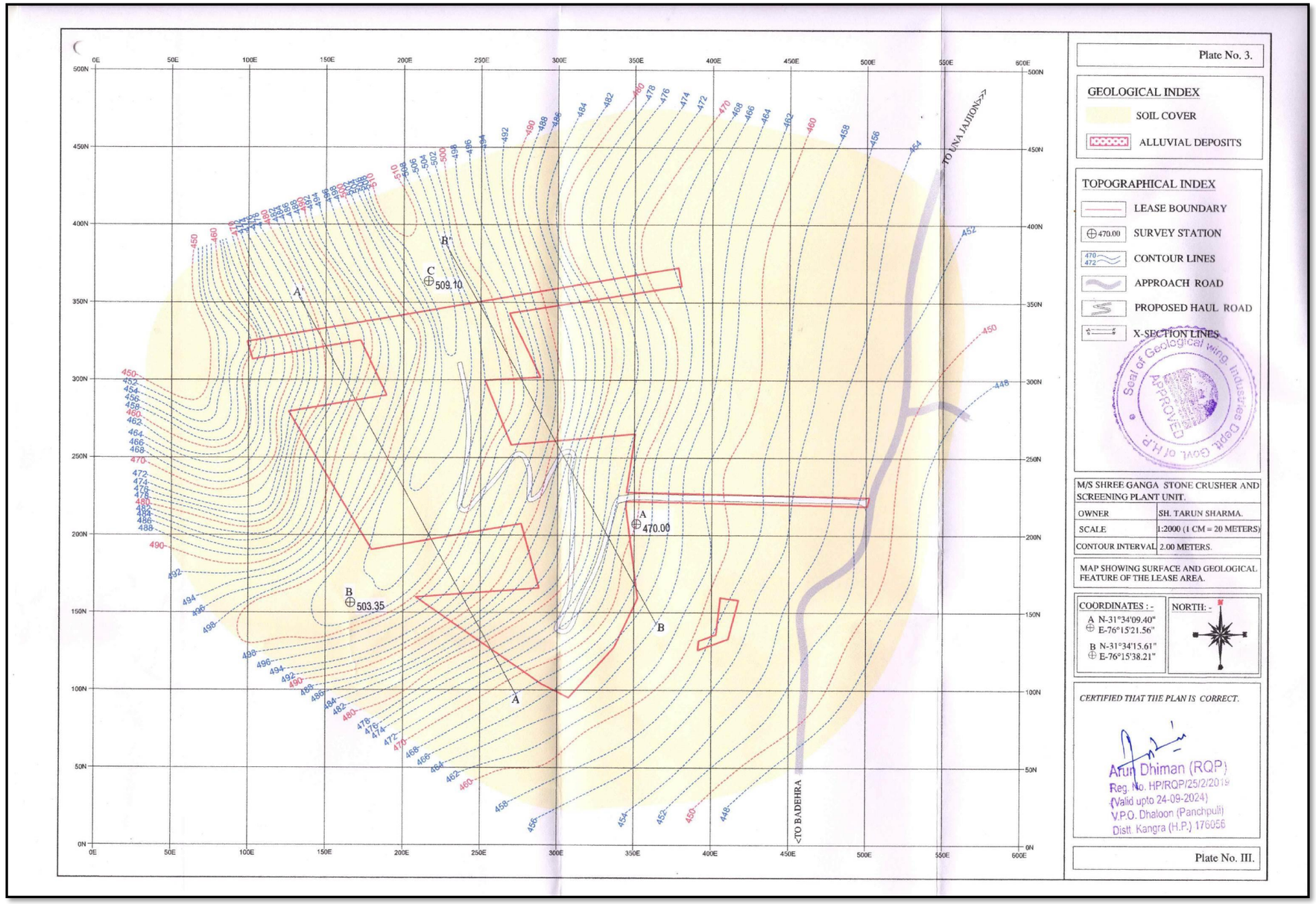


Figure- 2.2

Pit Plan for the 1st Year

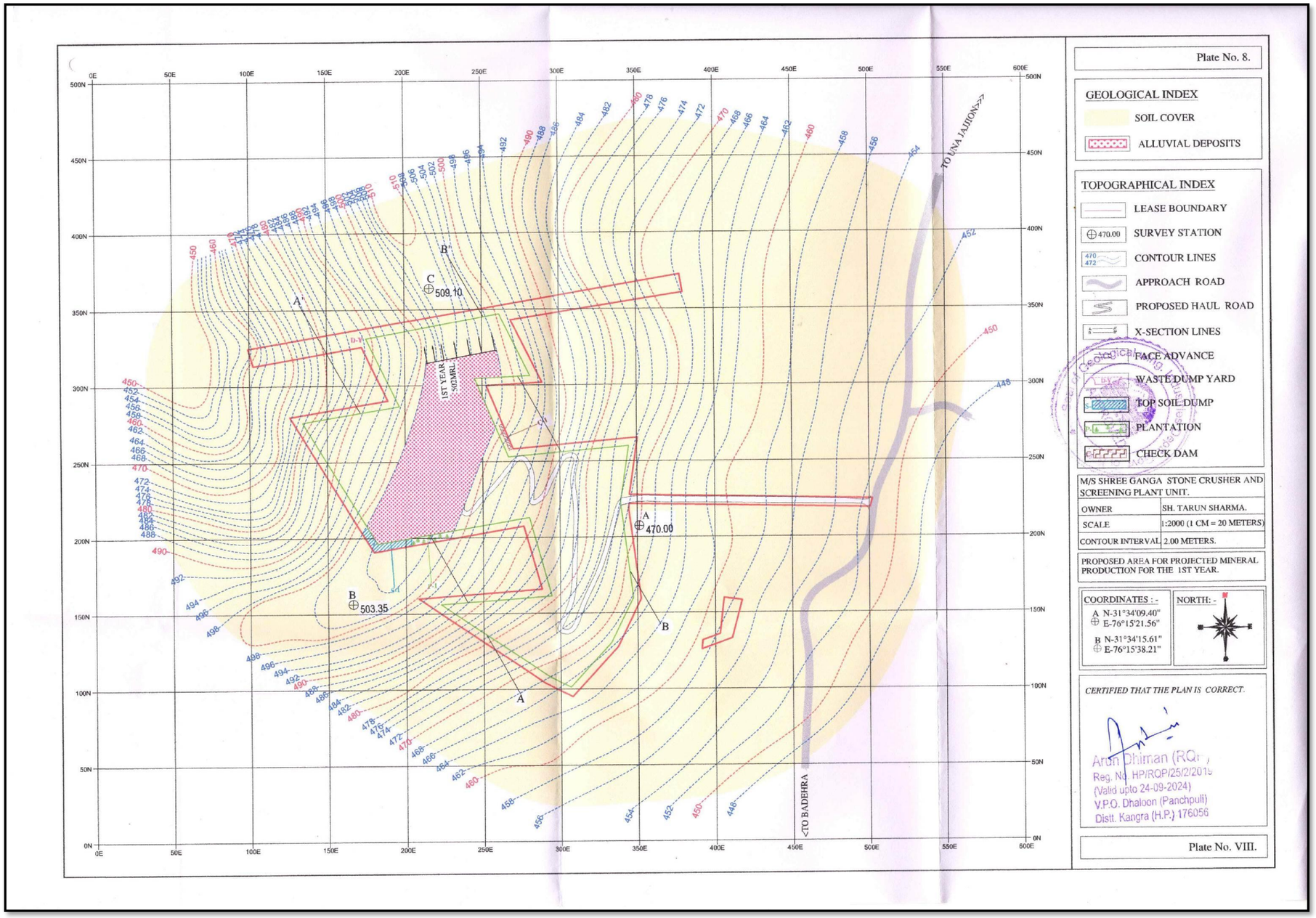


Figure- 2.3

Pit Plan for the 2nd year

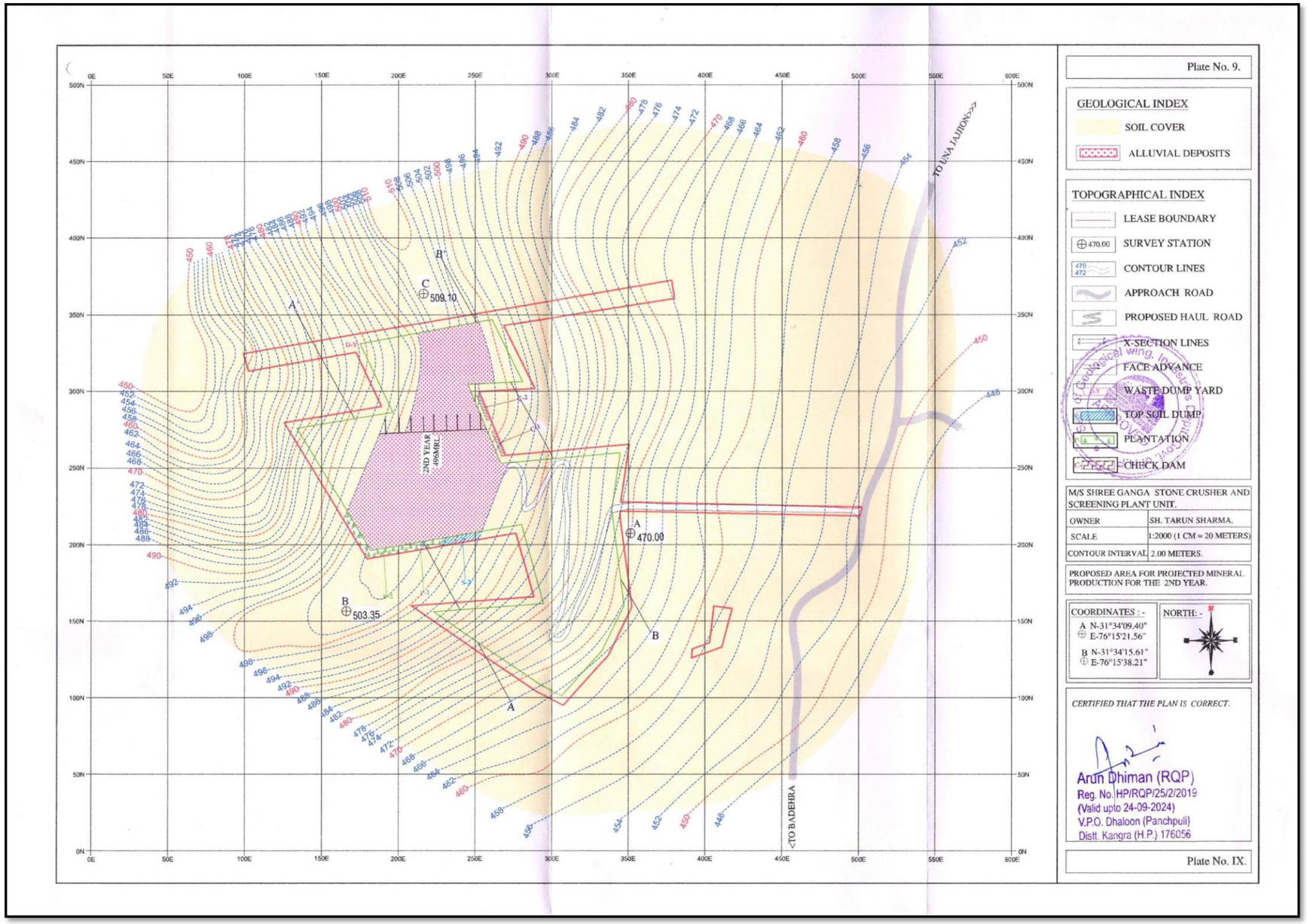


Figure - 2.4

Pit Plan for the 3rd Year

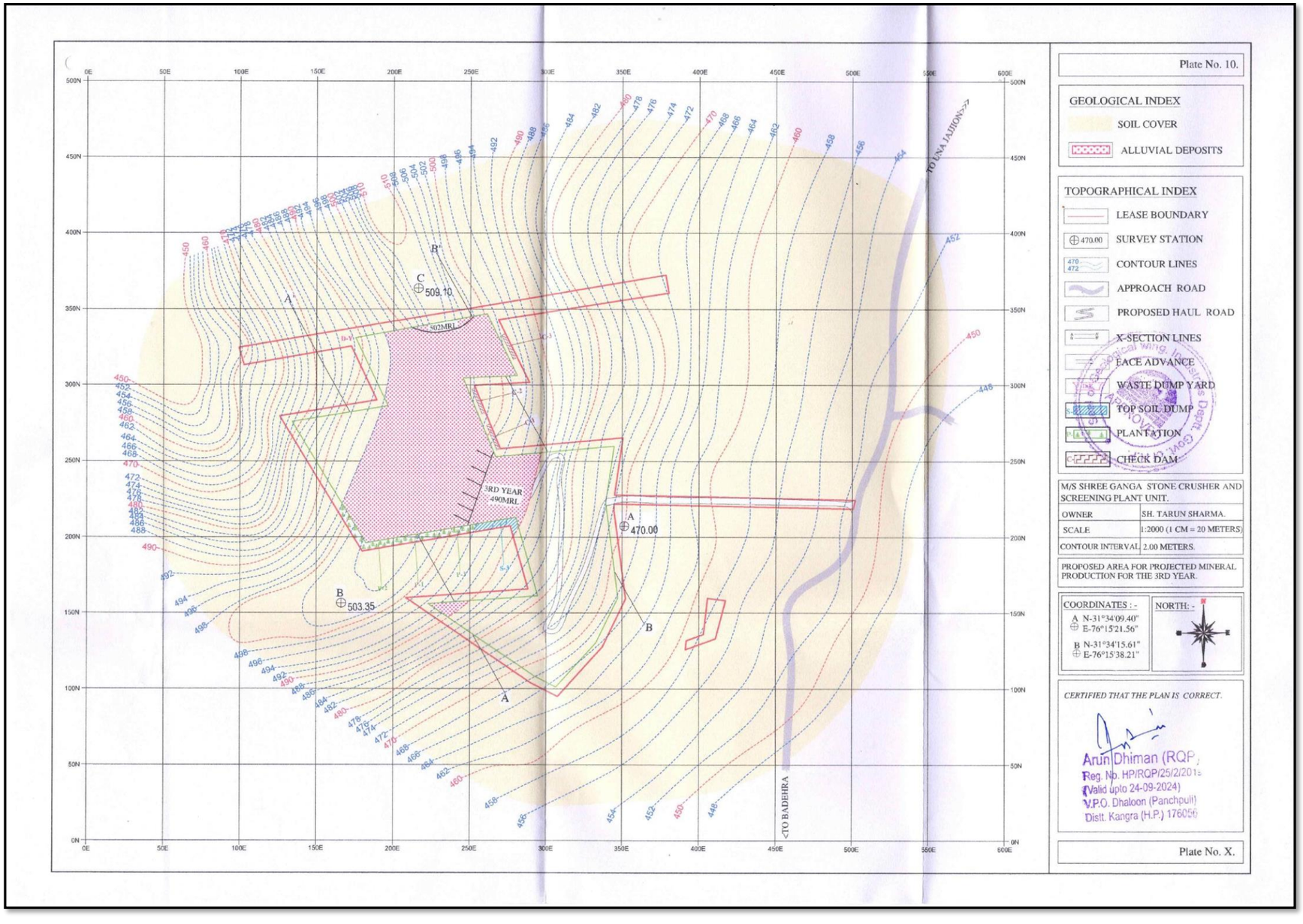


Figure 2.5

Pit Plan for the 4th Year

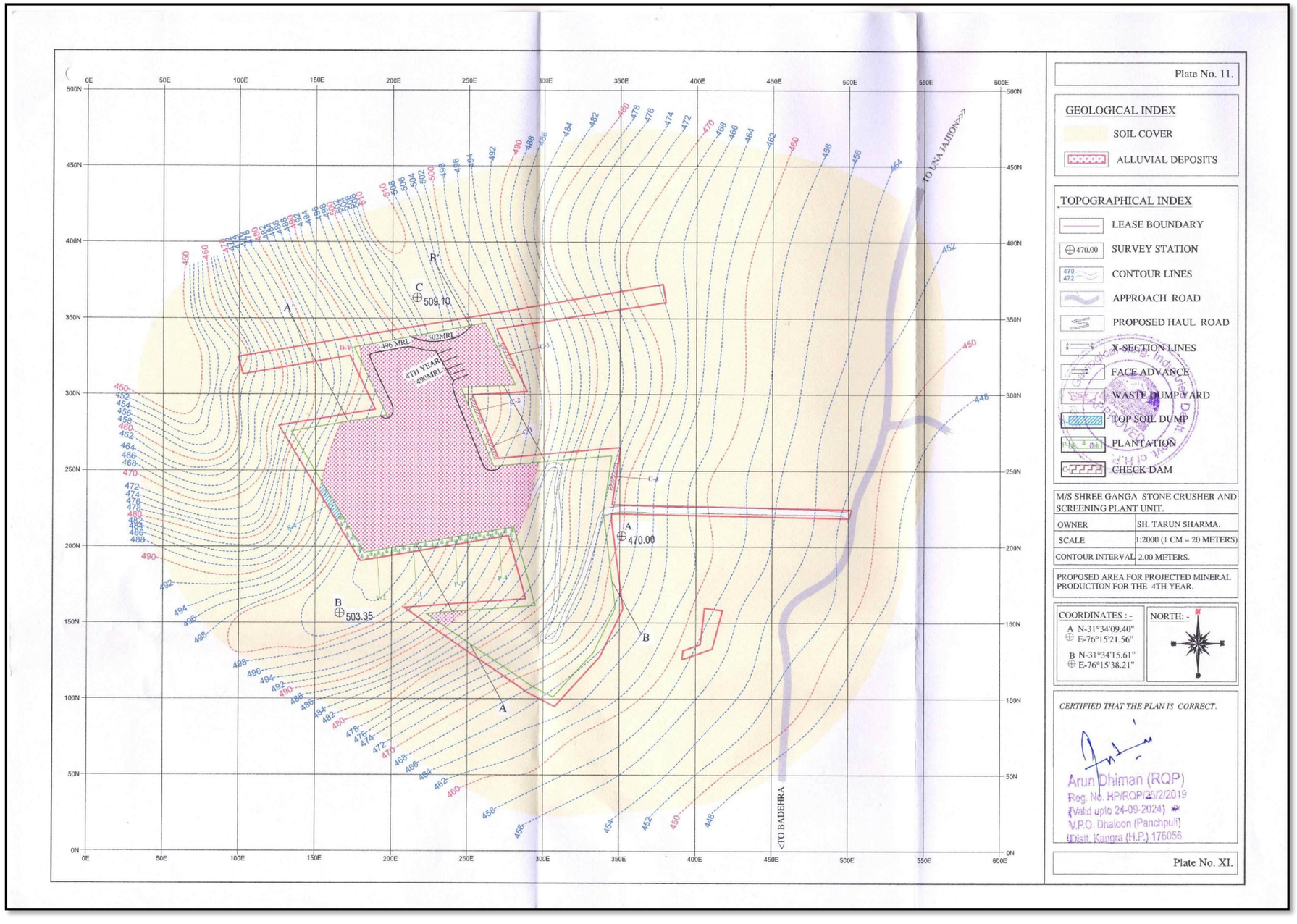


Figure- 2.6

Pit Plan for the 5th Year

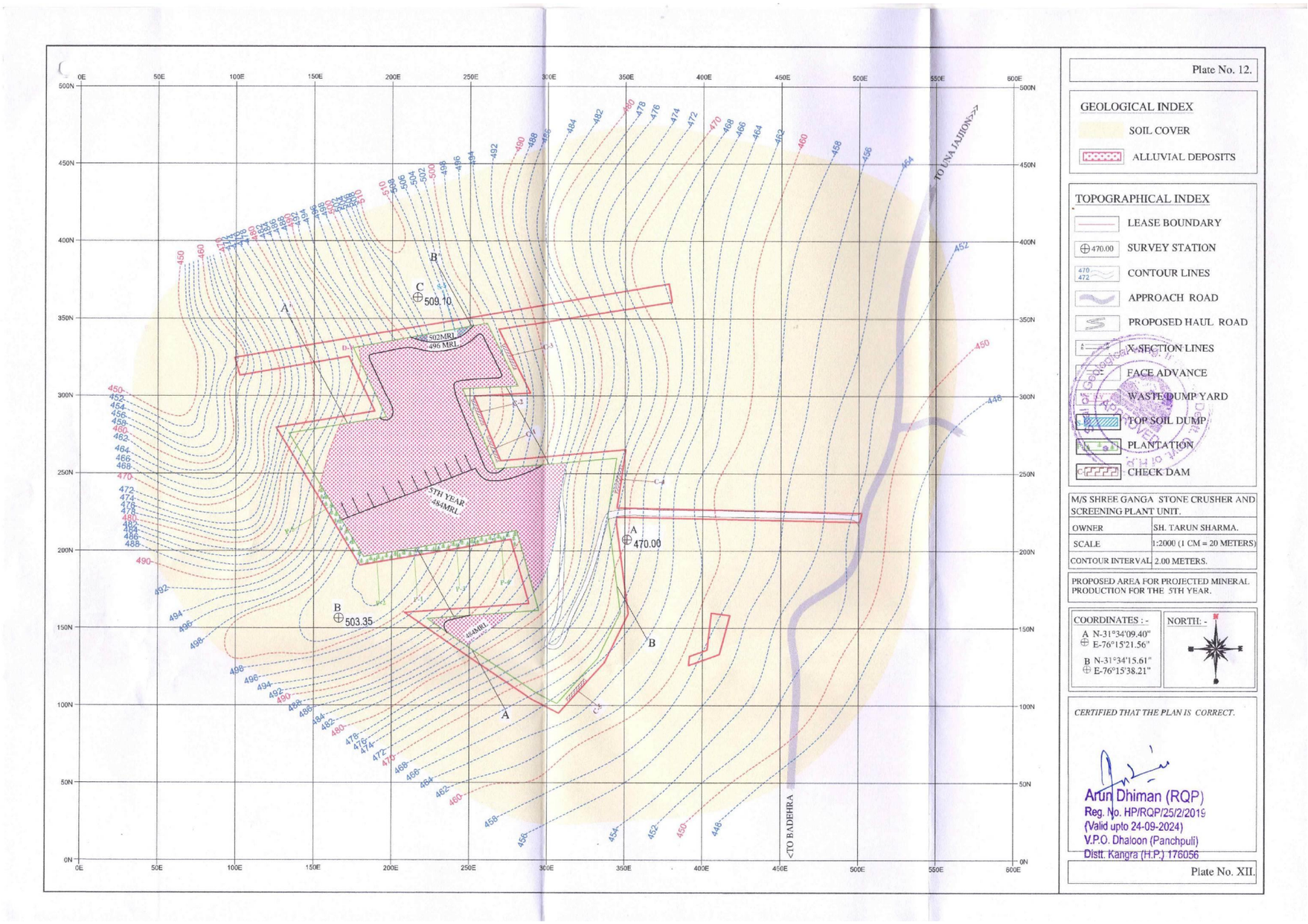


Figure 2.7

Post Reclamation Plan

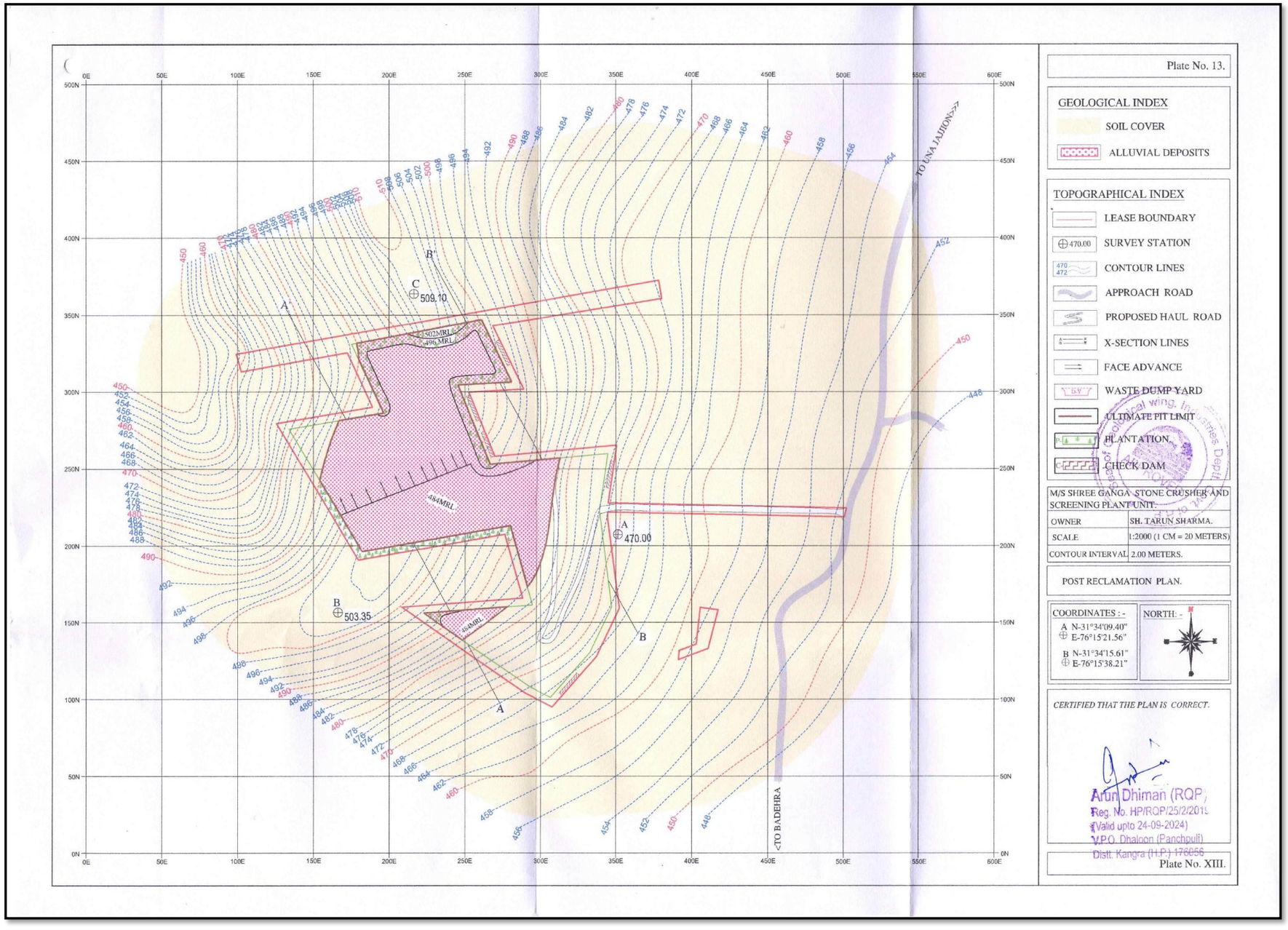


Figure-2.8

Ultimate Pit Plan

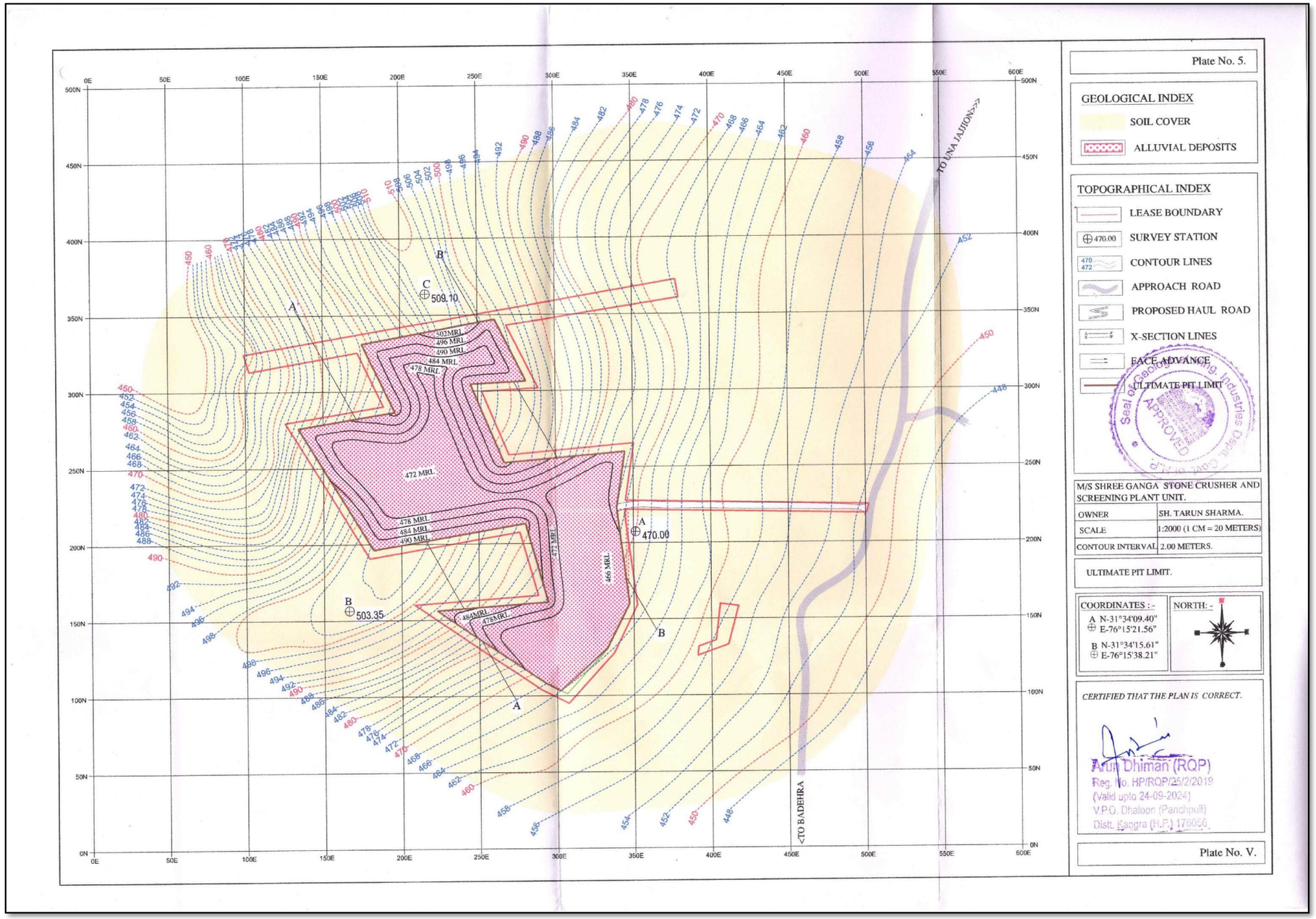


Figure 2.9

Slice Plan

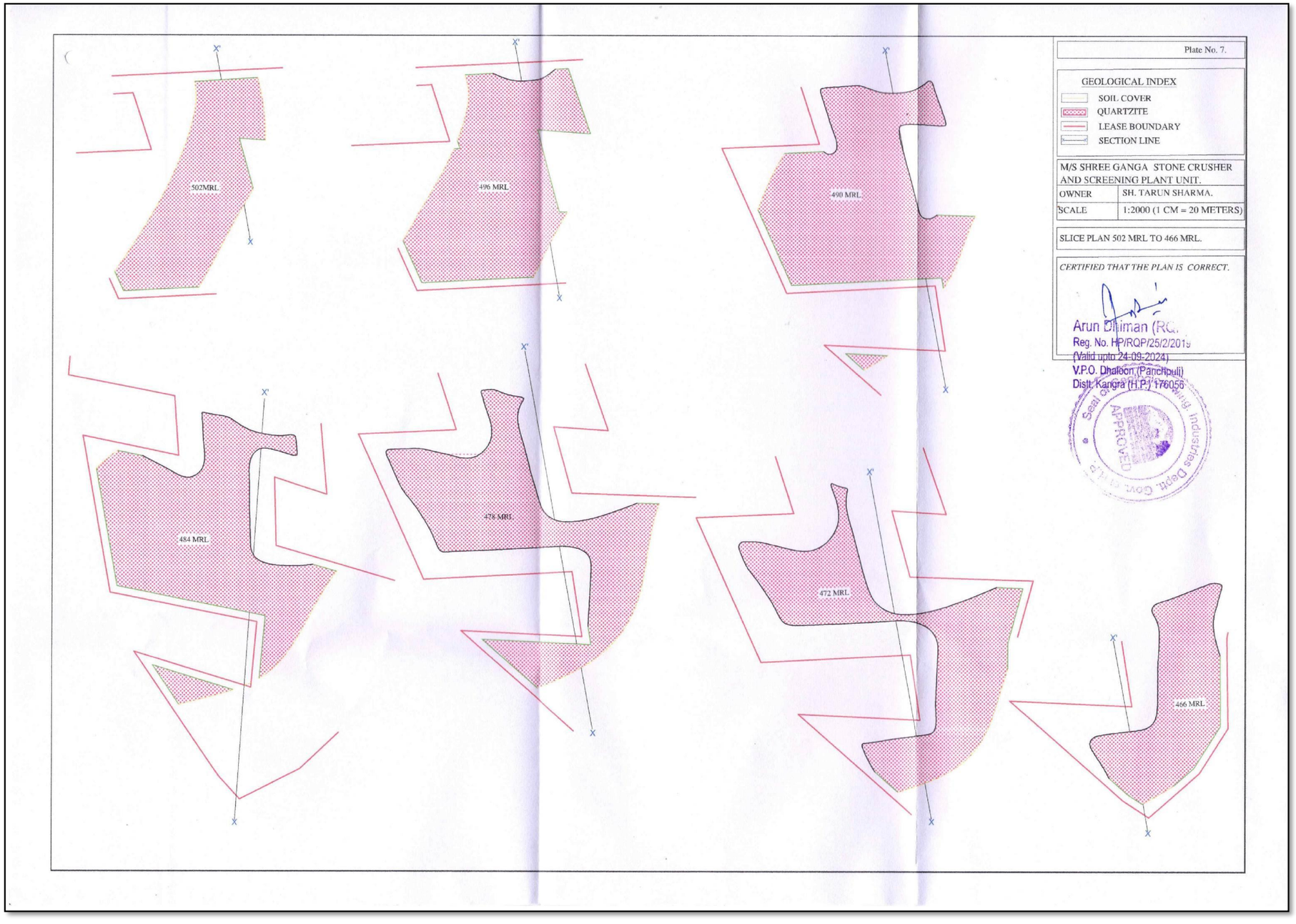
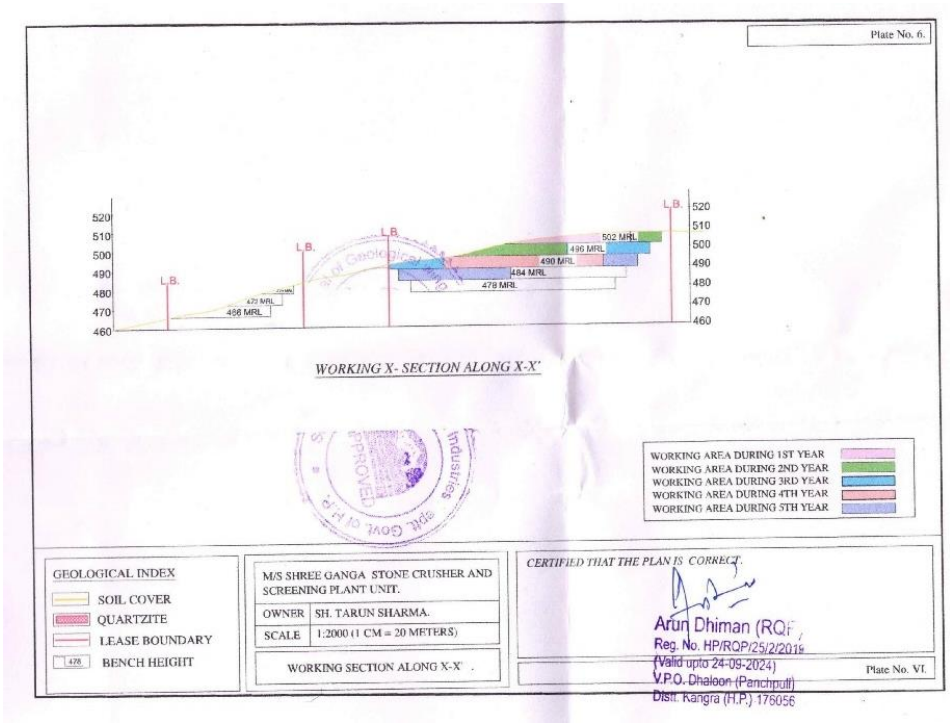


Figure 2.10

Cross Section Map



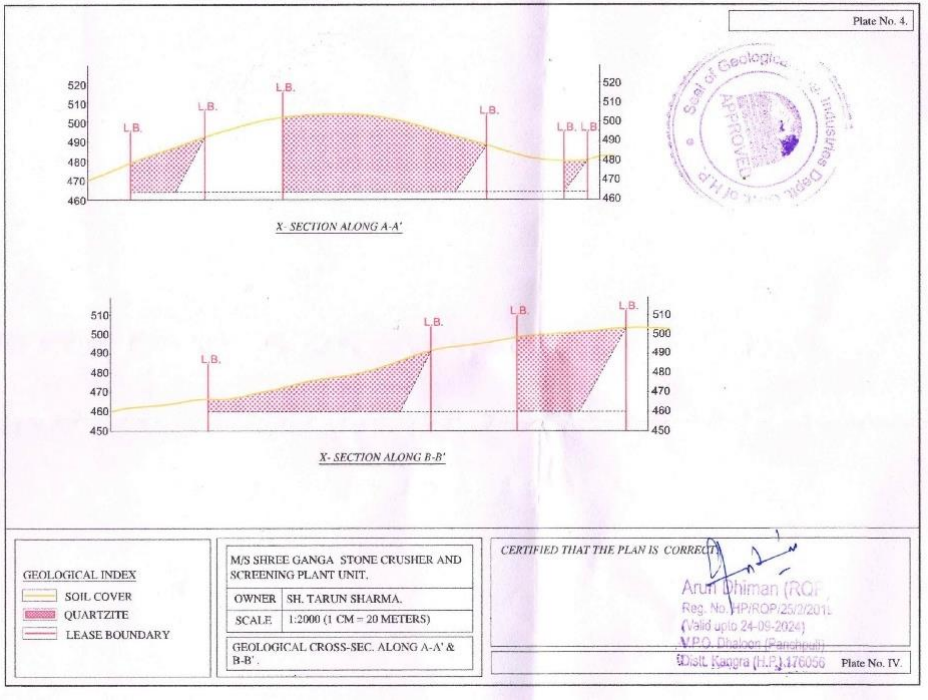


Figure 2.11

Cross Section Map Along the Mining Area

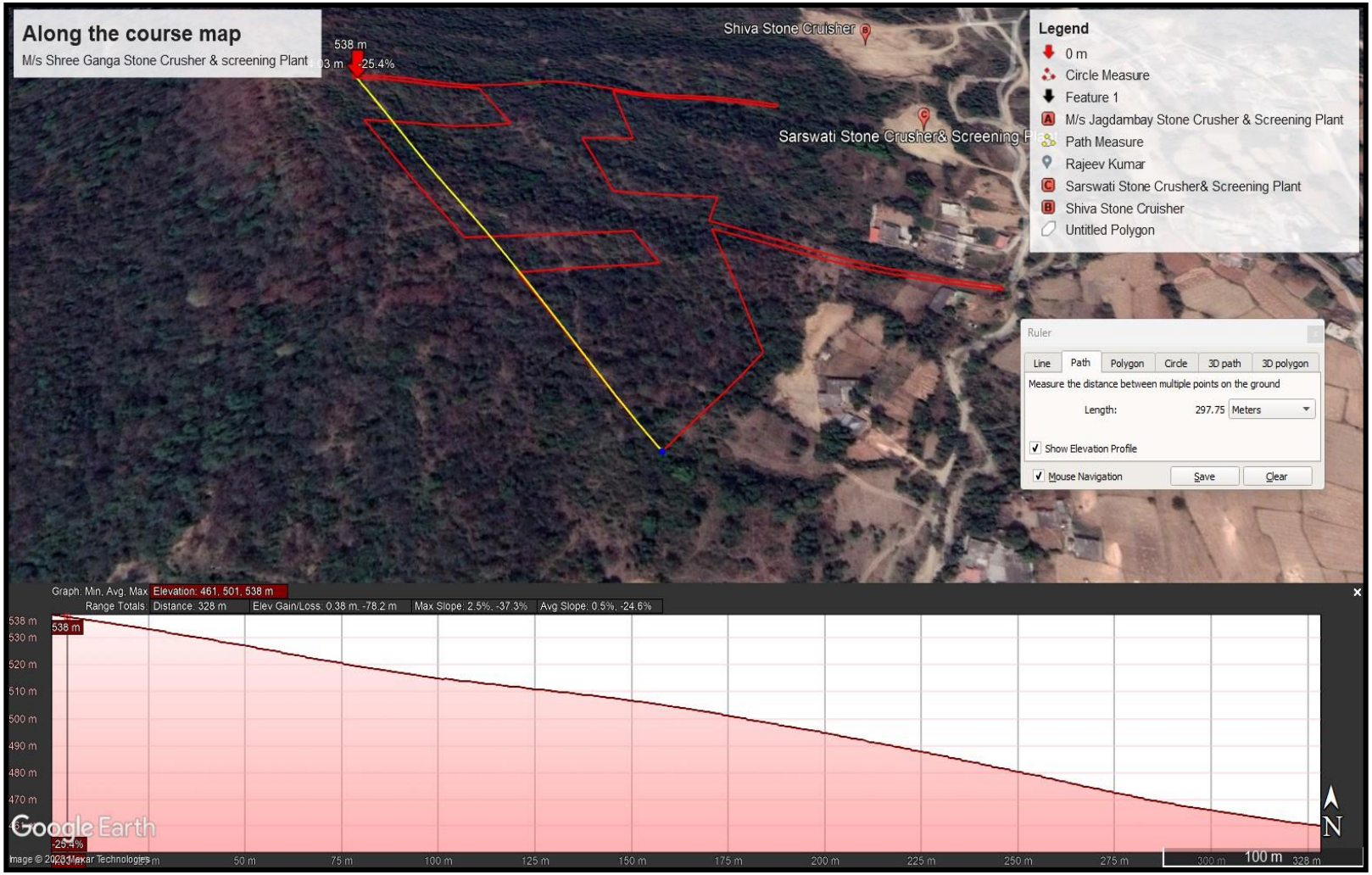
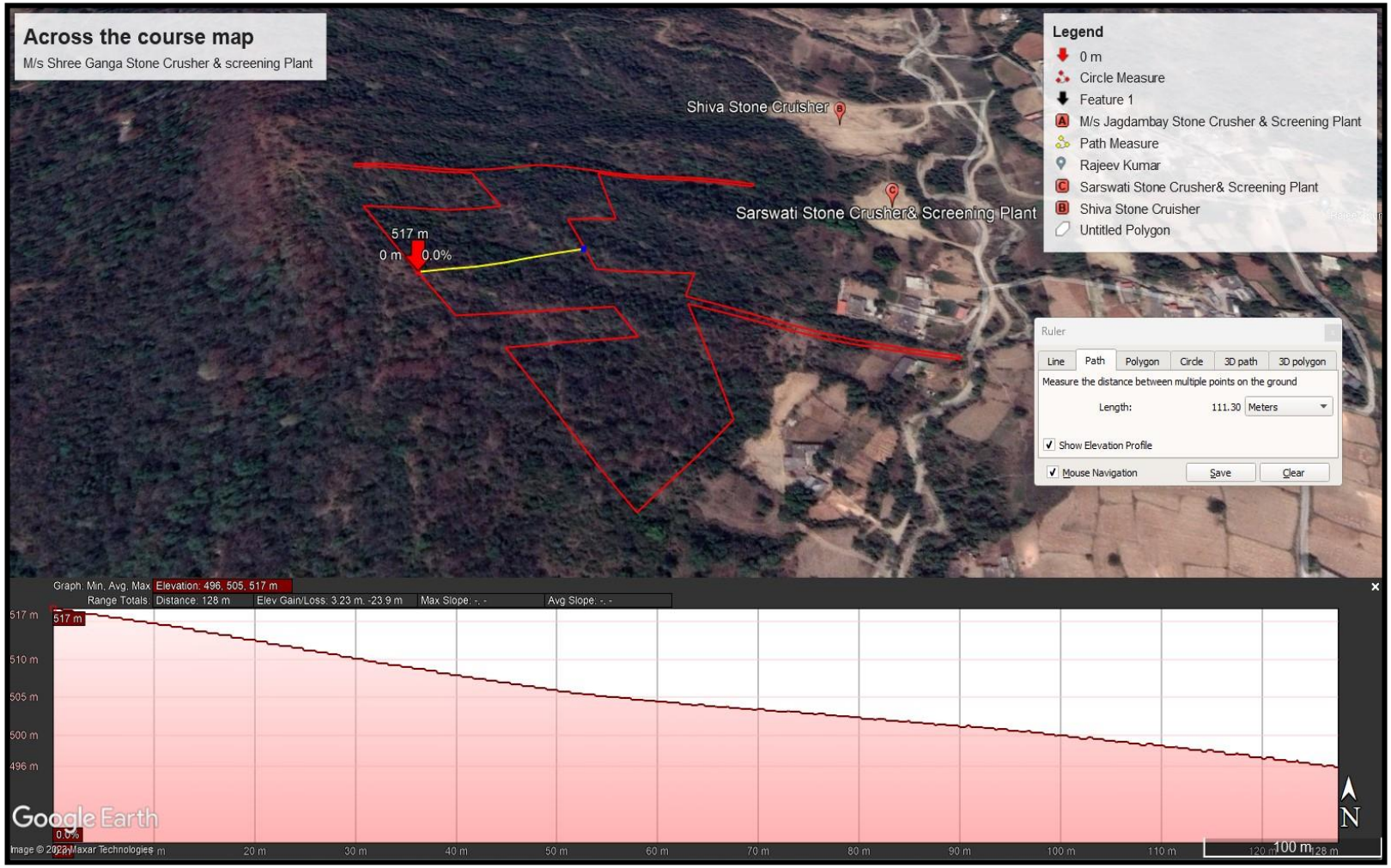


Figure 2.12

Cross Section Map Across the Mining Area



CHAPTER-3.0

BASELINE SETTINGS

3.1 THE STATE:

Himachal Pradesh having world's mightiest mountain ranges is one of the hilly States situated in the Northern part of India. It is blessed with some of the most spectacular and beautiful landscapes. It came into being in November, 1966 after the re-organization of States. Earlier, it was part of the combined State of Punjab. The various hill towns in the State not only provide visitors reprieve from the heat of the planes, but offer beautiful scenic sites which are real treat to the eyes. Kullu and Kangra valleys offer natural beauty which is no less than Kashmir Valley. Valleys and streams, snow clad mountains and temperate forests offer tourists and sportsmen all they want.

Earlier the economy of the State mostly depended on tourism and a large number of tourist sites had been developed by the State. However, after the re-organization, the State has made big strides in the field of industrialization also. The State has good deposits of minerals like gypsum, lime stone and slate etc. It has big reserve of minerals which can be used in various types of industries. Mining of minor minerals is also, therefore, an extensive Industry in the State. Industries like Cement, Electronics, Fertilizers, Pharmaceuticals and Liquor can be found in good number at different places in the State. Hydel Power in the State has given a big boost tothe industries. A number of Industrial areas have been developed in the State, where all facilities are provided to the entrepreneurs. Parwanoo, Barotiwala, Baddi, Paonta Sahib and Raja Ka Bag are some of the important industrial areas developed by the State in the last two decades.

3.2 UNA 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 PROJECT SITE:

Proposed project site is located in the form of hill slope near the village Sanjhot. . The site lies at a distance of 13 kms from Una and 28 kms from Amb. The site is approachable through Kaccha road Dhamadri- Sanjhot diverting LHS from village Sanjhot.

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.and 5-meter radius map given in figure 3.3.

TABLE 3.1

SALIENT FEATURES OF THE PROJECT

<table>
<tr><th>S. No.</th><th>Particulars</th><th colspan="3">Details</th></tr>
<tr><td>1.</td><td>Location</td><td colspan="3"></td></tr>
<tr><td>a)</td><td>Mauza/ Mohal</td><td colspan="3">Sanjhot</td></tr>
<tr><td>b)</td><td>Tehsil</td><td colspan="3">Una</td></tr>
<tr><td>c)</td><td>District</td><td colspan="3">Una</td></tr>
<tr><td>d)</td><td>State</td><td colspan="3">Himachal Pradesh</td></tr>
<tr><td>e)</td><td>Lease Area Co-ordinates</td><td>Pillar No.</td><td>Latitude</td><td>Longitude</td></tr>
<tr><td rowspan="5"></td><td rowspan="5"></td><td>P1</td><td>31°34'18.51"N</td><td>76°15'34.43"E</td></tr>
<tr><td>P2</td><td>31°34'20.66"N</td><td>76°15'44.83"E</td></tr>
<tr><td>P3</td><td>31°34'15.65"N</td><td>76°15'49.90"E</td></tr>
<tr><td>P4</td><td>31°34'11.26"N</td><td>76°15'41.89"E</td></tr>
<tr><td>P5</td><td>31°34'14.81"N</td><td>76°15'37.54"E</td></tr>
<tr><td>2.</td><td>Elevation</td><td colspan="3">Highest 508 meters above MSL.
Lowest 450 meters above MSL.</td></tr>
<tr><td>3.</td><td>Climatic Conditions</td><td colspan="3"></td></tr>
<tr><td>i.</td><td>Temperature Min/Max</td><td colspan="3"><table><tr><td colspan="2">Winter C°</td><td>Summer C°</td><td>Rainy C°</td></tr><tr><td>Min</td><td>2.4</td><td>27</td><td>19</td></tr><tr><td>Max.</td><td>23</td><td>44.8</td><td>32</td></tr></table></td></tr>
<tr><td>ii.</td><td>Rainfall: Average,</td><td colspan="3">Approx. 1209.0 mm</td></tr>
<tr><td>iii.</td><td>Relative Humidity, % (average annually)</td><td colspan="3">Lowest 37.20 %, Highest (83.76 %).</td></tr>
<tr><td>iv.</td><td>Wind speed</td><td colspan="3">6.48-21.6 Km (approx.)</td></tr>
<tr><td>4.</td><td>Nearest highway/road</td><td colspan="3">SH-32 (3.97 km)</td></tr>
<tr><td>5.</td><td>Nearest railhead/Railway station</td><td colspan="3">Una railway station (10.71 km)</td></tr>
<tr><td>6.</td><td>Nearest airport</td><td colspan="3">Gaggal airport (65.28 km)</td></tr>
</table>

7.	**Nearest Major City**	Una (10.0Km)
8.	**Nearest Major Settlement.**	Una (10.0 km)
Features within 5 kms		
i.	**Archaeological important places.**	Nil
ii.	**Wild life/ Elephant & Tiger pl sanctuaries**	Nil
iii.	**Industries**	There are around 3 industries within the 5 kms of the project site.
iv.	**State boundary**	Nil
v.	**Mining type**	Private land - Hill Slope

Figure- 3.1

Location Map on 10 Km Toposheet

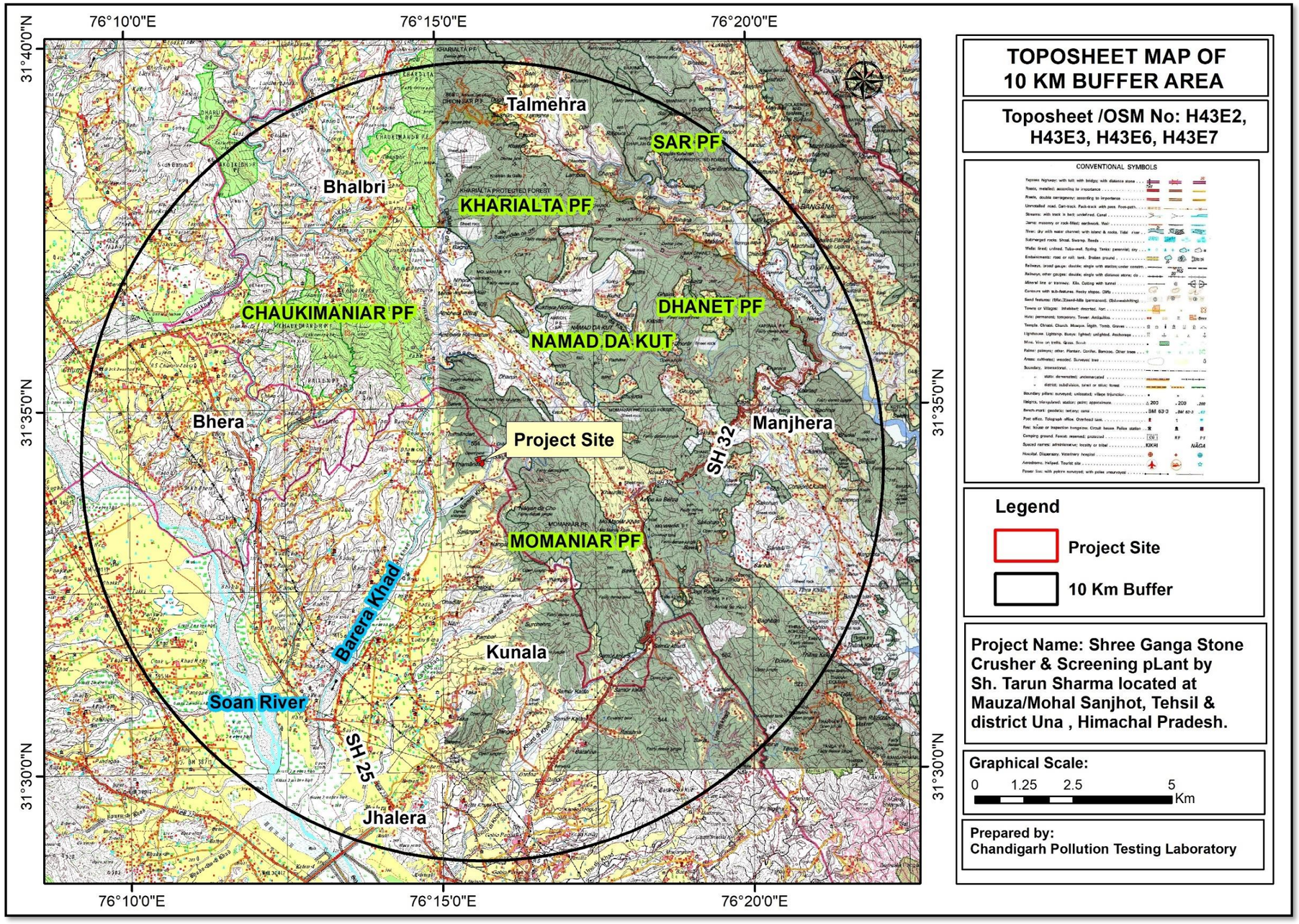


Figure- 3.2

Pillar Co-Ordinates Map

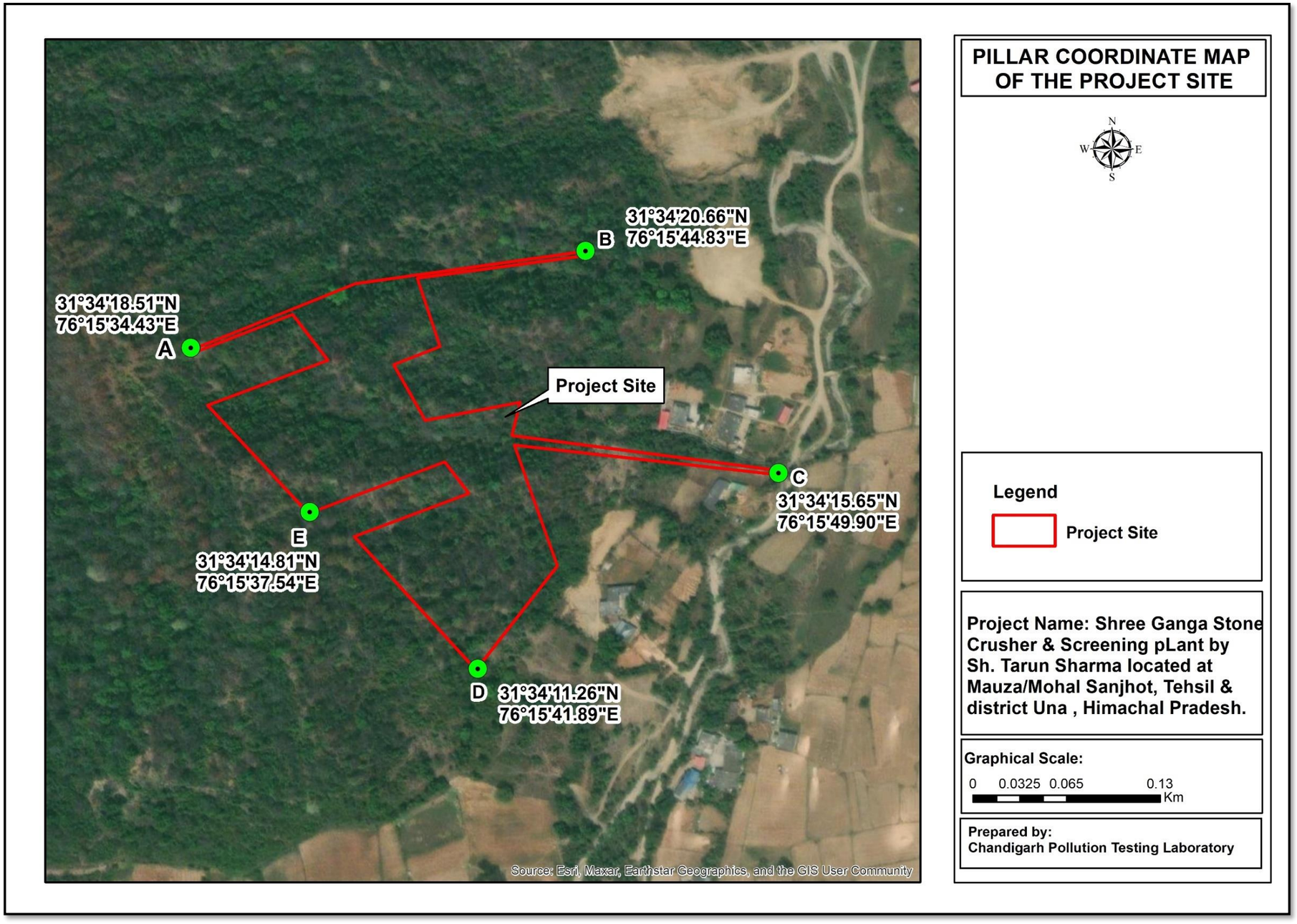
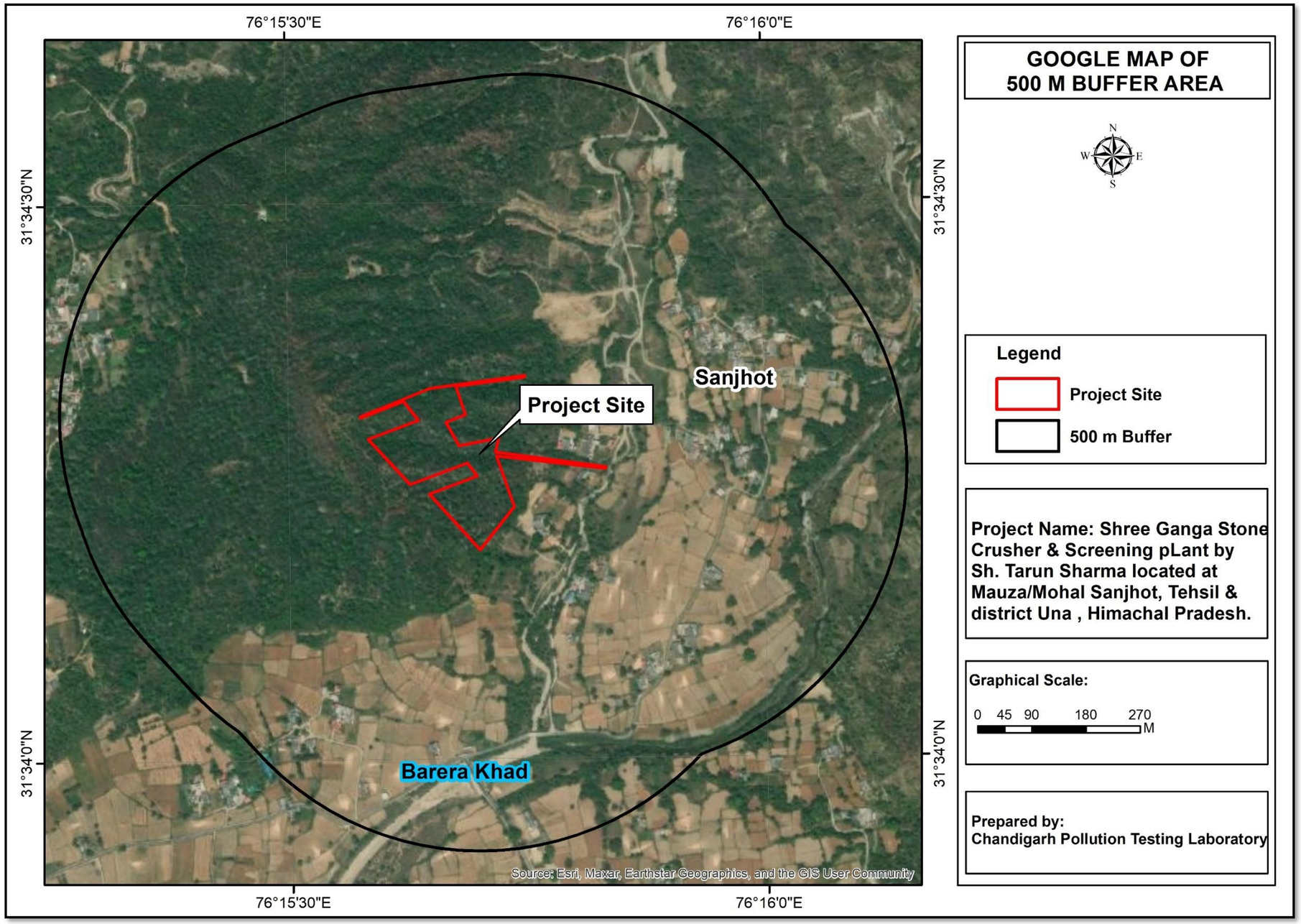


Figure- 3.3

500m Radius Map



3.4 STUDY PERIOD:

The environmental monitoring for the EIA study, for the project has been conducted for the winter 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 following CPTLE/QSPM-06/01–CPTLE/QSPM-06/09 as per the QMS of the organization from ***January 2024 –March 2024***. 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.

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

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 ***January 2024 –March 2024***. 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 is as follow:

I. Ambient Air Quality

The ambient air quality monitoring was done to assess the ambient air quality in one season. Monitoring was carried out from ***January 2024 –March 2024***.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 imagery and ground truth information.

VI. Biological Environment

Primary and secondary data collection has been done by the Ecology and Biodiversity team for 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 amount, atmospheric stability classes etc. also plays 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 sampling, once in a season. No. of Locations: 8 locations in core and buffer zone. 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.

3.7 CLIMATE:

The region has four distinct seasons. The area experiences severe winter from December to March followed by severe summers seasons lasting from April to June. The area receives rainfall under the influence of south west monsoon from July to mid- September followed by post-monsoon season lasting up to November.

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

3.7.1 TEMPERATURE:

The temperature of the district varies from the Dun valley registering as low as 2.4^0 C as minimum in winter months of December / January and as high as 32.7^0 C in summer month of June.

3.7.2 RAINFALL:

Rainfall varies significantly with altitude of area. The catchment area receives rainfall due to western disturbances that pass over the north- western part of the country during winter months. Rainy season Generally start from mid-July and extend up to mid-September.

The Una district can be divided into three rainfall zones as:

- High above 1400 mm
- Medium between 1400 and 1200 mm
- Low less than 1200 mm

3.7.3 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 %.

3.7.4 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.

3.7.5 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.

3.8 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 3.3**:**

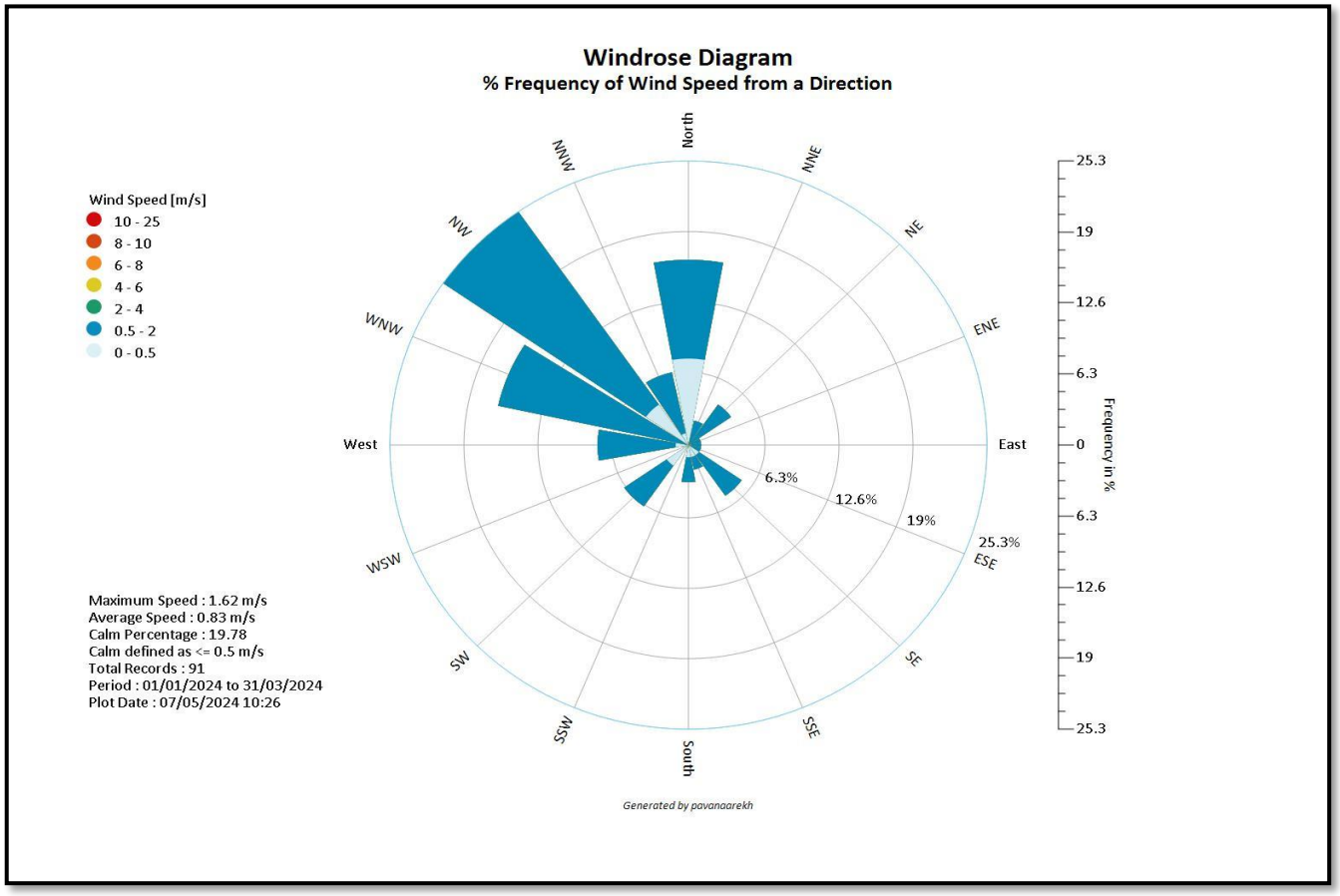
Table 3.2: Climate of Una District, Himachal Pradesh

Month	Temperature (ºC)		Relative Humidity (%)		Pressure	
	Max.	Min.	Max.	Min.	Max.	Min.
January, 2024	21	4	100	53	1025	1014
February, 2024	26	6	100	34	1025	1009
March, 2024	34	8	94	26	1021	1007

(Source: Weather by Custom Weather, © 2024, Una)

Figure- 3.4

Wind Rose Diagram



(Source- Pawanaarekh Software)

3.9 AMBIENT AIR QUALITY:

The ambient air quality monitoring was done to assess the ambient air quality. Monitoring was carried out at eight stations for the month of ***January 2024 –March 2024***. The guidelines for selections of ambient air monitoring stations given in IS – 5182 part 14, 2000 and CPCB guidelines were followed. These guidelines state that, "when the objectives 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 should satisfy the following conditions:

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(PM_{10}), Particulate Matter-2.5 ($PM_{2.5}$), Sulphur-dioxide (SO_2), Oxides of Nitrogen (NO_2), 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 3.3** and Location Air Sampling Stations are given in **Figure 3.5**

Table 3.3

Ambient Air Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction	Upwind/ Downwind	Co-ordinates
1.	AAQ-1	**Project site**	**0**	--	31°34'18.51"N 76°15'34.43"E
2.	AAQ-2	Barera	1.94 km NW	Crosswind	31°34'53.40"N 76°14'34.97"E
3.	AAQ-3	Pallian	2.09 km NW	Crosswind	31°34'15.08"N 76°14'17.27"E
4.	AAQ-4	Khurwain	3.80 km SE	Crosswind	31°33'44.86"N 76°18'01.42"E
5.	AAQ-5	Amroh	1.80 km N	Upwind	31°35'07.92"N 76°16'45.23"E
6.	AAQ-6	Jhambar	6.46 km SE	Crosswind	31°32'23.21"N 76°16'27.57"E
7.	AAQ-7	Nangal Salangari	3.0 km S	Downwind	31°32'36.20"N 76°15'16.04"E
8.	AAQ-8	Chalola	3.4 km S	Downwind	31°32'26.99"N 76°16'49.53"E

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 guideline 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:

S. No.	Parameters and units of measurement	Analysis Method
1.	PM_{10} µg/m^3	IS:5182, (Part-23) 2006, By Gravimetric Method: 2006
2.	$PM_{2.5}$ µg/m^3	SP-57, Issue Date-01- 05-2019, CPCB Guideline Vol-I:2011
3.	SO_2 µg/m^3	IS 5182 (P-2):2001 1st Rev (RA: 2012): 2001
4.	NOx µg/m^3	IS:5182, (P-6), RA 2012: 2006
5.	CO mg/m^3	IS 5182 (P- 10):RA2014: 1999

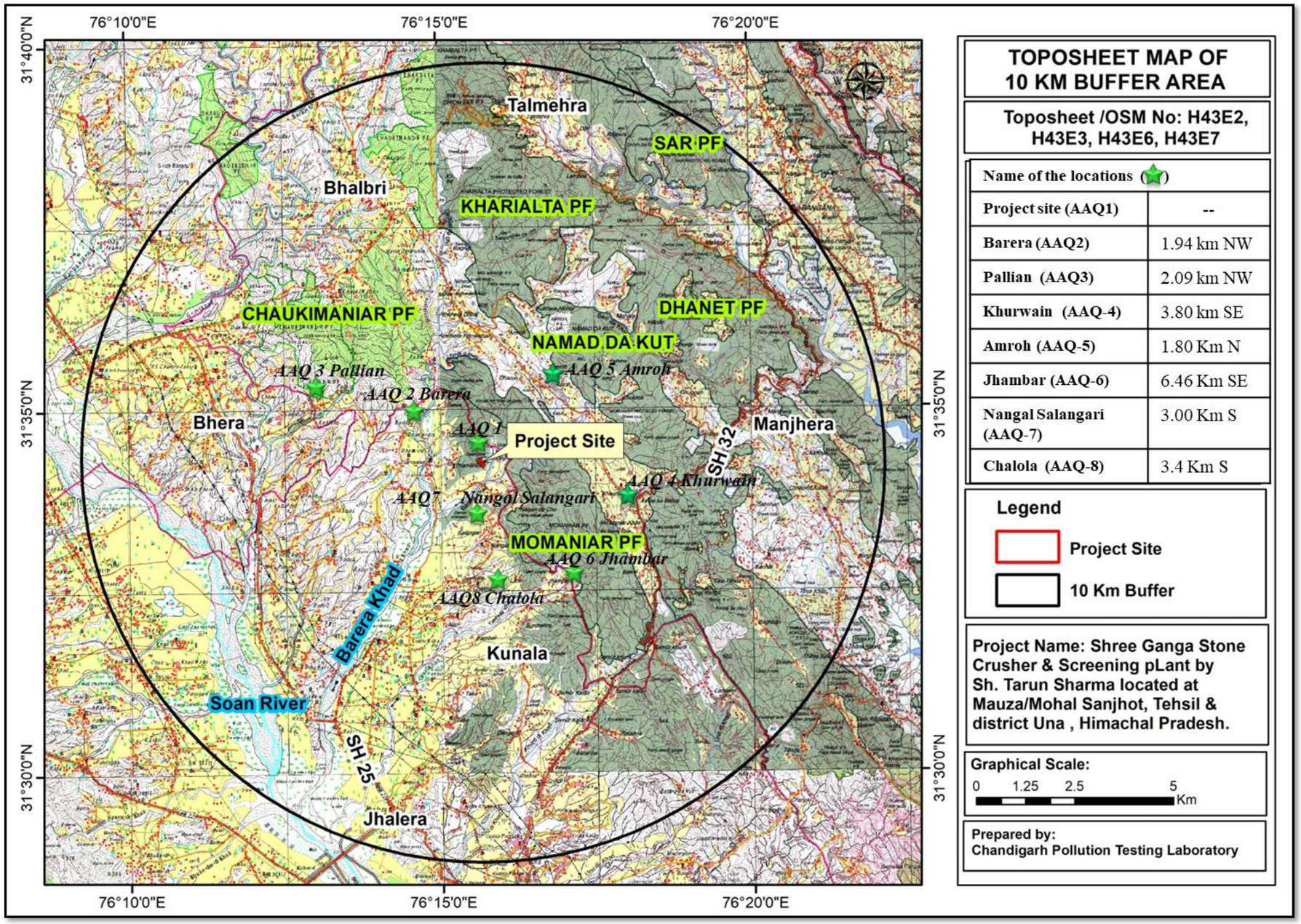
Sample Transportation and Sample Preservation: Proper preservation of samples was done after sampling. The Gaseous samples were preserved in an ice box (below 4°C) and transported to the laboratory for analysis. The filter papers were collected using forceps and stored in polythene bags and stored in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

Results

The results given in **Table-3.5** when compared with National Ambient Air Quality Standards (NAAQS) of Central Pollution Control Board (CPCB) for "Industrial, Residential, Rural and Other Areas" show that the average values of ambient air quality parameters are well within the stipulated limit.

Figure- 3.5

Locations of Air Monitoring Stations



TOPOSHEET MAP OF 10 KM BUFFER AREA	
Toposheet /OSM No: H43E2, H43E3, H43E6, H43E7	
Name of the locations (★)	
Project site (AAQ1)	--
Barera (AAQ2)	1.94 km NW
Pallian (AAQ3)	2.09 km NW
Khurwain (AAQ-4)	3.80 km SE
Amroh (AAQ-5)	1.80 Km N
Jhambar (AAQ-6)	6.46 Km SE
Nangal Salangari (AAQ-7)	3.00 Km S
Chalola (AAQ-8)	3.4 Km S

Legend

Project Site

10 Km Buffer

Project Name: Shree Ganga Stone Crusher & Screening pLant by Sh. Tarun Sharma located at Mauza/Mohal Sanjhot, Tehsil & district Una , Himachal Pradesh.

Graphical Scale:

0 1.25 2.5 5 Km

Prepared by:
Chandigarh Pollution Testing Laboratory

Table- 3.4

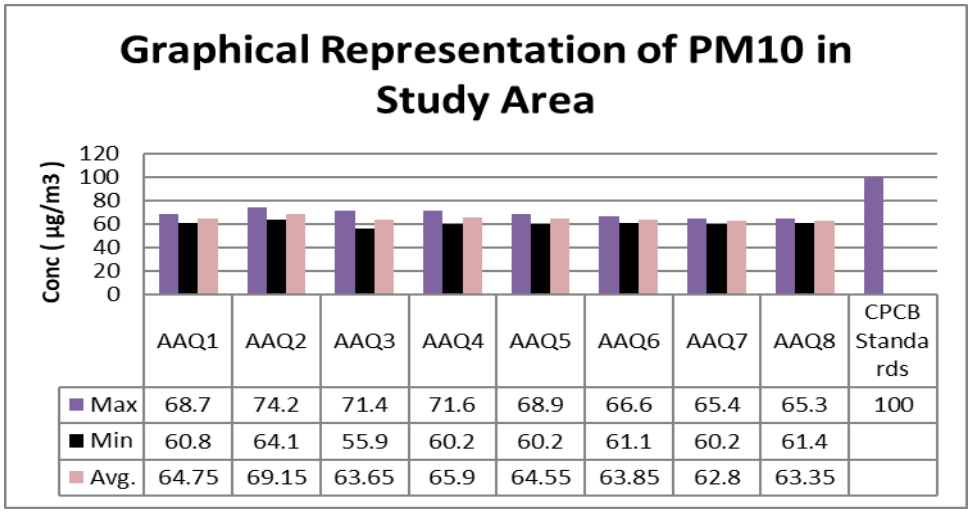
Ambient Air Quality Monitoring Results (Average Value)

Locations	PM_{10} µg/m^3			$PM_{2.5}$ µg/m^3			SO_2 µg/m^3			NO_2 µg/m^3			CO mg/m^3		
	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.
Project site	68.7	60.8	64.75	46.7	32.6	39.65	6.9	5.5	6.2	15.6	10.3	12.95	ND	ND	ND
Barera	74.2	64.1	69.15	38.7	34.1	36.4	5.9	5.3	5.6	11.5	8.7	10.1	ND	ND	ND
Pallian	71.4	55.9	63.65	37.4	31.7	34.55	5.9	5.3	5.6	10.7	8.3	9.5	ND	ND	ND
Khurwain	71.6	60.2	65.9	38	34.4	36.2	5.9	5.1	5.5	8.9	8.3	8.6	ND	ND	ND
Amroh	68.9	60.2	64.55	39.5	31.6	35.55	5.9	5.1	5.5	10.8	0.56	5.68	ND	ND	ND
Jhambar	66.6	61.1	63.85	36.7	31.4	34.05	6.4	5.1	5.75	10.8	0.55	5.675	ND	ND	ND
Nangal Salangari	65.4	60.2	62.8	36.8	31.6	34.2	5.8	5.2	5.5	8.6	0.53	4.565	ND	ND	ND
Chalola	65.3	61.4	63.35	35.8	31.1	33.45	5	4.4	4.7	9	8	8.5	ND	ND	ND
P98	**63.65**			**38.9**			**5.65**			**12.95**			ND		
CPCB Standards	**100**			**60**			**80**			**80**			**4**		

INTERPRETATION:

1. Respirable Suspended Particulate Matter (PM10)

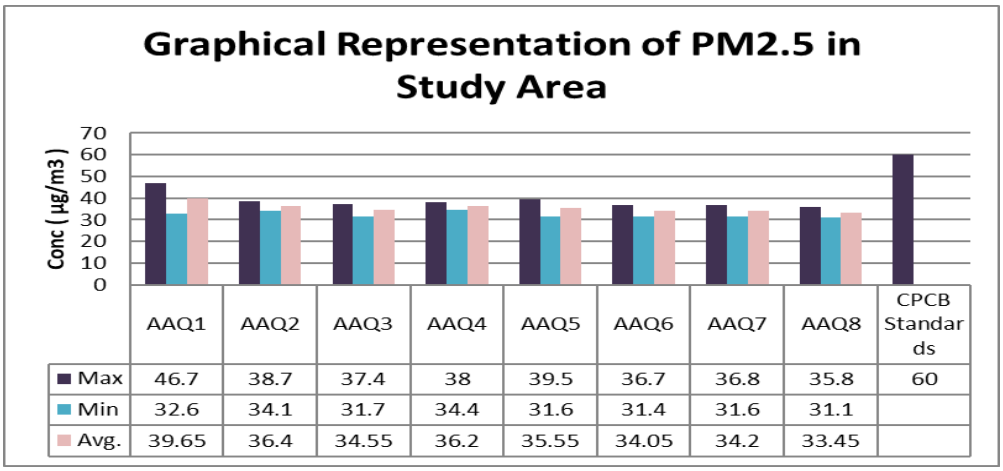
It is evident from the data, PM_{10} concentration observed in the study area during the study period January to March 2024. Minimum value of 55.9 µg/m^3 is observed at Pallian. The maximum value of 74.2 µg/m^3 is observed at Barera. P98 remained as 63.65 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	68.7	74.2	71.4	71.6	68.9	66.6	65.4	65.3	100
Min	60.8	64.1	55.9	60.2	60.2	61.1	60.2	61.4	
Avg.	64.75	69.15	63.65	65.9	64.55	63.85	62.8	63.35	

2. Respirable Suspended Particulate Matter (PM2.5)

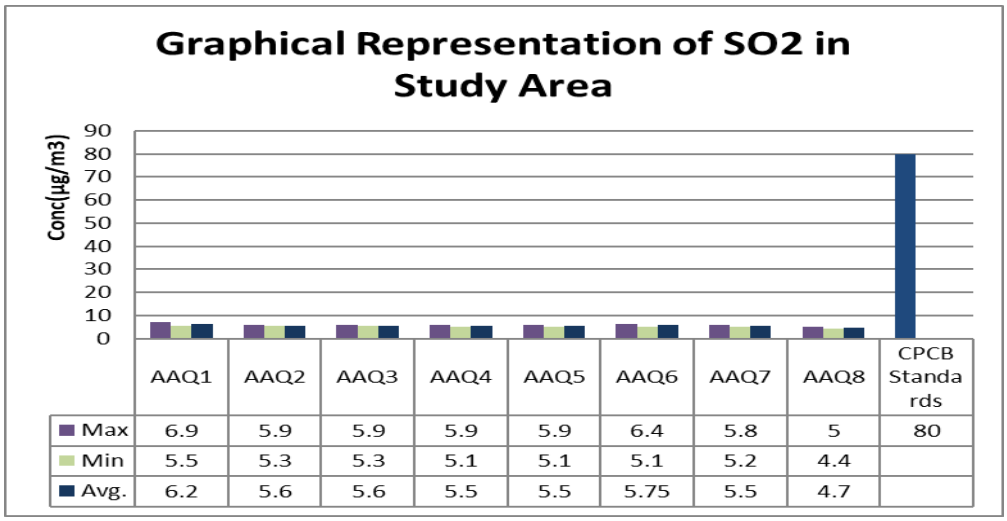
The maximum concentration of $PM_{2.5}$ 46.7 µg/m^3 is observed at Project site, minimum concentration of ($PM_{2.5}$) is 31.1 µg/m^3 observed at Chalola and P98 remained as 38.9 µg/m^3 during study period. Moreover, the graphical representation of all the locations considered for the ambient air monitoring is provided here. All the results are found satisfactory and within limit as per NAAQ standards.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	46.7	38.7	37.4	38	39.5	36.7	36.8	35.8	60
Min	32.6	34.1	31.7	34.4	31.6	31.4	31.6	31.1	
Avg.	39.65	36.4	34.55	36.2	35.55	34.05	34.2	33.45	

3. Sulphur Dioxide (SO2)

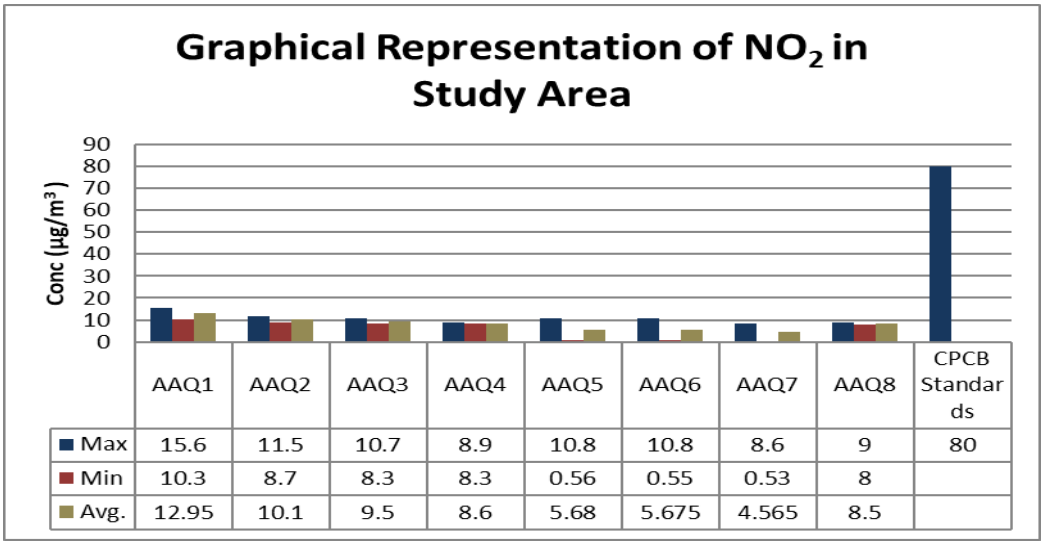
The maximum concentration of SO_2 is 6.9 µg/m^3, which observed at Project site and minimum concentration of SO_2 4.4 µg/m3 at Chalola. The situation in the study area as far as SO_2 concentration is concerned is satisfactory. P98 remained as 5.65 µg/m^3 during study period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	6.9	5.9	5.9	5.9	5.9	6.4	5.8	5	80
Min	5.5	5.3	5.3	5.1	5.1	5.1	5.2	4.4	
Avg.	6.2	5.6	5.6	5.5	5.5	5.75	5.5	4.7	

4. Oxides of Nitrogen (NO_x)

NO_x concentration in the study area varied from minimum of 0.53 µg/m^3 to maximum of 15.6 µg/m^3. P98 remained as 12.95 µg/m^3 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	15.6	11.5	10.7	8.9	10.8	10.8	8.6	9	80
Min	10.3	8.7	8.3	8.3	0.56	0.55	0.53	8	
Avg.	12.95	10.1	9.5	8.6	5.68	5.675	4.565	8.5	

5. Carbon Monoxide (CO)

CO concentration is not detectable.

Conclusion

On the whole the above results show that the ambient air in the mining area is environmentally quite clean and all parameters are within the permissible limits.

3.10 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 is falling under the Survey of India Topographic sheet namely H43E3, H43E7.

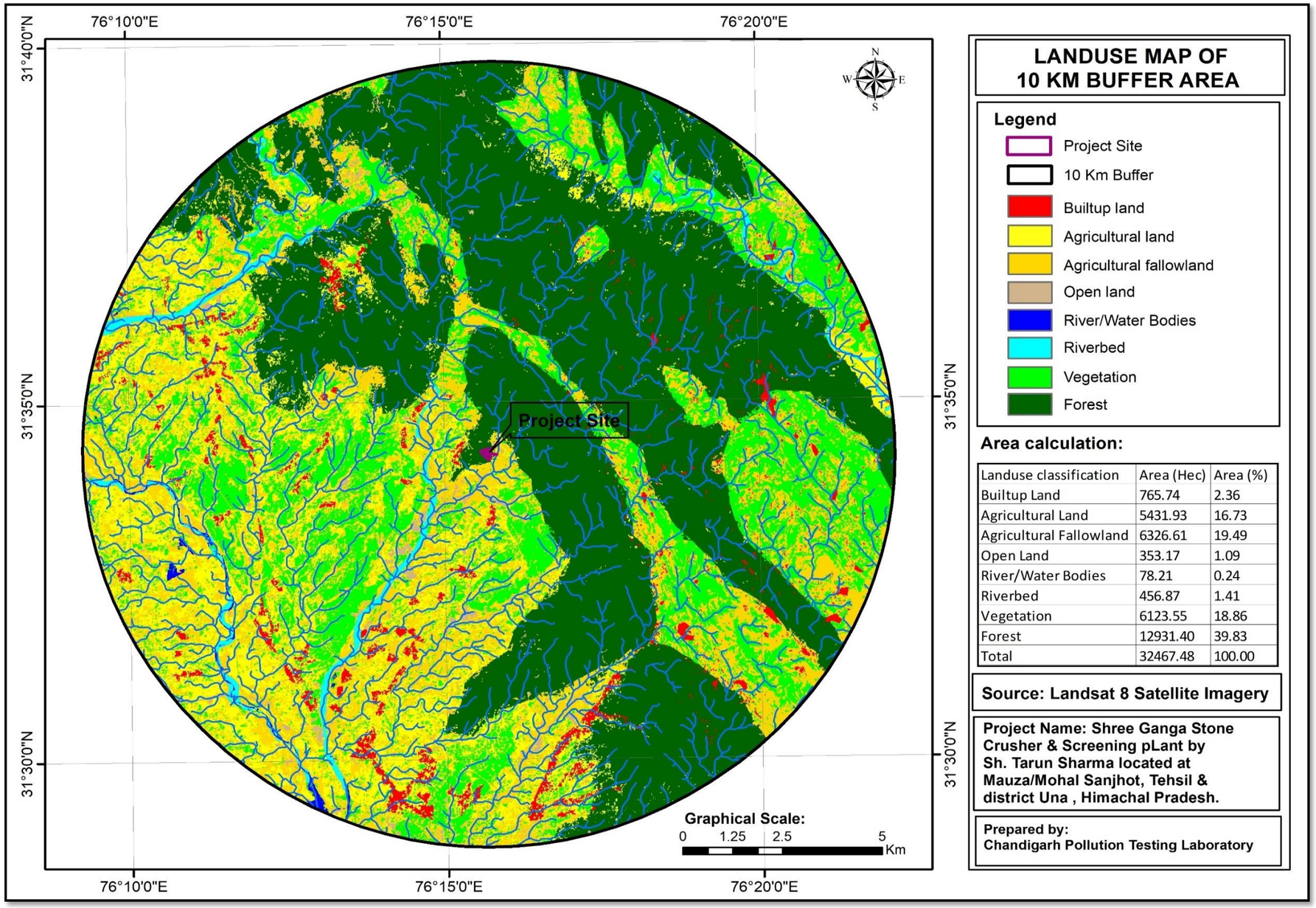
B) DATA COLLECTION AND QUALITY ASSURANCE

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) is shown in **table 3.5.**

Figure 3.6

Land Use and Land Cover Map superimposed with Drainage map



Landuse classification	Area (Hec)	Area (%)
Builtup Land	765.74	2.36
Agricultural Land	5431.93	16.73
Agricultural Fallowland	6326.61	19.49
Open Land	353.17	1.09
River/Water Bodies	78.21	0.24
Riverbed	456.87	1.41
Vegetation	6123.55	18.86
Forest	12931.40	39.83
Total	32467.48	100.00

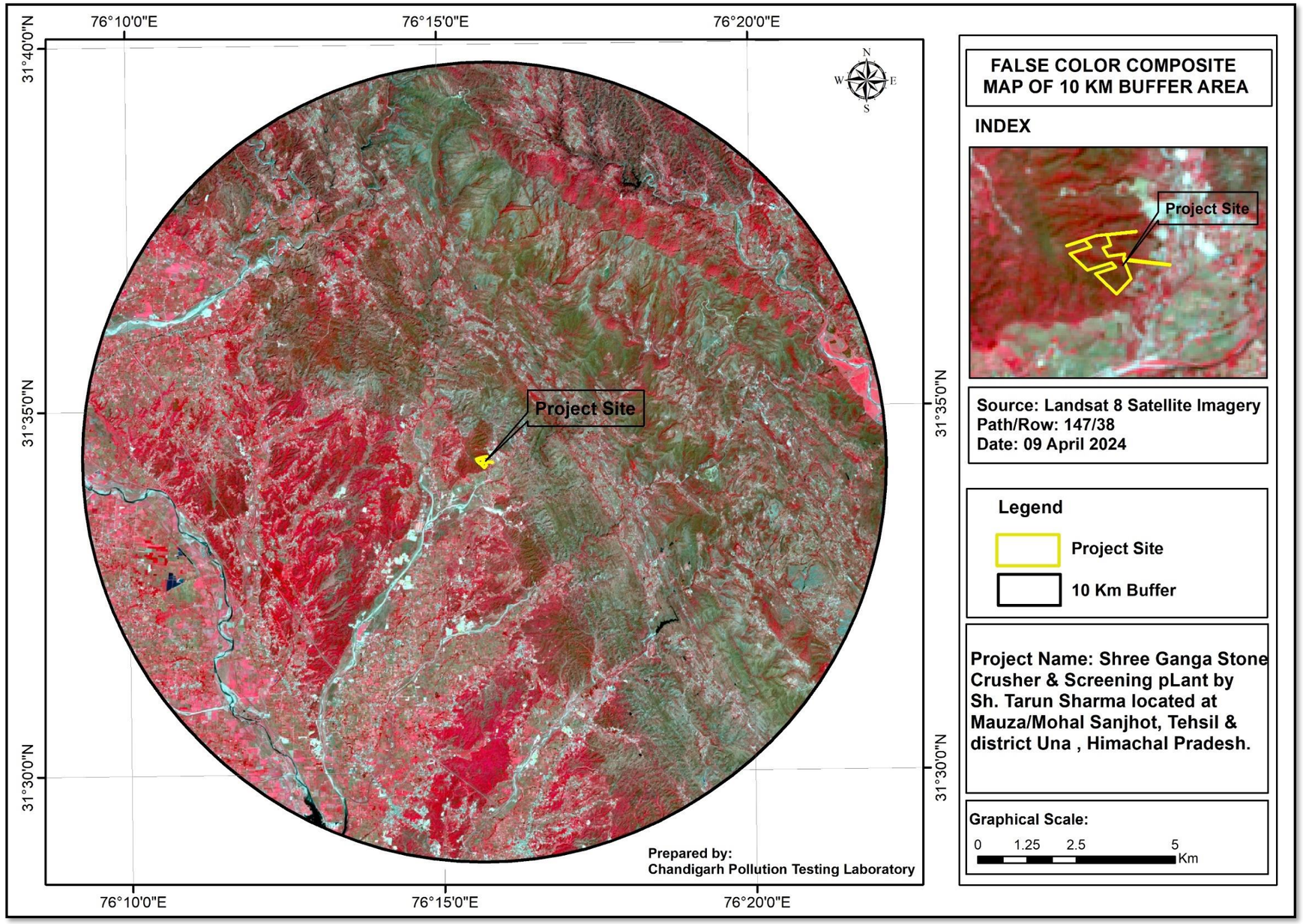
Table- 3.5

Showing Land Use Detail of Surrounding Villages

Name of Village	Forest Land (In Ha)	Area Under Non-Agricultural Uses (In Ha)	Barren And Uncultivable Land (In Ha)	Permanent Pastures and Other Grazing Lands (In Ha)	Land Under Miscellaneous Tree Crops Etc.	Culturable Waste (In Ha)	Fallow Lands Other Than Current Fallows	Current Fallows	Net Area Sown	Total Irrigated Land Area	Total Unirrigated Land Area
Bareda	0	16.9	0	0	0	60.5	0.7	0	32	0	32
Sanjhot	0	28.6	78.8	1.8	0	10.6	0	0	94.4	22.8	71.6
Dhamandri	0	43.1	96.2	35.1	0	32.9	0	0	108.4	41.4	66.6
Datwara	0	90.5	0	30.8	0.3	76.8	83.5	0	83.1	19	64
Salangari	0	18.1	0	4.4	32.9	14.2	0.4	1.6	52.8	23.8	0
Nangal-Ii	0	7	6.6	0	0.7	0.1	0	0	33.7	33.7	0
Nangal-I	0	6.3	0	0	33.7	7.8	0	0.6	22.3	0	22.3
Chalola	0	12.4	44.1	0	3.7	1.5	0	0	56	50.4	5.6

Figure 3.7

10 Km Radius False Color Composite Satellite



c) 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 Figure given below.

LAND USE / LAND COVER STUDY

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. Land Use / Land Cover Map of Study Area (10 Km Buffer) **Table 3.6.**

Flowchart showing the methodology adopted for land use/land cover mapping

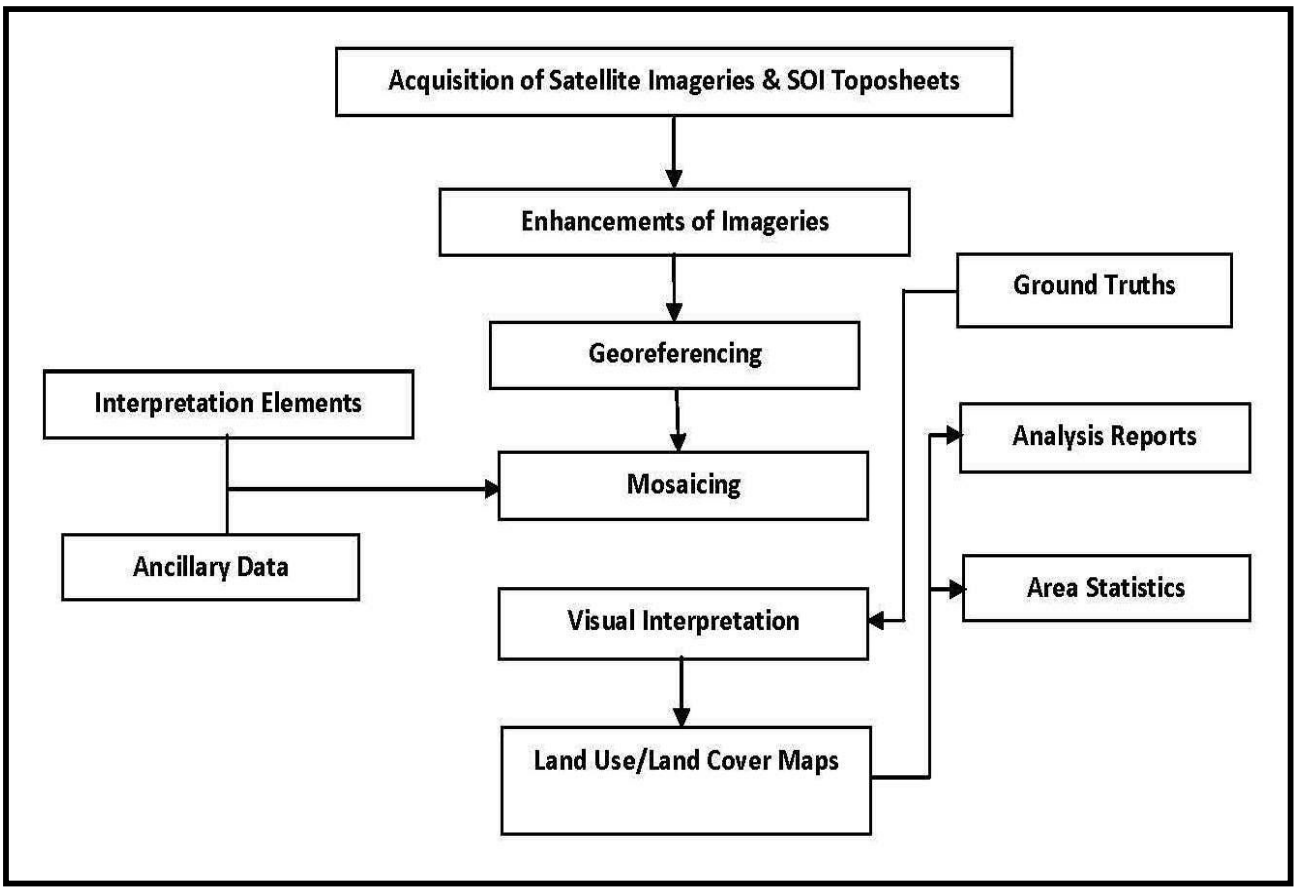


Table 3.6

Land Use/Land Cover Area Statistics

Land Use/Land Cover	Area (Hectare)	Area (%)
Built-up Land	765.74	2.36
Agricultural land	5431.93	16.73
Agricultural Fallowland	6326.61	19.49
Open Land	353.17	1.09
River/Water Bodies	78.21	0.24
Riverbed	456.87	1.41
Vegetation	6123.55	18.86
Forest	12931.40	39.83
Total	**32467.48**	**100.00**

Source: LULC map

Conclusion & Discussion

Based on the perusal of field visit and interaction with framers, it is seen that over the period of time variants of fruits, vegetable and fodder have been successfully grown in the study area are indicator of healthy & conducive land environment.

3.11 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

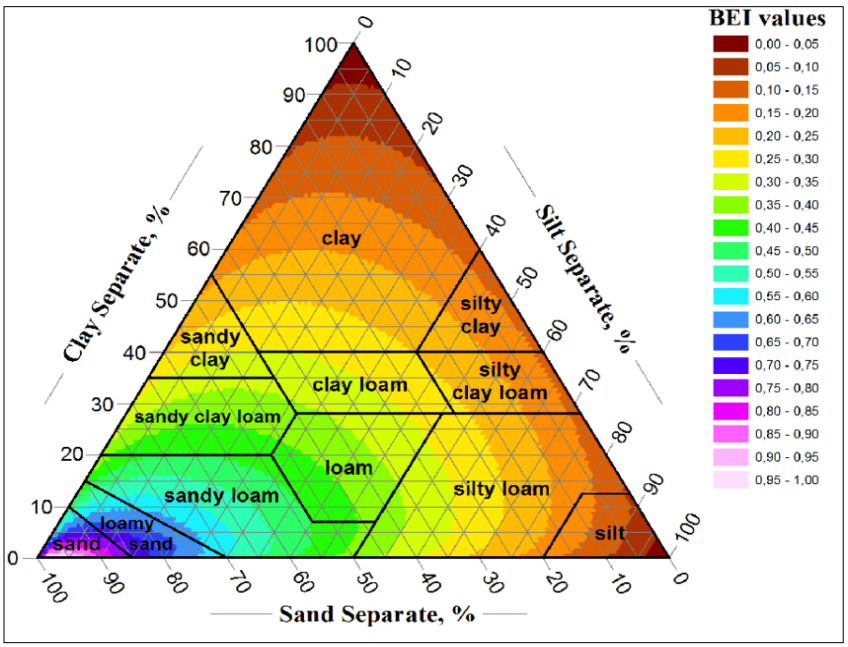
On the basis of texture, the study area may be classified as loamy sand, sandy loam and silty loam.

(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.



CHEMICAL CHARACTERISTICS:

List of soil monitoring station are given **in Table 3.7.** Chemical characteristics of soil observed

in the study area are given in **Table3.8.** Photographs of the soil sampling is shown in **Figure 3.8** and Locations of soil monitoring stations are given in **Figure 3.9.**

Table 3.7

Detail List of Soil Quality Monitoring Stations

S. No.	Sample Code	Name of Village/Location	Distance & Direction (KM)	Upwind/ Downwind	Co-ordinates
1.	**SQ-1**	**Project site**	**0**	--	31°34'18.51"N 76°15'34.43"E
2.	SQ-2	Barera	1.94 km NW	Crosswind	31°34'53.40"N 76°14'34.97"E
3.	SQ-3	Pallian	2.09 km NW	Crosswind	31°34'15.08"N 76°14'17.27"E
4.	SQ-4	Khurwain	3.80 km SE	Crosswind	31°33'44.86"N 76°18'01.42"E
5.	SQ-5	Amroh	1.80 km N	Upwind	31°35'07.92"N 76°16'45.23"E
6.	SQ-6	Jhambar	6.46 km SE	Crosswind	31°32'23.21"N 76°16'27.57"E
7.	SQ-7	Nangal Salangari	3.0 km S	Downwind	31°32'36.20"N 76°15'16.04"E
8.	SQ-8	Chalola	3.4 km S	Downwind	31°32'26.99"N 76°16'49.53"E

Figure- 3.8

Soil sampling photographs

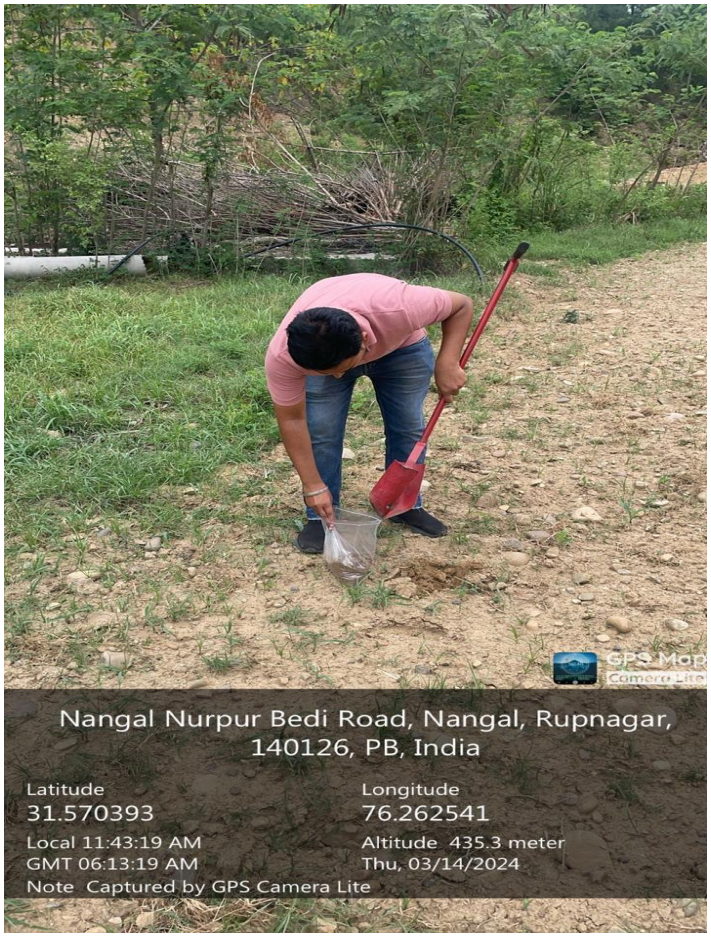


Figure -3.9

Location of Soil Monitoring Stations

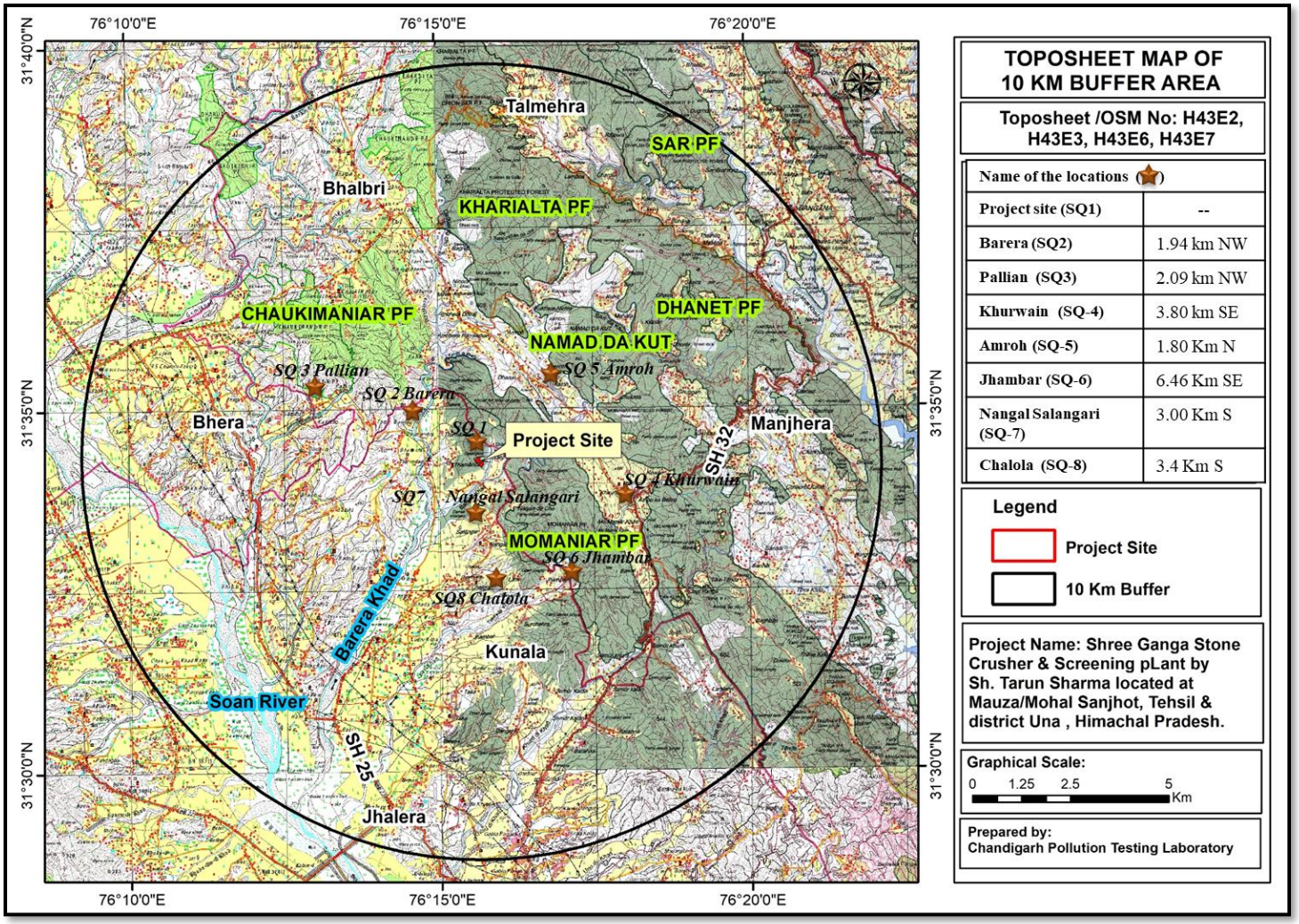


Table – 3.8

Result of Soil Samples (% W/W except pH)

S.No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods
1.	pH (1:2.5)	--	7.22	7.36	7.48	7.25	7.38	7.69	7.58	7.32	IS:2720(P-26),1987
2.	Electrical Conductivity (1:2)	µmhos/cm	384	342	328	362	387	369	358	338	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	1.28	1.26	1.40	1.26	1.58	1.87	1.64	IS 2720(P-3),1983
5.	Soil Moisture Content	%	10.4	10.6	8.8	6.4	10.4	6.8	8.6	4.8	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)	48.2	38.8	42.2	36.8	64.6	52.8	32.8	52.2	Handbook of Agriculture, ICAR
8.	Available Magnesium (as Mg)	(mg/kg)	18.4	18.6	14.6	12.6	18.6	12.2	16.8	14.8	Handbook of Agriculture, ICAR
9.	Available Sodium (as Na)	Kg/hac	154	128	132	144	165	140	174	182	Lab SOP No. 49: 2019

10.	Available Potassium (as K)	Kg/hac	16.6	18.6	12.8	24.6	32.8	44.6	38.6	54.8	Lab SOP No. 49: 2019
11.	Available Nitrogen	(%)	1.54	1.24	1.12	1.54	1.48	1.84	1.36	1.68	Lab SOP No. SP 53: 2010
12.	Organic Matter	(%)	0.18	0.42	0.18	0.36	0.56	0.36	0.84	0.74	IS 2720(P-22),2001
13.	Available Phosphorus (as P)	Kg/hac	10.5	6.6	3.8	6.6	10.6	8.8	6.6	10.8	Lab SOP No. SP 51 : 2019
14.	Cation Exchange Capacity	(meq/100gm)	0.45	0.25	0.32	0.46	0.84	0.64	0.58	0.32	CPTL, Lab SOP No. 58
15.	Iron (as Fe)	(mg/kg)	1.84	1.36	1.74	1.68	1.54	1.84	1.36	1.42	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: 1996

21.	Copper (as Cu)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996

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

The pH of the soil is an important property; vegetation cannot grow in low and high pH value soils. The normal range of pH in the soils in the study area are varying from 7.22- 7.69 indicating that the soils are falling in slightly alkaline to moderately alkaline. 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). The electrical conductivity in the study area is varying from 328 to 387 µmhos/cm. This is good forgermination.

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 asmajor elements. This classification is based on their relative abundance, and not on their relative importance.
- 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 1.12 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 3.8 to 10.8 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 12.8 to 54.8 Kg/ hac. This is deficient for crops.
- Organic Matter in the study area ranges from 0.18% to 0.74 %. This is average to sufficient for the crops.

As per physical data, the soils in the study area are coarse to modularity fine texture, having modulated build density and impressively modulate water holding capacity. As per physical characteristics, the soils are rated as moderately good for agriculture. Based on the observation during field visit of 10km buffer zone from the boundary of cement plant, the soils are sandy loam predominantly. These soils can be classified as modularity good soil with traces or gentle slopes

and is modulate land for sustained agriculture as per USDA.

3.12 WATER ENVIRONMENT

3.12.1 WATER QUALITY

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 weretaken as per the Standard Methods (IS & APHA, 23rd Edition 2012). Necessary precautions were taken for preservation of samples. The physical parameters viz. pH, temperature and conductivitywere 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 3.9 and list of surface & ground water sample is given in Table 3.9 & 3.12 respectively. The results surface water & ground water are given in Table 3.10 & 3.13 respectively.

Table - 3.9

Surface Water Sampling Stations

Station	Sampling Location
SW-1	Soan River

Table - 3.10

Results of surface water

S. No.	Parameters	Results	Test Method
1.	pH	7.45	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	10.2	IS:3025 (P-17): 1984
7.	Total Hardness (as $CaCO_3$), mg/l	124	IS:3025 (P-21): 2009
8.	Total Alkalinity (as $CaCO_3$), mg/l	100.0	IS:3025 (P-23): 1986
9.	Chemical Oxygen Demand, mg/l	18.0	IS:3025 (P-58): 2006
10.	BOD (at 27°C) for 3 days, mg/l	2.8	IS:3025(P-44)1993
11.	Dissolved Oxygen, mg/l	6.6	IS:3025 (P-38): 1989
12.	Calcium (as Ca^{++}),mg/l	38.8	IS:3025:P-40:1991:RA:2003
13.	Magnesium (as Mg^{++}), mg/l	12.4	IS:3025:P-46: 1994
14.	Sodium (as Na^{+}), mg/l	18.8	IS:3025:P-45:1983:RA:2003
15.	Potassium (as K), mg/l	10.8	IS:3025:P-45:1983
16.	Nitrate (as NO_3),mg/l	2.4	IS:3025 (P-34) : 1988
17.	Chloride (as Cl), mg/l	6.6	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	1.18	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	2.2	IS:3025 (P-49) : 1994
22.	Fluoride (as F) mg/l	2.1	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
26.	Cadmium (as Cd), mg/l	ND	IS:3025 (P-41): 1992
27.	Fecal Coliform, MPN/100 ml	80.0	IS:1622-1981-(RA2009)

28.	Total Coliform, MPN/100 ml	110	IS:1622-1981-(RA2009)

Table – 3.11

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:

1. pH of the surface water is 7.45

2. TDS was found to be 168 mg/l. The tolerance limit is 1,500 mg/l as per IS:2296

3. Total hardness was found to be 124 mg/l.

4. Total Coliform in water was 110 MPN/100ml. The likely source of bacteriological contamination may be due to the proximity to residential area

5. All the heavy metals were not detectable.

Conclusion: -

The surface water results of Soan River when compared with water quality criteria as lay down by CPCB, falls in class 'E' and can be used for irrigation and industrial cooling.

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 3.12 shows the details of location of water sampling stations and results of different parameters are given in Table 3.13.Figure 3.10 shows the photographs of the water sampling.

Table-3.12

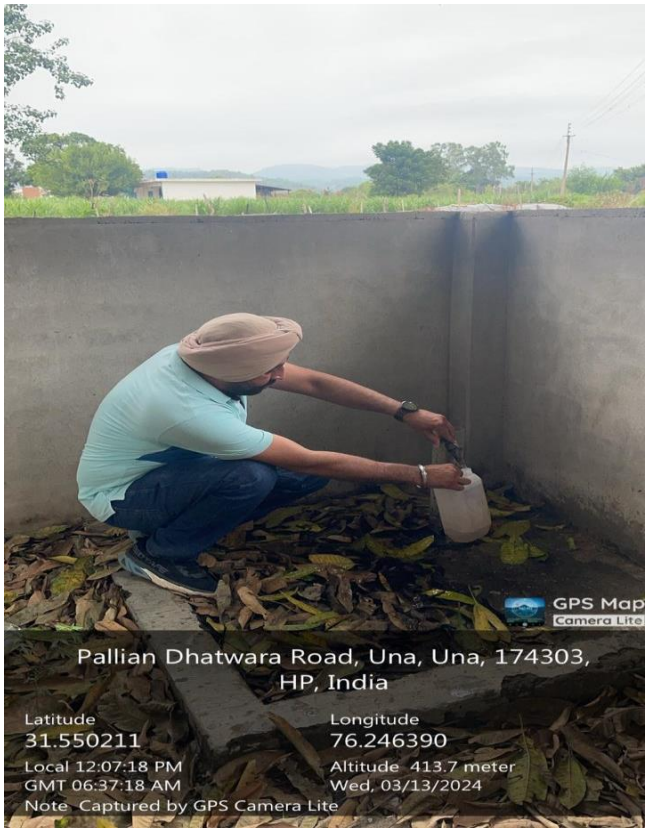
Details of Ground Water Monitoring Stations

S. No.	Sample Code	Name of Village/Location	Distance& Direction on (KM)	Observation	Co-ordinates
1.	**GW-1**	**Project site**	0	Sample was collected from a house near the project site	31°34'18.51"N 76°15'34.43"E
2.	GW-2	Barera	1.94 km NW	Sample was collected from a house in the village	31°34'53.40"N 76°14'34.97"E
3.	GW-3	Pallian	2.09 km NW	Sample was collected from a house in the village	31°34'15.08"N 76°14'17.27"E
4.	GW-4	Khurwain	3.80 KM SE	Sample was collected from a house in the village	31°33'44.86"N 76°18'01.42"E
5.	GW-5	Amroh	1.80 km N	Sample was collected from a house in the village	31°35'07.92"N 76°16'45.23"E
6.	GW-6	Jhambar	6.46 km SE	Sample was collected from a house in the village	31°32'23.21"N 76°16'27.57"E

7.	GW-7	Nangal Salangari	3.0 km S	Sample was collected from a house in the village	31°32'36.20"N 76°15'16.04"E
8.	GW-8	Chalola	3.4 km S	Sample was collected from a institute (ITI), Chalola	31°32'26.99"N 76°16'49.53"E

Figure- 3.10

Water Sampling Photographs



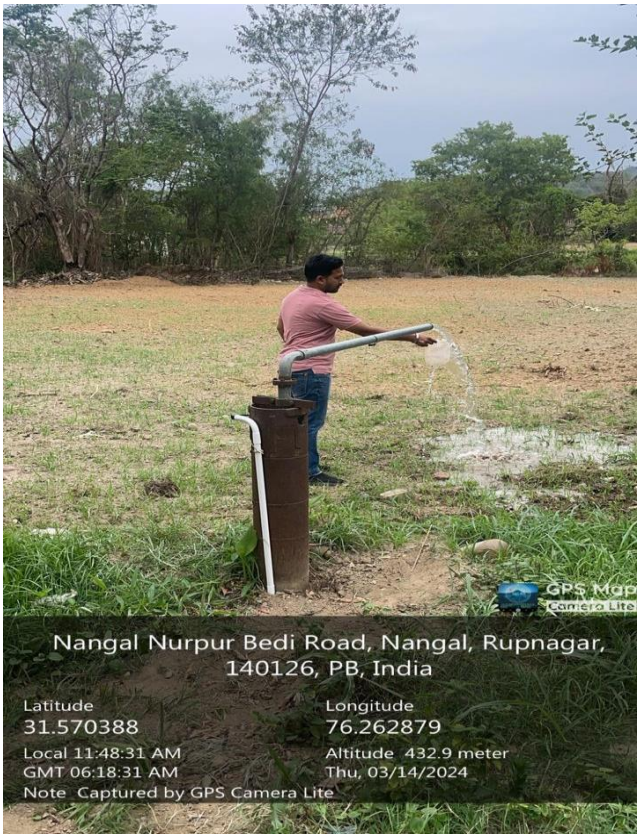
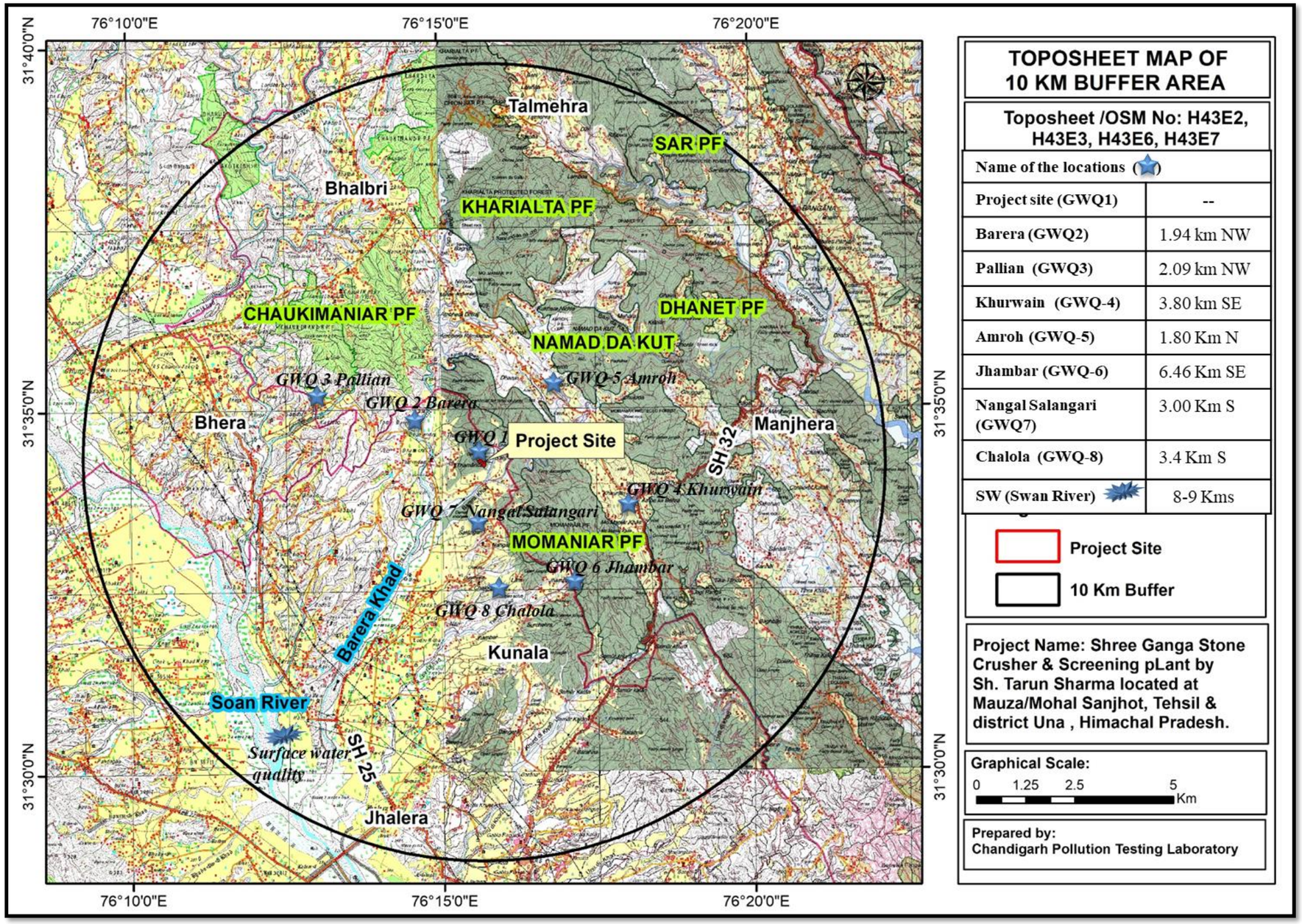


Figure - 3.11

Locations Of Surface Water & Ground Water



TOPOSHEET MAP OF 10 KM BUFFER AREA	
Toposheet /OSM No: H43E2, H43E3, H43E6, H43E7	
Name of the locations ( )	
Project site (GWQ1)	--
Barera (GWQ2)	1.94 km NW
Pallian (GWQ3)	2.09 km NW
Khurwain (GWQ-4)	3.80 km SE
Amroh (GWQ-5)	1.80 Km N
Jhambar (GWQ-6)	6.46 Km SE
Nangal Salangari (GWQ7)	3.00 Km S
Chalola (GWQ-8)	3.4 Km S
SW (Swan River)	8-9 Kms

Project Site

10 Km Buffer

Project Name: Shree Ganga Stone Crusher & Screening pLant by Sh. Tarun Sharma located at Mauza/Mohal Sanjhot, Tehsil & district Una , Himachal Pradesh.

Graphical Scale:
0 1.25 2.5 5 Km

Prepared by:
Chandigarh Pollution Testing Laboratory

Table - 3.13

Results of Ground Water Samples

Parameters	GW1	GW2	GW3	GW4	GW5	GW6	GW7	GW8	Acceptable Limit	Permissible Limit
pH	7.55	7.48	7.58	7.71	7.66	7.54	7.28	7.69	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	287	258	263	274	264	290	282	500 Max.	2000
Total Hardness (as CaCO3), mg/l	260	260	244	250	254	226	260	250	200 Max.	600
Calcium (as Ca++), mg/l	38.4	40.6	24.6	22.8	34.6	24.6	40.6	42.4	75 Max.	200
Magnesium (as Mg++), mg/l	22.2	22.6	16.4	18.6	12.8	16.6	22.8	28.3	30 Max.	100
Total Alkalinity	260	250	236	242	260	240	250	220	200 Max.	600

(as CaCO3), mg/l										
Chloride (as Cl), mg/l	12.4	14.6	14.9	18.6	12.4	18.6	14.4	12.8	250 Max.	1000
Sulphate (as SO4), mg/l	12.8	21.6	14.4	18.2	14.4	10.6	12.4	10.8	200 Max.	400
Iron (as Fe), mg/l	0.12	0.12	0.11	0.10	0.12	0.11	0.11	0.14	1.0 Max.	No relaxation
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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Cl2), mg/l										
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

CONCLUSION

All the above parameters at the various locations in the study area are within permissible and tolerable limits for drinking purpose. The underground water in the area is thus potable.

In the study area since the samples have been collected from different sites at isolated places, the level of concentration of different elements varies quite considerably which may be due to small aquifers. However, the levels of the various components are within permissible norms fordrinking water.

3.13 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.

METHODOLOGY

The intensity of sound energy in the environment is measured in a logarithmic scale and is expressed in a decibel, dB (A) scale. In a sophisticated type of sound level meter, an additional circuit (filters) is provided, which modifies the received signal in such a way that it replicates the sound signal as received by the human ear and the magnitude of sound level in this scale is denoted as dB (A). The sound levels are expressed in dB (A) scale for the purpose of comparisonof noise levels, which is universally accepted by the international community.

The day noise levels have been monitored during 6.00 am to 10.00 pm and night noise levels, during 10.00 pm to 6.00 am at all the 8 locations, which covers residential areas, commercial area, industrial area and silence zone within 10 km radius of the study area.

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 qualitystandards 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 Topo sheet is given in **Figure 3.13.** Details of noise monitoring stations are shown in **Table 3.14.**

Figure- 3.12

Noise Monitoring Photograph

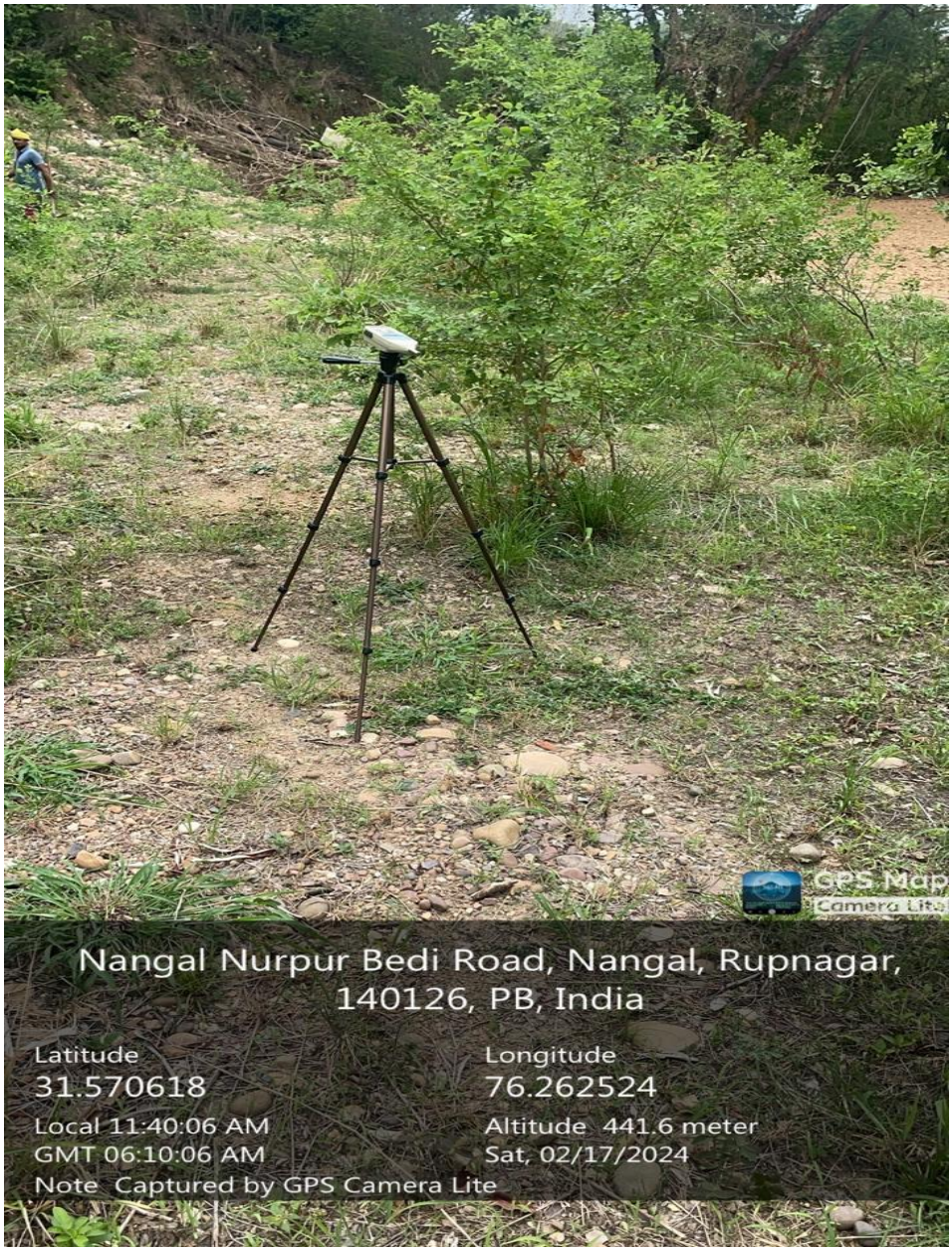
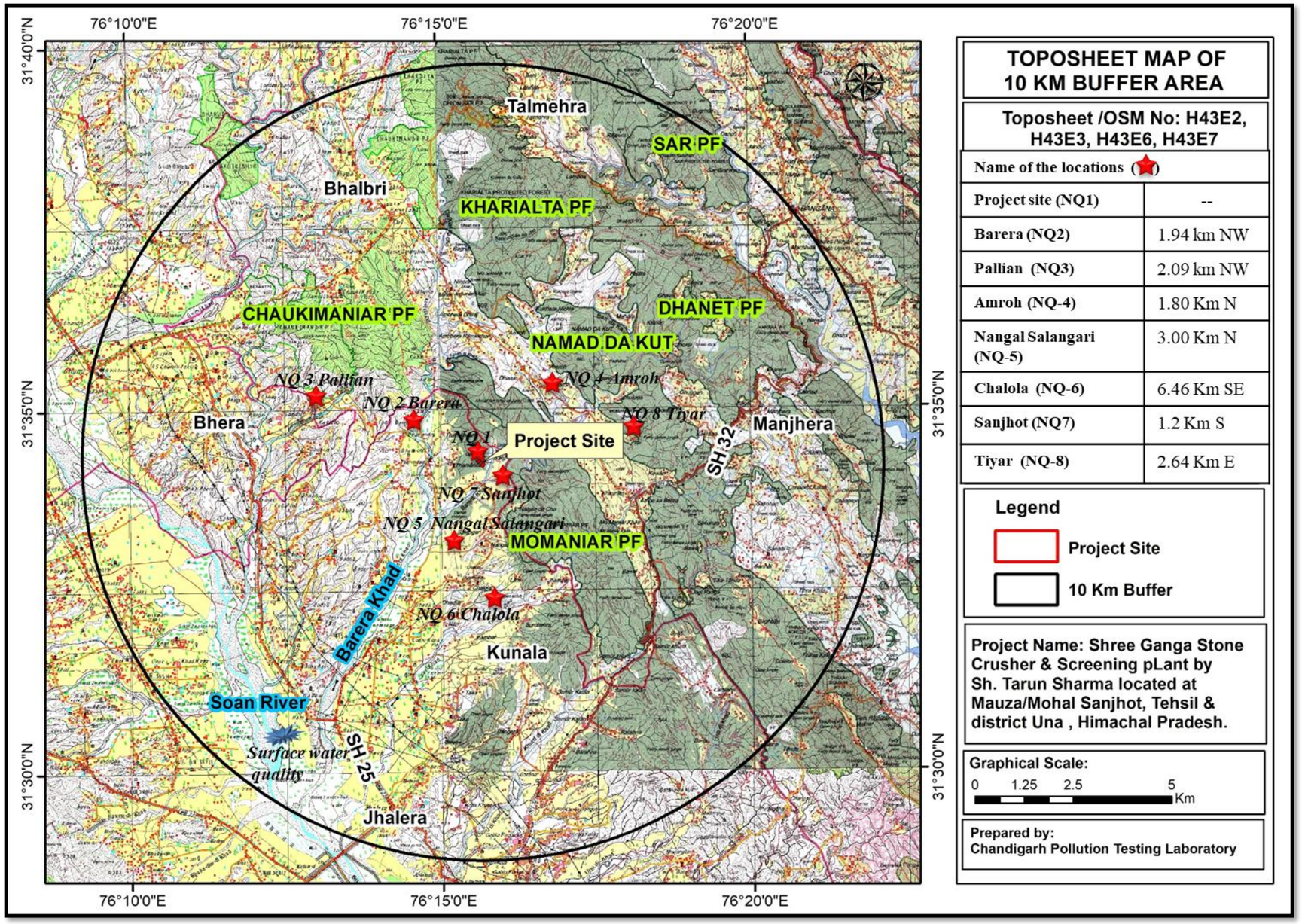


Figure - 3.13

Locations of Noise Monitoring Stations



TOPOSHEET MAP OF 10 KM BUFFER AREA	
Toposheet /OSM No: H43E2, H43E3, H43E6, H43E7	
Name of the locations (★)	
Project site (NQ1)	--
Barera (NQ2)	1.94 km NW
Pallian (NQ3)	2.09 km NW
Amroh (NQ-4)	1.80 Km N
Nangal Salangari (NQ-5)	3.00 Km N
Chalola (NQ-6)	6.46 Km SE
Sanjhot (NQ7)	1.2 Km S
Tiyar (NQ-8)	2.64 Km E

Legend

Project Site

10 Km Buffer

Project Name: Shree Ganga Stone Crusher & Screening pLant by Sh. Tarun Sharma located at Mauza/Mohal Sanjhot, Tehsil & district Una , Himachal Pradesh.

Graphical Scale:

0 1.25 2.5 5 Km

Prepared by:
Chandigarh Pollution Testing Laboratory

Table 3.14

Details of Noise Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction (KM)	Co-ordinates
1.	NQ-1	Project site	0	31°34'18.51"N 76°15'34.43"E
2.	NQ-2	Barera	1.94 km NW	31°34'53.40"N 76°14'34.97"E
3.	NQ-3	Pallian	2.09 km NW	31°34'15.08"N 76°14'17.27"E
4.	NQ-4	Amroh	1.80 km N	31°35'07.92"N 76°16'45.23"E
5.	NQ-5	Nangal Salangari	3.0 km S	31°32'36.20"N 76°15'16.04"E
6.	NQ-6	Chalola	3.4 km S	31°32'26.99"N 76°16'49.53"E
7.	NQ-7	Sanjot	1.2 km S	31°34'21.77"N 76°15'56.59"E
8.	NQ-8	Tiyar	2.64 km E	31°34'29.40"N 76°17'33.86"E

Detailed results of noise levels are shown in **Table 3.15.** Ambient standards in respect of noise aregiven in **Table 3.16.**

Table 3.15

Noise Level Results Leq dB (A) in and Around Project Area

S. No.	Locations	Value in dB(A) (Average)		Test Method
		Day Time (1 Hour)	Night Time (1 Hour)	
01.	Project Site	59.2	33.8	IS 9989:1981(Rev.2001)
02.	Barera	42.3	33.5	IS 9989:1981(Rev.2001)
03.	Pallian	42.4	36.4	IS 9989:1981(Rev.2001)
04.	Amroh	43.6	32.7	IS 9989:1981(Rev.2001)
05.	Nangal Salangari	44.5	34.8	IS 9989:1981(Rev.2001)
06.	Chalola	46.2	33.9	IS 9989:1981(Rev.2001)
07.	Sanjot	48.4	33.6	IS 9989:1981(Rev.2001)
08.	Tiyar	51.5	34.3	IS 9989:1981(Rev.2001)

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 3.16

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

Ambient noise levels were measured at 08 locations in the study area. Equivalent noise level varies from 42.3 to 59.2 dB (A) during day time and 32.7 to 36.4 dB (A) during night time. Thus,noise levels at all locations were within the prescribed limits.

From the above study and discussions, it can be concluded that noise levels in the study area are well within the prescribed limits as prescribed by the CPCB. Since, there will be no noise generating machinery, the impact on noise level after unit operation shall be insignificant.

3.14 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, andto 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 3.17.**

Table-3.17

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 3.18.**

Table- 3.18

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.

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".

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. For mosses, lichens and other plants the plot size was taken as 0.1m x 0.1m.

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 procedureand 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".
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.

B) FAUNA

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.

The forest in the district, have been divided in to three categories.

1. Lower Shivalik Chil Pine Forest
2. Northern dry mixed deciduous scrub forest.
3. Broad Leaved Forest

❖ *The list of flora & fauna (in core zone & buffer zone) is shown in table 3.20(a) and 3.20(b).*

Table- 3.19 (a)

Flora & Fauna in the study area

Local Name	Botanical Name
Aisan Sain	*Terminalia tomentosa*
Ak	*Allotropic procera*
Akha	*Rubus paniculatus*
Am	*Mangifera indica*
Amaltas, Kaniar, Alis	*Cassia fistula*
Amla	*Antidesma acidum*
Amla	*Emblica officinalis*
Anar-dana	*Punica granatum*
Arjun	*Terminaliaarjuna*
Badhla_	*Salix tetrasperma*
Badrol	*Persea gamblei*
Bahankahar, Gin, agnimanth	*Premna mucronata*
Bakkar bel	*Ichnocarpus frutescens*
Ban	*Gmelina arborea*
Ban Basuti	*Caryopteris odorata (syn. C. bicolor, C. wallichiana)*
Ban Malti	*Jasminum multiflorum*
Bana	*Vitex negundo*
Bans Bainj, Sotha	*Dendrocalamus strictus*
Bantaur	*Atylosia crassa*
Barasol Pan	*Flemingia semialta* ____
Barnahi,Billan	*Limonia acidissima*
Barthua	*Hymenodictyon excelsum*
Basant	*Reinwardtio indica*
Basuti	*Adhatoda vasica*
Batindu	*Stephania elegans*
Behra	*Terminalia belerica*
Bel	*Aecge marmelos*
Ber	*Zizyphus mauritiana*
Berna	*Crataeva religiosa*
Bhabhar. Bagar	*Eulaliopsis binata*
Bhadrun	*Gymnosporia royleana*
Bhakara	*Saurauja napaulensis*
Bhang	*Cannabis sativa*
Bharmela	*Euonymus pendulus*

Bhirang	*Deeringia celosiodses*
Biul, Dhaman	*Grewia oppositifolia*
Bohar, Barh	*Ficus bengalensis*
Burkani	*Maesa indica*
Cha buti	*Ageratum conyzoides*
Chakunda	*Cassia occidentalis*
Chamar bel	*Cayratta trifolia*
Chamar Saman	*Glochidion velutinum*
Chamorar	*Ehretia laevis*
Charaki	*Clematis grata*
Chhittar Chhun	*Opuntia monacantha*
Chhota Mendhru	*Myrsine africana*
Chil	*Pinus roxburghii*
Chilla	*Casearia elliptica*
Chirandi	*Xylosma longifolium*
Chopar chilla	*Miliusa velutina*
Coibur,machrun	*Clematis nutans*
Dagur	*Ficus hispida*
Damani	*Grewia laevigata*
Dargarhi	*Mimosa himalyana*
Dhakkari	*Clerodendrum phlomidis*
Dhao, Chhal	*Anogeissus latifolia*
Dhawin,Dhawi	*Woodfordia floribunda*
Dholu	*Chrysopogan montana*
Dhurmalti	*Jasminum arborescens*
Drek,dek,beakin	*Melia azederach*
Dudh bel	*Vallaris heynei*
Dudha	*Ficus nemoralis*
Dudli	*Desmodium motorium*
Dura, Dogla,fegra	*Ficus palmata*
Dusen	*Colebrookia oppsitifolia*
Faindal	*Porana paniculate*
Flah,Dhak	*Butea monosperma*
Gaddi Kuri	*Bridelia squamosa*
Gajal Bel	*Mucuna pruriens*
Gandla	*Murraya koenigii*
Ghanira Ghandheela	*Nerium odorum*
Ghas bel	*Cuscuta reflexa*
Giddardak	*Ampelocissus latifolia*
Ginani	*Premna barbata*
Girgithan	*Sageretia par viflora*
Gulihan.	*Halmintonia suaveolens*
Gulodan	*Rhamnus trigaeter*
Handa Bhera	*Careya arborea*

Harar	*Terrninalia chebula*
Har sin-gar	*Nyctanthes arbortristis*
Hyum Garna	*Capparis sepiaria*
Jagru	*Demodium velutinum*
Jaman	*Syzygium cumini*
Jaman Khumb	*Cryptolepis buchanani*
Jamnota	*Jatropha curcas*
Japani toot, tutra	*Broussonetia papyrifera!*
Jhol	*Clematis gouriana*
Jindru	*Randia tetrasperma*
Jugter bhur bel	*Aspidopterys tvallichii*
Jung kinch.	*Dioscorea deltoides*
Kachnar Karal	*Bauhinia malabarica*
Kachnar Karal	*Bauhinia variegata*
Kahi	*Saccharum spontaneum*
Kainth	*Pyrrus pashia*
Kakal Ber	*Zizyphusy oenoplia*
Kakrain	*Pistacia integerrima*
Kala Akha	*Rubus lasiocarpus*
Kala Dhao, hiraharkinu	*Diospyros cordifolia*
Kalan	*Mitragyna parvifolia*
Kali basuti	*Pogostemon plectranthoides*
Kamal	*Mallotus philippinensis*
Kandrol	*Ficus Semicordata (syn. Ficus cunia)*
Kangu	*Flacourtia ramontchi*
Kante bans	*Bambusa arundinacea*
Kao	*Olea ferruginea*
Kapur mingar	*Strobilanthes auriculatus*
Karanda	*Ficus clavata*
Kararoi Tila pati	*Roylea cinerea*
Karmaru	*Albizzia odoratissima*
Karun	*Morus serrata*
Kasakuri	*Trema politora*
Kathaman	*Eugenia jambolana Var caryophyllifolia*
Kathi	*Indigofera besua (syn Indigofera pulchella, Indigofera leptostachya)*
Kehmal	*Lannea coromandelica*
Kendu	*Diospyros montana*
Keor	*Holarrhena antidysenterica*
Khair	*Acacia catechu*
Khajoor	*Phoenix sylvestris*
Khalawa	*Wrightia tomentosa*

Kikkar	*Acacia Nilotica spp indica*
Kinnu	*Diospyros chloroxylon*
Kumbhi	*Cordia vestita*
Kuri HarShingar	*Nyctanthus arbor tristis*
Lambh	*Heteropogan contortus*
Lambi	*Aristida depressa*
Lantana, Ukkal Buti	*Lantana camara*
Lasura	*Cordia myxa*
Ligga	*Boehmeria rugulosa*
Lunji	*Sorghum nitidum*
Maggar(Cultivated)	*Dendrocalamus hamiltonii*
Mahua	*Madhuca indica*
Makora Gha	*Cymobopogan martini*
Malti	*Jasminum Grandi florum*
Maltiwan	*Hiptage madablota*
Mandhar	*Dodonaea viscosa*
Mara	*Bischoffia javanica*
Maror Phalli	*Helicteres isora*
Masandaru	*Linoceira intermedia*
Mirgu	*Cassine glauca*
Mund Bel	*Wattakaka volubilis*
Nargan	*Murraya paniculata*
Nim	*Azadirachta indica*
Ohi	*Albizzia chinensis*
Padal	*Strereospermum suaveolens*
Padar	*Boehmeria platyphylla*
Padari, pilkhan, pakura	*Ficus Virens (syn. Infectoria)*
Palakh	*Ficus rumphii*
Pansera	*Wendlandia heynei*
Panwar	*Cassia tora*
Parand	*Dendrophthoefalcate (syn. Loranthus longiflorus*
Parara,Paliro	*Erythrina glabrescens*
Paror	*Cocculus laurifolius*
Phalai	*Acacia modesta*
Phalsa	*Grewia elastica*
Pippal	*Ficus religiosa*
Putajen	*Drypetes roxburghii (syn Putranjiva roxburghii)*
Rajain,Pardesi	*Holoptelea integrifolia*
Ralan, Arlu	*Caesalpinia decapetala*
Ram ban	*Agave americana*
Rara	*Xeromphis spinosa (syn. Randia dumetorum)*

Rattak	*Abrus preatotius*
Reru, riur	*Accacia leucophloea*
Rihan, meda-lakri	*Litsea chinensis*
Ritha	*Sapindus mukorossi*
Rudhar	*Ficus sarmentosa*
Rumbal	*Ficus racemesa*
Sagwan	*Tectona grandis*
Sakar	*Ehretia aspera*
Sal	*Shorea robusta*
Salangan	*Millettia extensa*
Salod	*Pueraria tuberose*
Samma	*Engelhardtia spicata var colebrookia*
Sanan Suhanjua	*Moringa oleifera*
Sandan, sanan	*Ougeinia oujeinensis*
Sankhiran	*Celastrus panicultus*
Sarain	*Jusminum disparmum*
Sarpri	*Periploca calophylla*
Sason	*Osyris wightiana*
Satmnlia,Musli	*Asparagus racemosus*
Shisham, Tali	*Dalbergia sissoo*
Siah toot	*Morus laevigata*
Sia-toot	*Morus australis*
Simble	*Bombax ceiba*
Siris,Sarin	*Albizzia lebbek*
Sukhchain	*Deriss Indica (syn. Pongmia pinnata)*
Tatpalanga	*Tylophora hirsuta*
Terni	*Euphorbia royleana*
Thor, Choon	*Morus alba*
Mammals	
Adjgar	*Vipera Russellii*
Ban billi	*Felis bangalensis*
Bejoo	*Mellivora expensis*
Chamgadar	*Pteropus medina*
Chuchundar	*Suncus Caeruleu*
Lamab	*Bungarus mucosus*
Gilehri	*Funanbulus pennanti*
Kachuha	*Testudo flagans*
Khargosh	*Lepus nigricoilis*
Kirla (Girgit)	*Chameleon calvartus*
Kirli	*Hemidactylus gleadoyjj*
Lal Bandar	*Macaca mulatta*

Langoor	*Preshytes entellus*

Nag	*Naja hamoh*
Nilgai	*Boselaphus tragocamelus*
Phaniar	*Naja tripudians*
Sambhar	*Cervus unicoler*
Saup	*Typhlops braminus*
BIRDS	
Bagla	*Ardea cinera*
Bagla	*Egretta garzotta*
Batair	*Cotarnix cotarnix*
Bhojanga or Hojanga	*Dicrurus macrocucus*
Bulbul	*Molpastar cafer*
Chhota Falta	*Stroptapelia shinensts*
Fakta	*Stroptapelia decaocto*
Hudhud	*Upapa epops*
Jangli Murghi	*Gallus galus*
Kabutar	*Columberalivia*
Kaikil	*Aleedo atthis*
Kala Titar	*Francolinus francolinus*
Koel	*Endynamis seolopaceus*
Maina	*Acrdothere tristris*
Mor	*Paro cristetus*
Murgabi	*Anas poeciborhyncha*
Neel Kanth	*Coracia bengalensis*
Pahari Bulbul	*Otocompsa jacosa*
Pahari Kowva	*Corbus bevaillonti*
Pahari Titar	*Arborophilaforgueola*
Safaid Bagla	*Bulbulcus ibis*
Selva kabutar	*Colamba cena*
Tatiri	*Lobivanallus indicus*
Titar	*F pondicrianus*
REPTILES	
Local name	**English name**
Gunther	Pit viper
FISH	
Deola	Murral
Godh	Ecl
Kared	Backwa
Maha-sher	--

Table- 3.19 (b) **Floral Species in the Study Area (Core Zone)**			
S.No.	**Common Name**	**English Name**	**Botanical Name**
1.	Bakkar bel	Black creeper	*Ichnocarpus frutescens*
2.	Bans Bainj, Sotha	Male bamboo	*Dendrocalamus strictus*
3.	Kehmal	Indian ash tree	*Lannea coromandelica*
4.	Curry Patta	Curry leaves or Sweet neem	*Murraya koenigii*
5.	Rajain, Pardesi	Indian elm, kanju	*Holoptelea integrifolia*
6.	Shisham, Tali	Bombay blackwood, Indian rosewood, sissoo	*Dalbergia sissoo*
7.	Simble	Silk cotton tree	*Bombax ceiba*
8.	Nimba tree or Nim tree	Neem	*Azadirachta indica*
9.	Jaman	Black-plum	*Syzygium cumini*
10.	Kachnar Karal	Malabar ebony, mountain ebony	*Bauhinia malabarica*
Faunal Species in the Study Area (Core Zone)			
S.No.	**Common Name**	**English Name**	**Scientific Name**
1.	Jangli Soor	Wild Boar	*Sus sacrofa*
2.	Kakkar	Barking Deer	*Muntiacus Muntjak (vaginlis)*
3.	Bandar	Monkey	*Macaca mulatta*
4.	Jangli Murga	Red Jungle Fowl	*Gallus gallus*
5.	Kala Titar	Black Partridge	*Framcolinus francolinus*
6.	Titar	Grey Partridge	*F pondicrianus*
7.	Lomari	Fox	*Vulpie bengalensis*

Source: DFO, Una

3.13.1 FOREST/ WILD LIFE SANCTUARIES

There is no Notified Wild Life Sanctuary/National Park/ Biosphere Reserve within 10 Km distance of the mining site. Pong Dam Lake Wildlife Sanctuary is about 52.30 Km from the proposed mining site. List of Protected and Reserved forests existing within 10 km radius of the project site is given in table 3.20 and figure 3.14

Table- 3.20

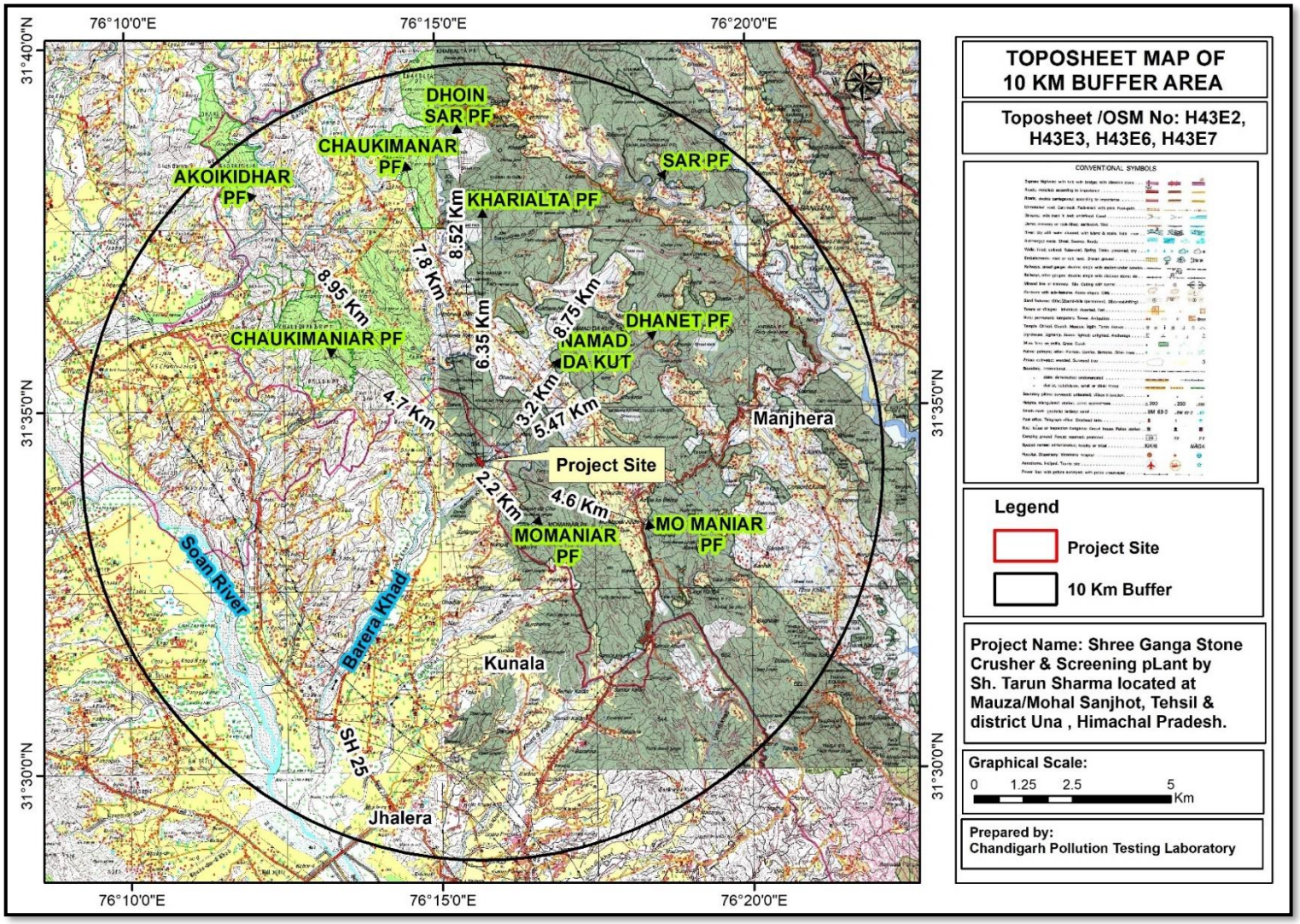
List of Protected and Reserved Forest

S.No.	Protected Forest (PF)/ Reserved Forest (RF)
1.	Chaukimaniar PF
2.	Kharialta PF
3.	Namad Da Kut
4.	Dhanet PF
5.	Momaniar PF
6.	Sar PF

‘

Figure- 3.14

Map Showing Protected and Reserved Forests



3.15 SOCIO ECONOMIC

Social aspects can be defined as the consequences to people of any proposed action that changes the way they live, work, relate to one another, organize themselves and function as individuals and members of society. This includes social-psychological changes, for example to people's values, attitudes and perceptions of themselves and their community and environment.

Broadly social aspects could be classified as under: -

i) Lifestyle aspects- These are the way people behave and relate to family, friends and cohorts on a day-to-day basis.

ii) Cultural aspects - These are shared customs, obligations, values, language, and religious belief another element, which make a social or ethnic group distinct.

iii) Community aspects - These are infrastructure, services, voluntary organizations, activity networks and cohesion.

iv) Health aspects - These includes mental, physical and social wellbeing.

v) Rehabilitation and Resettlement- These include displacement of families beyond defined thresholds and the impact on public and community properties, assets. Accordingly, ameliorative measures for addressing the said impact are also required to be taken.

The above aspects have been considered while assessing the social impact of the project.

3.15.1 Demography and Socio-Economic Scenario:

Demography is one of the important pointers of environmental health of an area. It includes description of demography, occupational pattern, available basic amenities like housing, medical care, services, transportation, education, water supply, roads, transport, etc.

The demographic profile of the study area based on the field survey is tabulated in **Table: 3.21**

As per census 2011, the significant demographic and socio-economic statistics of the district are summarized and given in **Table 3.22**

Table: 3.21 Demographic profile of the study area based on the field survey

Name of villages	No. of House holds	Total Population	Male	Female	Child (0-6)	Literacy (%)		Scheduled Caste	Scheduled Tribe	Total workers	Main workers	Marginal workers
						Male	Female					
Bareda	75	350	156	194	46	80.40	70.50	0	0	190	27	133
Chalola-I	177	893	431	462	102	96.15	91.70	286	0	390	220	283
Amroh	115	495	220	275	59	92.50	88.70	125	0	190	40	265
Dhamandri	292	1538	712	826	163	93.00	83.68	595	3	950	260	328
Kuriala	317	1503	746	757	142	90.0	78.2	618	0	382	320	168
Ambhera Dhiraj	68	372	170	202	46	87.20	80.10	70	0	205	35	174

Table: 3.22 Demography of the surrounding villages

Name of villages	No. of House holds	Total Population	Male	Female	Child (0-6)	Literacy (%)		Scheduled Caste	Scheduled Tribe	Total workers	Main workers	Marginal workers
						Male	Female					
Bareda	68	316	142	174	41	80.67	69.87	0	0	187	23	164
Chalola-I	173	808	392	416	96	97.15	86.70	282	0	384	200	184
Amroh	111	446	215	231	55	92.02	82.76	119	0	180	37	143
Dhamandri	295	1405	707	698	158	92.81	81.80	592	3	928	234	694
Kuriala	286	1366	680	686	133	89.24	75.20	610	0	374	315	59
Ambhera Dhiraj	66	335	166	169	43	87.14	78.29	68	0	197	31	166

(Source: Census of India, 2011)

- Based in above findings, it is seen that over a period of time since the Census- 2011, there is an increase in the population in the buffer zone to the extent of 10.5- 11.0%, the sex ratio and the no. of children in the age group 0-6 years has increased which is an index of better healthcare.
- Similarly, the female literacy rate has improved due to women empowerment and improved educational facilities. The overall literacy rate has increased during the period since the last census by 0.5- 1.0 percent in the study area.

  As per the focused group discussions (FGD, interview & questionnaire report of employment and occupational structure, it is seen that

  - Agriculture is the main stay in the study area.
  - All the households are pucca and many bounded by boundary walls.
  - Most of the households draw pensions from army, education department, forest department and the state electricity boards.
  - Most of the villages have mechanized agricultural operations.
  - Almost all households have two wheelers & many have passenger cars.
  - In addition to landline, most of households have 2- 4 mobile phones.
  - Most of the women are engaged in household and agricultural activities.
  - In rural development, almost all the schemes are executed by MNREGA workers drawn from the villages.

  Regarding infrastructure facilities-

  - Almost all the villages are electrified.
  - Villages in the study area are connected with rural roads.
  - All the villages have tapped water supply.
  - All the households have individual septic tanks.
  - Being near to district headquarter, there is no dearth of medical & educational facilities.
  - The area lacks in recreational facilities and specialized medical care.
  - Unemployment is a big challenge in the study area. However, the proposed project will address this issue to some extent by providing employment to locals.

  Benefits of project:

  The execution of proposal will result in the following benefits:

  - Employment to locals without the requirement of housing at the site.

- Contribution to local economy by reducing unemployment.
- Development of local skills.
- Smaller ecological footprints.

The proposal may suffer from the following disadvantages:

- Adverse impact on the environment.
- The safely risk resulting from the open benches.
- Requiring management of workforce & quality of work.

Sensitivity of the affected environment in terms of socio- economic aspects.

Criteria	**Socio-economic implications**
Extent	Local
Duration	Long to permanent
Intensely	Medium
Probability	Definite
Significance before mitigation	High
Significance after mitigation	Low
Degree of confidence in prediction	High

- During the field survey, it was found that the people were not against the project but apprehensive of dust pollution, road accidents, lack of recreation facilities and medical care especially to women and elders. To address these issues, the following CSR activities are proposed.
  - Proper maintenance of approach road, dust suppression and traffic management.
  - Financial aid to the existing health care institution for upgradation of medical facilities.
  - Development of park in the surrounding villages common land.
  - Medical check up camps in the surrounding villages for free check-up and necessary preventive measures.
  - Environmental education awareness campaign in the surrounding villages and

distribution of bio-degradable carry bags.

3.15.2 Traffic Study

Traffic & transportation is considered as an inevitable function of land use planning. Urban transport is an integral part of urban planning because apart from defining the form of a town, the smooth functioning and productivity of any urban center clearly hinges on the efficacy of traffic & transportation system. Since roads and streets or transport network are equated with arteries/veins of human body whereas traffic on roads/streets is comparable to blood flowing, so any blockage/ obstruction in this system acts like clot in the blood invariably leading to numerous complications**.**

The applied mining lease area is located in the form of a Hill Slope near the village Sanjhot of Tehsil & District Una. The site is approachable through kaccha road Dhamandari- Sanjhot diverting LHS from village Sanjhot. The mining lease area lies at a distance 13 kms from Una and 28 kms from Amb.

Total Production for 5 years	2,81,300 MT
Total Production for 1 year	56,260 MT
Total production for 1 one day	200 MT
Capacity of tipper	15 Ton
No. of tipper/trucks	14-16

An estimated 14-16 trucks will be required each day for transportation of 56,260 MT of material in 280 working days/year. The daily material transport shall be 200 MT requiring approximately 14-16 trucks with @15 ton capacity.

3.16 DRAINAGE PATTERN

The adjoining area shows a dendritic type of drainage with the formation of gullies. Only small gullies pass beside the mining lease area. These small gullies drain into local Nalla and further drain into Swan River which is perennial stream of the area. It forms a part of the Satluj drainage system.

Altitude at the Mining Lease Area.

The highest point of mining lease area is 502 m above mean sea level and lowest point is 454 m above mean sea level.

Figure 3.15

Drainage Map of the Proposed Mining Area

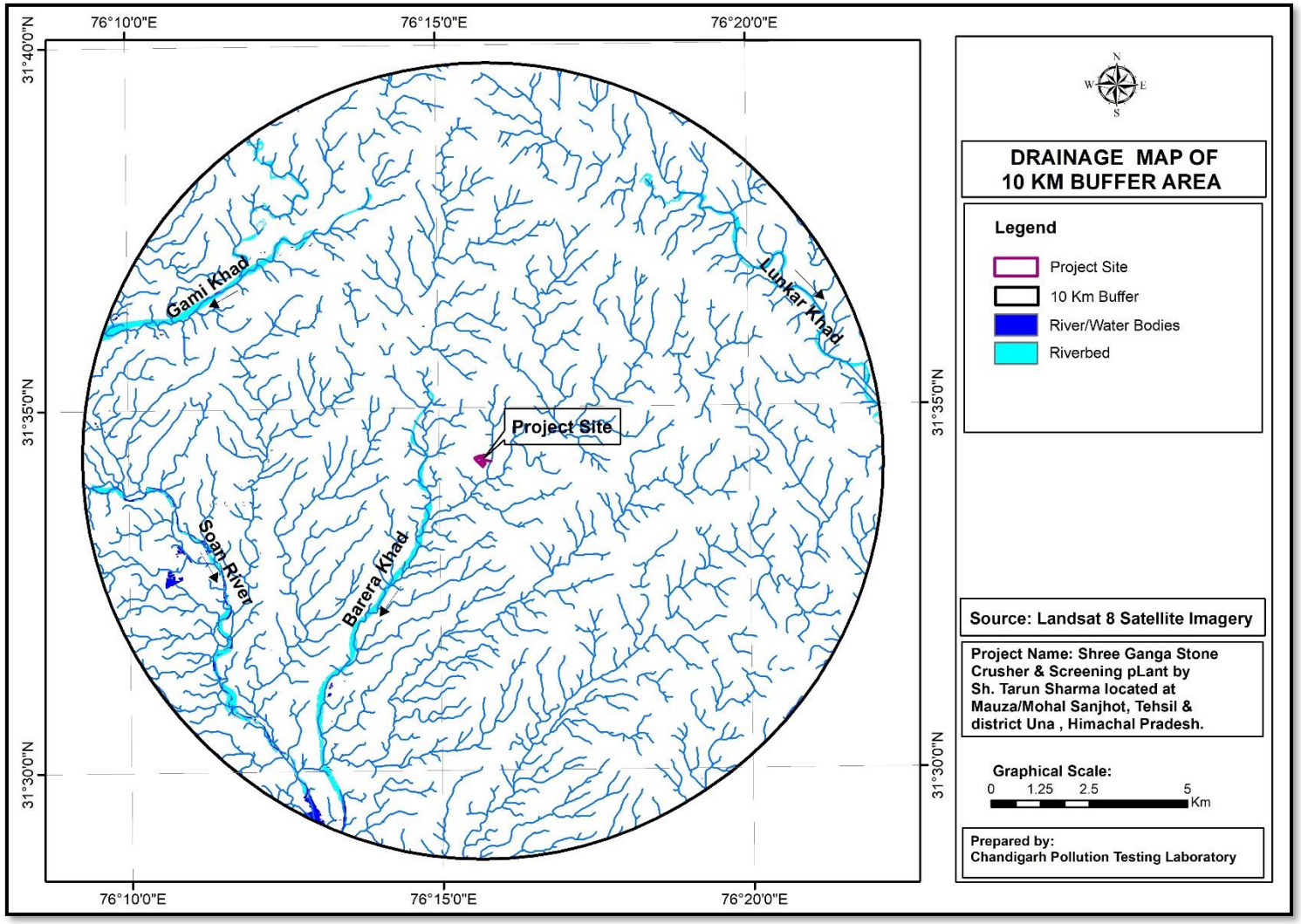


Figure 3.16

Drainage with Contour Map of 25 Km Buffer Area

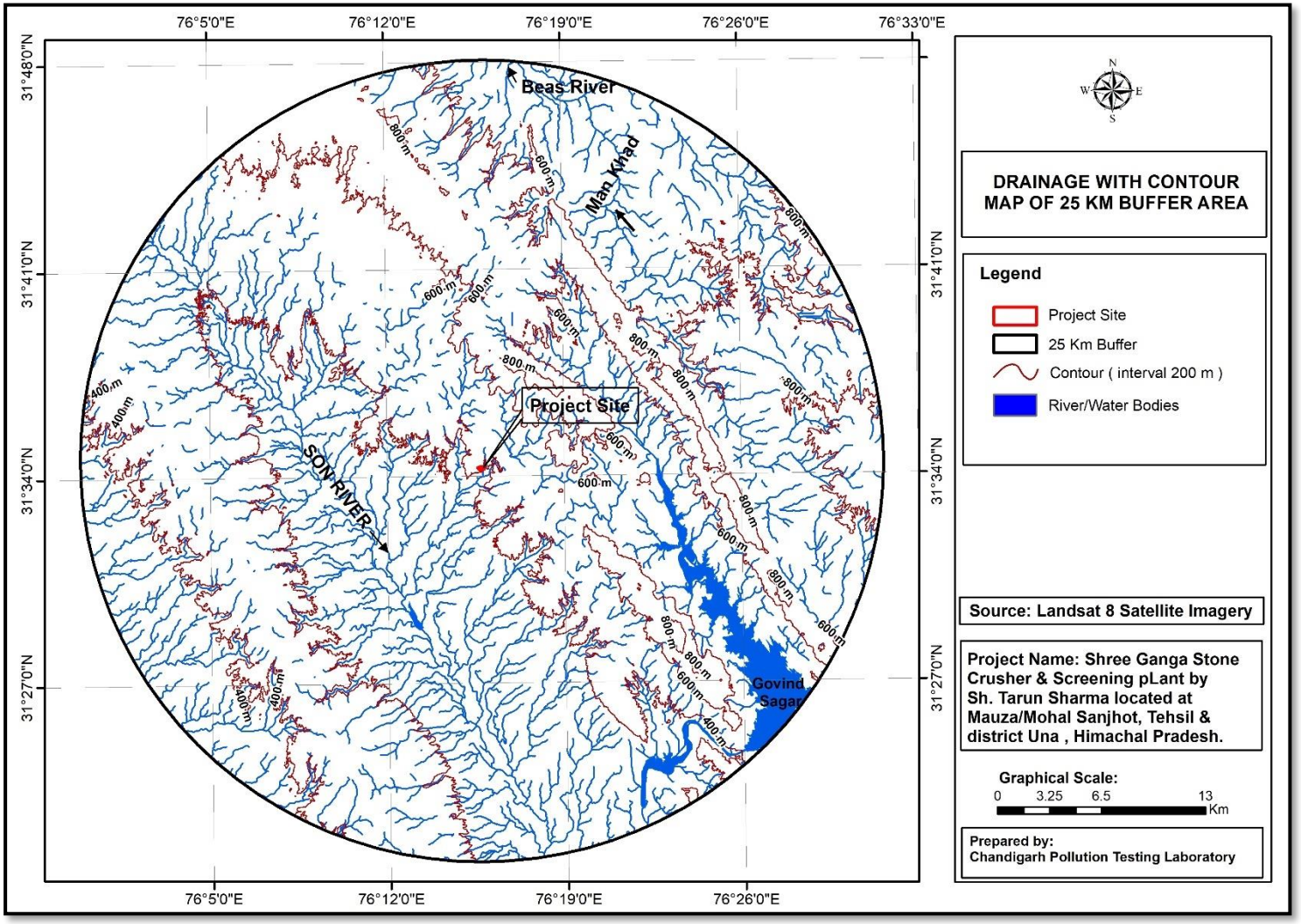
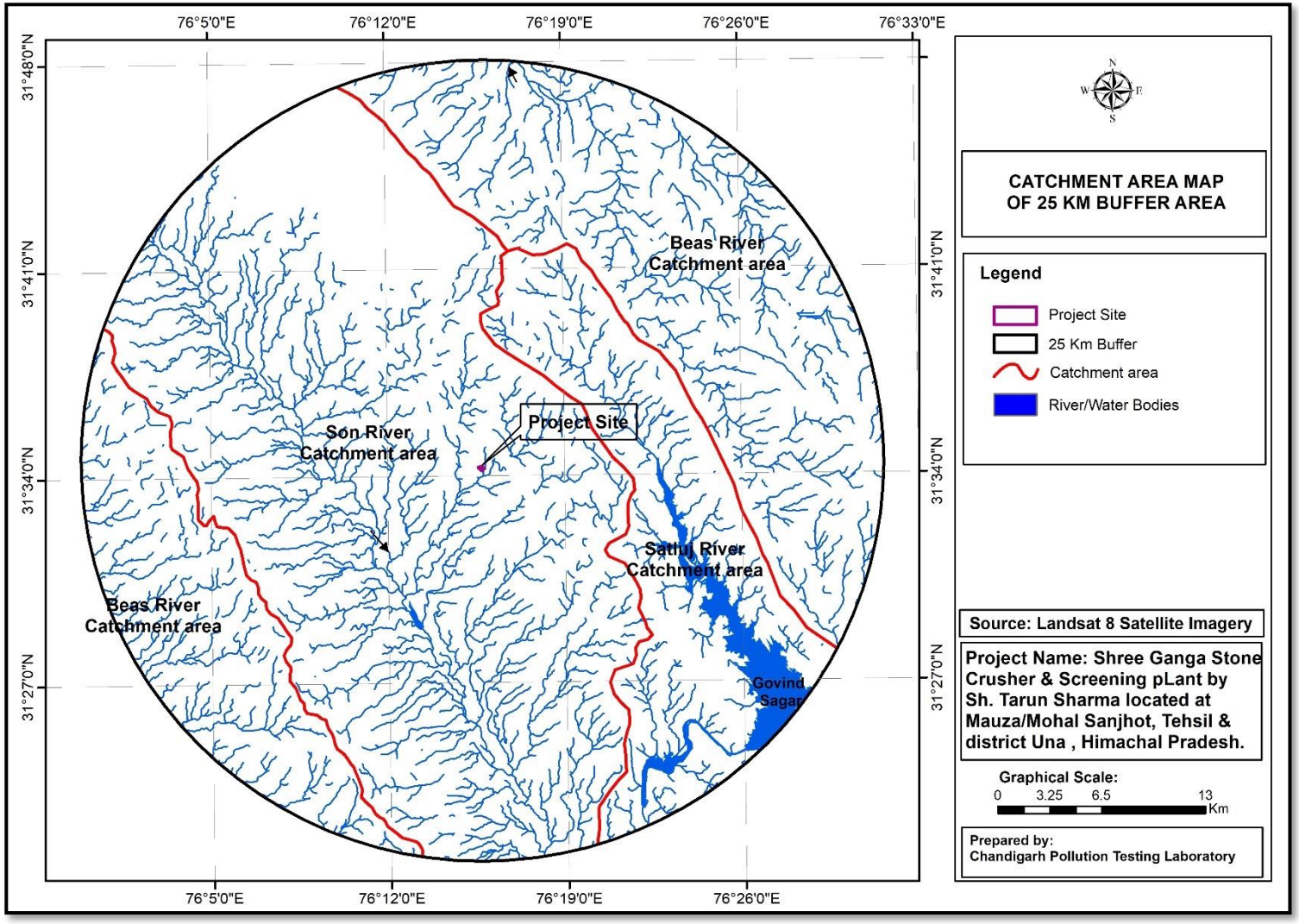


Figure 3.17

Catchment Area Map of 25 km Buffer Area



CHAPTER 4.0

ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

4.0 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. Landform and Topography
5. Soil Environment
6. Biological Environment
7. Socioeconomic Environment

8. Solid Waste.
9. Risk and Hazards.

4.1 AMBIENTAIR QUALITY

Impacts:

Opencast mining operations are generally prone to generation of high levels of PM_{10} and to a limited extent SO_2, NO_x due to fossil fuel-based vehicles, machines. Air pollution mainly due to PM_{10}, SO_2 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 (PM_{10}).

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

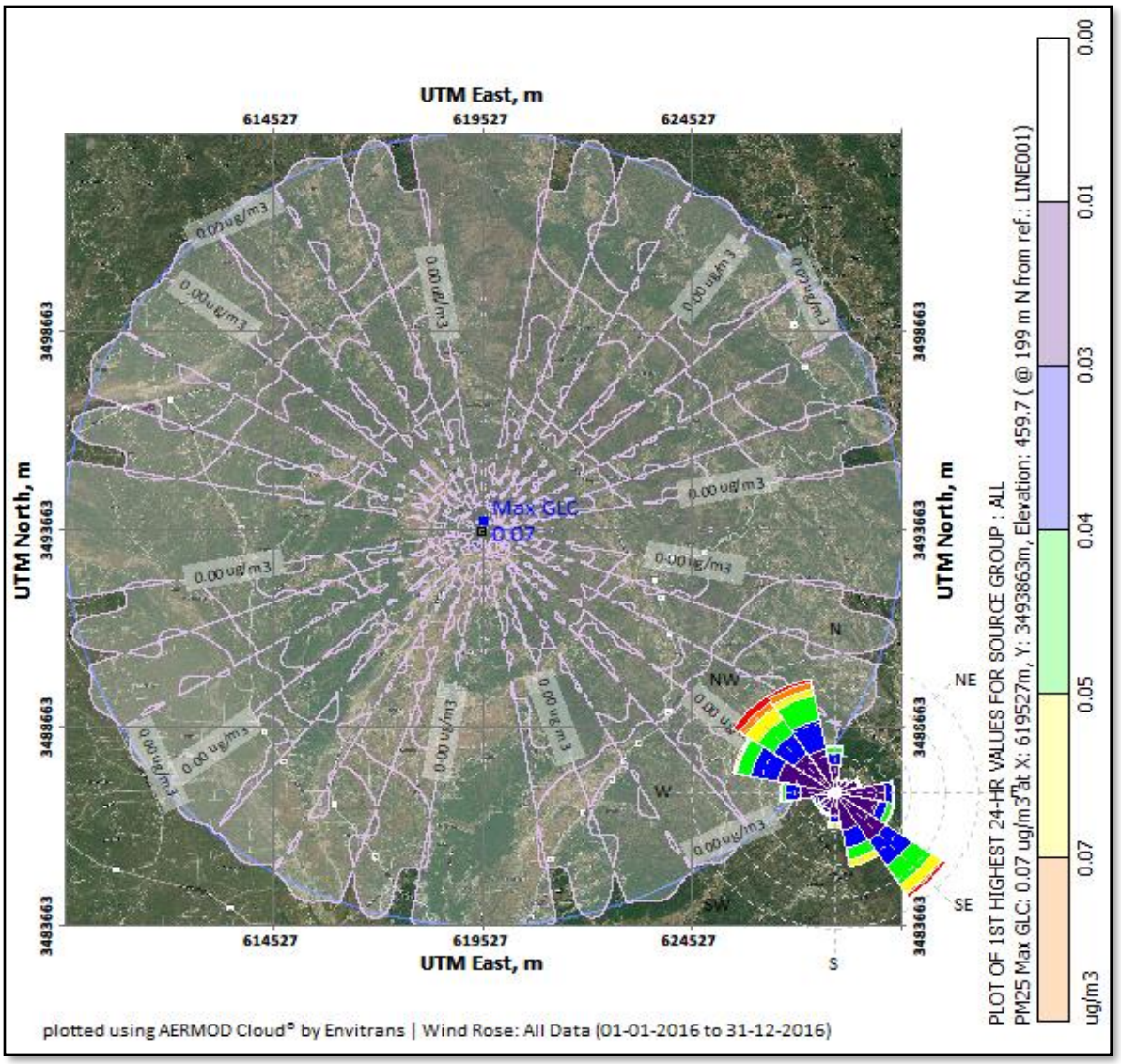
Pollutants	**Maximum GLC in µg/m3**	**Baseline concentration in µg/m3**	**Baseline Concentration after project implementation in µg/m3**
$PM_{2.5}$	0.07	38.9	38.97

Predicted GLC's of the proposed project:

It is predicted that the maximum contribution in GLC's, with unit's operation will be 38.97 µg/m3 for $PM_{2.5}$ at a distance of 459.7m from N direction. Since the mining is manual and no blasting is 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 PM_{10} is 63.65 µg/m^3 and $PM_{2.5}$ is 38.9 µg/m^3. There will be marginal increase in existing level of ambient air quality ($PM_{2.5}$, which will be well within the permissible, limits i.e. 60ug/m^3 .

Figure 4.1

Isopleths showing Air Quality Modeling



Conclusion:

From the figures available and the studies made, it is concluded that with the mining activity, theambient air quality in the area is well within the prescribed limits and is not likely to be changed appreciably. With the adoption of the mitigation measures and their strict implementation, the Ambient Air quality is likely to be improved.

4.2 WATER QUALITY

Mining operation shall be undertaken as per approved mining plan; hence, there shall not be

noticeable effect on surrounding ground water resources due to mining. Damage in the water body, depends on its assimilative capacity. Since no water will be used in the mining operations, therefore, no waste water will be generated, thereby no impact on groundwater and surface water quality. Small amount of domestic waste water shall be treated in septic tanks and soak pits at crusher site before to putuse for plantation.

However, the following safeguards shall be adopted: -

- No overburden or loose sediments will be kept in the working benches, particularly during monsoon season.
- Check dams and gully checks will be raised to reduce the velocity of runoffs, thereby minimizing the flooding & carryover of deposits to the receiving waters.
- Mine waste dumps will be stabilized during the course of their retention.
- 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.

4.3 NOISE LEVEL

The proposed mining activity is done manually only. Hence the only impact is anticipated is due to movement of vehicles deployed for transportation of minerals. The area is away from the habitation and the noise shall be caused only by use of mechanical device which shall be below the permissible limit prescribed. There is no blasting involve. The noise level will not exceed the required level.

Mitigation Measures

- Well maintained vehicles will be used in order to reduce the noise during movement of vehicles. Regular and proper maintenance of vehicles will be ensured.
- No vehicular movement during night time.
- Only trained drivers will be allowed to operate vehicles during mining to reduce any chance of accidents.
- Plantation of trees along the mining area will be done to dampen the noise.

4.4 LAND ENVIRONMENT

The project area does not consist of any forest land. It does not consist of any human habitations. Land use plan of the mining lease area during pre-operational, operational and post operational is incorporated in the Chapter 2. During the course of mining, the land environment is likely to be impacted as under: -

- Change in the Topography of the Land / Land Degradation.
- Solid waste generation
- Soil erosion
- Impact on the Agricultural Practice at nearby area due to dust generation.

Mitigation measures

- The proposed mining activity is carried out in Hill- Slope, therefore the broken area will be reclaimed by systematic backfilling and rehabilitated by afforestation so that landscape of the area is improved
- The waste will be backfilled in the mined-out areas on which plantation will be raised.
- Soil erosion shall be prevented by constructing gully checks, check dams, etc.
- Agriculture activities are practiced nearby areas may impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul roads, excavation sites will be strictly followed so that impact is minimized.

4.5 SOIL AND AGRICULTURE

The soil in the study area contains medium level of primary and secondary nutrients. Since no waste is thrown on any agricultural land, agricultural operations will not be affected with the mining. The major crops in the study area are Paddy, Wheat, Maize, Gram, Mustard, Sugarcane, Potato and Vegetables etc. The fugitive emissions from the unit having insignificant pollution load will not be of any threat to thevegetation & soil in this area.

4.6 ECOLOGY & BIODIVERSITY

Mining has the potential to affect biodiversity throughout the life cycle of a project, both directly and indirectly.

- Direct or primary impacts from mining can result from any activity that involves land clearance (such as access road construction, exploration drilling, overburden stripping or tailings impoundment construction) or direct discharges to water bodies (riverine tailings disposal) or the air (such as dusts or smelter emissions). Direct impacts are usually readily identifiable.
- Indirect or secondary impacts can result from social or environmental changes induced by mining operations and are often harder to identify immediately.

Table 4.2 gives some operational mining activities and associated aspects and impacts which need to be considered and table 4.3 gives the impact sand mitigation measures for biological environment.

Table 4.2: Mining activities with their aspects and biodiversity impacts

Activity	Aspects	Biodiversity Impact
Extraction	Land clearing	Loss of habitat, introduction of plant disease, siltation of watercourses
Blasting	Dust, noise, vibration	Smothering stomata, disturbance of fauna
Digging and Hauling	Dust, noise, vibration, water pollution	Disruption of watercourses, impacts on aquatic ecosystems due to changes in hydrology and water quality
Waste Dumping	Clearing, water and soil pollution	Loss of habitat, soil and water contamination, sedimentation, acid mine drainage
Roads and rail	Land clearing	Habitat loss or fragmentation, waterlogging upslope and drainage shadows down slope
Water supply (potable or industrial)	Water abstraction or mine dewatering	Loss or changes in habitat or species composition
Air emissions	Air pollution	Loss of habitat or species

Table 4.3: Anticipated impact and mitigation measures for biological environment

Impact Predicted	Mitigation measures
Disturbance to free movement / living of wild fauna viz. Birds, Reptiles etc.	• Noise produced due to vehicular movement for carrying sand materials will be within permissible noise limit. Higher noise level in the area may lead to restlessness and failure in detection of calls of mates and young ones. • If wild animals/birds are noticed crossing the core zone, they will not be disturbed at all. • Noise level will be maintained within permissible limit (silent zone-50dB (A) during day time or residential zone 55dB (A) as per Noise Pollution (Regulation and Control) Rules 2000, CPCB norms.
Impact on forest resources, economically important plants, medicinal plants and threat to rare, endemic and endangered species	• Regeneration of rare and endangered plants of economic importance including medicinal plants.
Impact on Agriculture	• There will be no impact on the agriculture. Dust generated will be suppressed during mining operation at mining site as well as during transportation will be suppressed by sprinkling.
Impact on land use and vegetation	• No tree cutting will be allowed.

Summary of Overall Impacts

The mining activity doesn't involve any blasting & drilling activity; therefore, the project will not disturb habitat of any flora & fauna. Since there is no liquid waste, so the aquatic life in the area is not likely to be affected in any manner. Thus, the existing ecology & biodiversity

of the area shall be maintained & will not be affected.

The main impacts will be during the mining activities with respect to Air, Noise, Land, Biological and Socio-economic. Following is the summary of overall significant impacts related to environmental components.

Environmental Attributes	Major Impacts
Air Environment	Fugitive emission due to excavation & screening vehicular emission due to transportation and operation of machineries, marginal damage of vegetation, health effects.
Noise Environment	Increase in Noise levels due to, excavator and dumpers.
Water Environment	Sewage generation, sedimentation, no waste water generation due to mining activities, however rainwater will be harvested in the mine excavated ponds and will be used for sprinkling & plantation.
Land Environment	Acquisition of land, loss of land use / land cover area, change in soil quality, generation of overburden, however positive impact due to plantation in the mine lease area and green belt around the mine lease area.
Biological Environment	Cutting of trees, loss of vegetation, migration of schedule fauna, disturbance to fauna due to noise generation and trenching positive impact due to plantation in and round mine lease area and along the road side.
Socio- economic Environment	Disturbance to the habitations due to mining activities, No R & R, influx of people, however positive impacts due to enhancement of economic benefits through allied industries, improvement in quality of life and employment etc.

- Major impacts are described above, there will not be any irreversible damage due to the project. However, assessment of impacts with respect to all the environmental components is made and measures are suggested. **CSR/CER scheme** as per project specific requirement according to the project economic benefit will be implemented and sufficient budgetary provision will be made available and implemented.

4.7 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 48-50 persons. All workers are drawn mostly from the local population. Thus, there is not any appreciable change in population in the nearby villages/towns. Inview 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**.

4.8 HAZARDOUS MATERIALS

No hazardous materials are used in the process nor do the finished goods fall in this category. Thereis no impact on the environment on this score.

4.9 WASTE DISPOSAL

No liquid waste will be there on the mining site. And solid waste (i.e., silt, clay etc.) will be used inroad making, embankment and the balance stabilized for extended use. There will be no effect ofwaste disposal on the environment in general.

4.10 OCCUPATIONAL HEALTH AND SAFETY

To control and minimize the risks at workplace, lessee will implement Health, Safety and Environment Policy with the following objectives:

- To prevent hazards.
- To provide safe and healthy environment to all the employees. To comply with the

prevailing regulations and standards.

- The lessee, therefore, will adopt occupational, safety and health policy for the safe and healthy environment. There are some health and safety hazards, which may affect the persons employed inthe mine. The people may suffer from occupational diseases or may get injured while working in the mine, if proper measures will not be taken to protect the persons from these hazards.

Occupational health surveillance programme: Occupational health surveillance programme willinclude the following facilities:

A. They will have Occupational Health Centre with emergency handling facilities.

B. The occupational health surveillance of the employee shall be done on a regular basis andrecords of the same will be maintained as per the Mining Act.

CHAPTER – 5.0

ANALYSIS OF ALTERNATIVES

5.0 General

It is a Hill-Slope mining project, where the material will be lifted manually where: -

- No new technology is involved.
- No forest land is involved.
- The site has easy access through approach road.
- Water requirement only for domestic and plantation purpose.
- Manpower availability from nearby areas.
- No resettlement and rehabilitation issues.
- Absence of areas of archeological and historical importance within 10 km radius.

Based on the above criterion, proposed mining land is conducive to undertake for mining of sand stone and Bajri.

CHAPTER – 6.0

ENVIRONMENTAL MONITORING PROGRAM

6.0 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).

6.1 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.

6.2 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

6.3 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.

6.4 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.

CHAPTER–7.0

ADDITIONAL STUDIES: DISASTER MANAGEMENT

7.1 PUBLIC CONSULTATION:

Present report is for the purpose of public consultation only. The details and proceeding of public hearing will be incorporated in the final report, which will include the following:

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

7.2 IDENTIFICATION OF RISK & HAZARDS:

The mining of sand, stone and bajri will be done manually so, there will not be any major risk hazard associated with the process. The possible scenarios selected for this project are as below:

- Inundation / Flooding/ Erosion
- Accident during sand loading, transporting and dumping.
- Accident due to vehicular movement.

INUNDATION/FLOODING/EROSION:

The consequences of flooding/ inundation/ erosion are catastrophic or fatal. The likelihood of occurrence of flooding is occasionally possible. As per mining plan, the mining work will not be carried out during monsoon season.

ACCIDENT DURING SAND LOADING, TRANSPORTING AND DUMPING:

The consequences of this scenario are minor which may be taken care with first aid care. This will not lead to any day loss. The likelihood of occurrence can be regular due to carelessness of the worker.

ACCIDENT DUE TO VEHICULAR MOVEMENT:

The consequences of this scenario are moderate and may result in hospitalization and day loss. The likelihood of occurrence is occasionally possible

7.3 RECOMMENDATION FOR RISK REDUCTION:

Measures to prevent Inundation/Flooding

Inundation of flooding is expected and beneficial for these mines as during this time only the mineral reserve gets replenished.

1. During monsoon months and heavy rains, the mining operations are ceased.

2. There should be mechanism/warning system of heavy rains and discharges from the upstream dams.

Measures to Prevent Accidents during Loading

- The truck should be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.
- The loading should be done from one side of the trucker trolley only.
- The workers should be provided with gloves and safety shoes during loading.
- Operations during daylight (9: 00 a.m. to 6: 00 p.m.) only.
- Stockpiling of harvested material on the river bank will be avoided.
- Necessary first aid kit will be always kept in the mine site.

Measures to Prevent Accidents during Transportation

- Vehicles will be periodically checked and maintained in good condition and must not be overloaded
- Overloading will not be permitted;
- To avoid danger of accident, roads and ramp near embankment will be properly maintained.

- The truck will be covered and maintained to prevent any spillage;
- The maximum permissible speed limit will be ensured;
- The truck drivers will have proper driving license.

7.4 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

7.4.1 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.

7.5 SOCIAL IMPACT ASSESSMENT:

7.5.1 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.

7.5.2 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.

7.5.3 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.

7.5.4 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 50-54 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 sand, 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 sand, 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 manual 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:

a) 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.

b) 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.

c) 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.

d) 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 50-54 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 economicstatus.

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):

For fulfilling the social responsibility, Items wise detail and time bound action plan shall be chalked out based on the public consultation issues and the representations of surrounding villages. The same shall be submitted along with Final EIA report. In addition to issues which may crop up during public hearing the following social activities have been planned related to education, social causes, healthcare & environmental.

- Awareness plan on girl's education.
- Spreading legal awareness amongst people and this advantages section of society about theirrights & remedies available.
- Formation of a task force of volunteers to educate people, regarding judicious use of waterresources.
- Green belt development on village common land in association with concerned village Panchayat.
- Promotion of sports activities in nearby village.
- Development of crematorium in one village of study area.

Budget for 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 roadsconstruction 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 30,00,000/- or Thirty 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 48-50 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.

9.3 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

10.0 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.

10.1 AIR ENVIRONMENT:

During mining stage, generation of dust is not expected as the area is an private land (Hill-slope) which is moist due to soil moisture. The waste material obtained after sale of sand, bajri and boulders shall be stacked in a separate place and will be utilized for plantation and the balance filled up in the excavated pit.

All vehicles for service activities at the project site shall be checked for vehicular emission. The agencies will be asked to keep them within prescribed limits. They will also be asked to maintain them properly. Speed of vehicles for transport of materials shall be kept very low and speed breakers will be provided at suitable places.

10.2. WATER ENVIRONMENT:

Since no water will be used in the mining operations, therefore, no waste water will be generated, thereby no impact on groundwater and surface water quality. Small amount of domestic waste

water shall be treated in septic tanks at crusher site before to put use for plantation.

10.3 NOISE ENVIRONMENT:

Since, the project does not involve any blasting; there will therefore be negligible impact due to noise & vibrations. However, noise shall be generated due to movement of vehicles for which the following measures shall be implied: -

- "No Horn" sign at prominent places.
- Vehicles to be properly maintained & tuned conforming to the prescribed norms.
- Noise abatement from line source.
- Replacement of old trucks or their retrofitting.

10.4 LAND ENVIRONMENT:

This unit is having mining area about 02-91-57 Hect. During the course of mining, the land environment is likely to be impacted as under: -

- Topography & drainage
- Soil quantity
- Soil erosion
- Visual impact

To overcome the above impact, the following measures shall be implied: -

A well-planned restoration/reclamation of mined out area shall be in place.

- Plantation/afforestation in buffer zone by selecting local species conducive to agro-climatic conditions of the area.
- Proper measure to control runoffs will be taken.
- Landscaping.

10.5 SOLID WASTE:

The solid waste generated from the mining activities shall be effectively recycled within the mining site by spreading over the exhausted benches. No waste material will be thrown outside premises of the unit which could create any environmental problem.

10.6 OCCUPATIONAL HEALTH AND SAFETY OF WORKERS:

The major health hazards in a mining unit are dust & noise. Accidental rolling of stones along slopes could also be a hazard in the working area. Following mitigation measures will be provided:

1. Dust

- All workers will be provided Personal Protection Equipment.
- Face masks and side covered glasses will be provided to all workers.
- Frequent check-up of the workers will be done which shall, include chest X-ray, ECG &vision testing. Necessary treatment shall be provided wherever required.
- All checkups will be documented and reviewed monthly for occupation health and safety of the workers.

2. Noise

- Since mining operations are manual. The noise in the working area is not of significant levels. However, ear plugs will be provided to all workers in the area.
- Audiometric test of the workers shall be done regularly & medical health provided wherever required.

3. Accidental Rolling Down of Stone

Since the mining is carried out by preparing 6 X 6 meters (Height X Width) benches. There is little likelihood of rolling stones coming into the mining pit. However, pits slope of 45 ℃ will be maintained.

10.7 BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN:

Details of expenditure on environment given in table 10.1.

Table: 10.1 EXPENDITURE ON ENVIRONMENTAL MEASURES

S.No.	Title	Capital Cost (Rs.in Lacs) for 5 years	Recurring Cost (Rs. in Lacs)	Time frame to Implement
1.	Air pollution control-Management of haulage road Including water sprinkling with the help of tanker and trolleys.	2.0	0.50	Twice a day & as per requirement
2.	Greenbelt development (Including its maintenance). ****(No.Ft.1790-/71(D)2011-12/Vol-VIII(Norms), Himachal Pradesh Forest Department, Shimla Dated 07 June 2019)***	3.0	--	As per local Forestry Guidelines
3.	Waste management.	2.5	0.50	As per approved mine plan
4.	Testing of air, water and noise parameters as per norms of HP Pollution Control Board.	--	0.50	As per EC /consent conditions
5.	Occupational health & safety measures-Provision of PPE,first aid and other Miscellaneous.	0.50	0.10	As per Factory Act
6.	Retaining/walls Structures ***(5 nos. of retaining structures of 8.0m length, 1.5m height and 1.0m width)***	6.0	0.12	As per approved mine plan
	Total	**14.0**	**1.7**	

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

11.0 INTRODUCTION:

Sh. Tarun Sharma, S/o Sh. Ashok Kumar; Prop: M/s Shree Ganga Stone Crusher & Screening Unit, Village & P.O Upper Basal, Tehsil & District Una, H.P has been issued "Letter of Intent" for grant of mining lease vide letter No. Udyog- Bhu (Khani-4) Laghu-180/2023-4227 dated 27.07.2023 for extraction/ collection of sand stone & bajri from Hill slope over an area measuring 02-91-57 Hectares bearing Khasra no. 592, 593, 595, 604, 636, 2226/586, 2227/586 and 2228/591 (Private land) falling in Mohal/Mauza Sanjhot, Tehsil & 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'

11.1 DETAILS OF MINING PROCESS & LOCATION:

Table No 11.1: Details of Mining Process & Location		
1.	**Name of the project**	**Extraction of sand, stone & bajri by Sh. Tarun Sharma; Prop: M/s Shree Ganga Stone Crusher & Screening Unit**
2.	**Type of project**	Mining of sand, stone & bajri
3.	**Location**	Khasra no. 592, 593, 595, 604, 636, 2226/586, 2227/586 and 2228/591 (Private Land) over an area measuring 02-91-57 Ha situated in Mohal/Mauza Sanjhot, Tehsil & District-Una, State-Himachal Pradesh.
4.	**Latitude**	**Longitude**
A)	31°34'18.51"N	76°15'34.43"E
B)	31°34'20.66"N	76°15'44.83"E

C)	31°34'15.65"N	76°15'49.90"E
D)	31°34'11.26"N	76°15'41.89"E
E)	31°34'14.81"N	76°15'37.54"E
5.	**Total mining lease Area**	02-91-57 Hectares (Private land -Hill slope)
6.	**Product**	Sand, stone & bajri
7.	**Production capacity**	Approx. 2,81,300 MT for five years or 56,260 MT/year.
8.	**Cost**	Rs. 30,00,000/-
9.	**Source of Electricity**	Not required
10.	**Alternative source**	Nil
11.	**Power Requirement at mining area**	Not required all operation are manual.
12.	**Water consumption**	6.0 KLD
13.	**Source of water supply**	Borewell
15.	**Air pollution control at mining site**	Water sprinklers & tree plantations
16.	**Hazardous chemical**	Nil.
17.	**Hazardous waste**	Nil.
18.	**Land Type**	Private Land-Hill slope

11.3 PROPOSED PRODUCTION:

Total production for five years will be around 2,81,300 MT, and 56,260 MT for one year.

11.4 METHOD OF MINING:

- The mining will be manual. 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 502 onwards by preparing 6 X 6 meters (Height X Width) benches.
- 04 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 ENVIRONMENT MANAGEMENT PLAN:

1. Land Environment:

Mitigation measures to avoid impact on land use

i.) All the activities shall be restricted within mining lease area. Hence, there will be no change in the land use pattern.

ii.) Plantation activities will be initiated at the boundary of the mining site on the commencement of the mining activity.

iii.) During the mining activity, the overburden/top soil will be dumped at the demarcated area within the lease which will be used for refilling the excavated pits.

iv.) Plantation on the backfilled area will be done.

v.) The mined-out pit will be backfilled and stabilized by plantation which will provide land for agricultural purposes.

2. Air Environment:

Mitigation measures to minimize impact on health due to fugitive dust emissions

i.) Water sprinkling on the internal/ unpaved roads/haul roads will be carried out in order to suppress dust emission.

ii.) Adhering to strict maintenance schedules for all equipment and transport vehicle to minimize gaseous emissions like CO and NOx.

iii.) The dumper and other vehicle operators/maintenance department will be responsible for periodically inspecting the vehicles engaged in the project for oil and grease leaks, spills and seeps from any of its parts etc. Thus, the practice of attending to breakdown maintenance along roadside will be prohibited.

iv.) Provision of dust mask to workers working at highly dust prone and affected areas.

v.) The dumpers/tippers will be covered with tarpaulins to avoid dust emission during transit of mined material from mining site to its destination.

vi.) If any increase of pollutants is reported from monitoring, necessary control measures would be taken.

3. Noise Environment:

Mitigation measures to minimize impact on health due to noise emissions

The noise emission from excavation work, haul trucks along the mine access service road, and material handling activities and support equipment such as dumpers, tractors and water trucks will be mitigated through following measures:

i.) The operators cabin of equipment like dumpers, loaders, etc. to be made sound proof.

ii.) Use of pressure horns in urban areas will be avoided.

iii.) Use of improvised plant and machinery designs, with inbuilt mechanism to reduce

sound emissions like improved silencers, mufflers and closed noise generating parts.

iv.) Where noise level is more the workers to be provided with ear plugs.

v.) Reducing the exposure time of workers to high noise levels by arranging time bound rotation of individuals.

vi.) Green belt will be enhanced by additional plantation in and around the mining lease area.

vii.) Periodic ambient noise monitoring near sensitive receptors in the vicinity of lease area.

4. Soil Environment:

Mitigation measures to avoid soil erosion/loss of fertile top soil

i.) Proper garland to be constructed around the waste dump to avoid soil erosion.

ii.) The areas where topsoil could be utilized for landscape prior to stripping of top soil will be utilized and this topsoil will be later used for reclamation of the mining site as part of mine closure.

5. Water Environment:

Mitigation measures to avoid contamination of water resources

i.) Quarterly monitoring of groundwater level and quality will be carried out.

ii.) The mining activity will not intercept the groundwater table so as to avoid contamination of the aquifers.

iii.) There will be no impact on the surface water.

6. Ecological Environment:

Mitigation measures to avoid impact on biodiversity

i.) To minimize impact on flora and fauna.

ii.) Damage to the natural topography and landscape will be minimized.

iii.) General awareness regarding wildlife will be enhanced through trainings, posters etc.

among the staff and mine workers.

iv.) Traffic speed within the activity area will be regulated.

v.) To minimize impact on vegetation and green belt due to dust deposition

vi.) Extensive plantation on the statutory boundary will increase the floral diversity of the area.

vii.) Sufficient availability of water will be ensured for green belt.

viii.) Water sprinkling will be done twice during the day on haul road and connecting mine to National Highway, also water sprinkling will be done on waste dump, OB dump.

7. Health and Safety:

Mitigation measures to ensure occupational health and safety

Fugitive dust emission could have potential impact on human health. Following mitigation measures will be adopted.

i.) Persons working in dusty area to be provided with protective gears such as helmets, dust masks, ear muff etc.;

ii.) Regular water sprinkling at dust generating areas, haul roads.

iii.) Occupational health checkup of all workers working in mine, and Pulmonary function test for workers working in dusty areas.

iv.) Workers continuously exposed to higher noise levels will be provided ear muffs/ear plugs.

v.) There will be restriction on vehicle speed to avoid accidents.

vi.) Regular health checkup of all the workers working in mine will be done.

11.6 PLANTATION WORK:

Table: 11.2

Year wise plantation plan

Year	Area to be covered (in Sq. meter)	Number of trees to be planted
First	3180	477
Second	3180	477
Third	3180	477
Fourth	3180	477
Fifth	3180	477
Total	**15900**	**2385**

The total cost of plantation including its maintenance for five years shall be approx. 3.0 Lakhs. The cost includes cost of plants, minerable and other labour activities. The estimated ***survival rate*** proposed to be achieved shall be 80%.

11.6.1 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:

Details of expenditure on environment is given in table 11.3 :

Table 11.3

EXPENDITURE ON ENVIRONMENTAL MEASURES

S.No.	Title	Capital Cost (Rs. In Lacs) for 5years	Recurring Cost (Rs. in Lacs)	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker and trolleys.	2.0	0.50	Twice a day & as perrequirement
2.	Greenbelt development (Including its maintenance). ***(No.Ft.1790-/71(D)2011-12/Vol-VIII(Norms), Himachal Pradesh Forest Department, Shimla Dated 07 June 2019)***	3.0	--	As per local Forestry Guidelines
3.	Waste management.	2.5	0.50	As per approved mine plan
4.	Testing of air, water and noise parameters as per norms of HPPollution Control Board.	--	0.50	As per EC/consent conditions
5.	Occupational health & safety measures- Provision of PPE,first aid and other Miscellaneous.	0.50	0.10	As per Factory Act
6.	Retaining/walls Structures ***(5 nos. of retaining structures of 8.0m length, 1.5m height and 1m width)***	6.0	0.12	As per approved mine plan
	Total	**14.0**	**1.7**	

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:

The year wise generation of silty sand/ Top soil is shown in table 11.4:

Table: 11.4

Showing year wise generation of silty sand & top soil

Mine waste (including silt/clay) in (MT)	
1st year	18753
2nd year	18653
3rd year	18854
4th year	18750
5th year	18750
Total	**93,760**

11.9.1 TOPSOIL UTILIZATION:

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

11.10 PREVENTIVE RETAINING STRUCTURES:

Five nos. of retaining structures/gabion/crate wire structure of 8.0 meters in length and 1.5 metres in height have been proposed to be raised in five years.

Each retaining structure/gabion/crate wire structure shall cost Rs. 1,20,000 per year and the total cost for construction of these in five years shall be Rs. 6,00,000.

11.11 MANPOWER DEVELOPMENT:

Around 48-50 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.

11.12 USE OF MINERAL:

The extracted material after screening will be used in the already established stone crusher unit for manufacturing grit and manufactured sand.

11.13 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. Generating employment and improvement of socio-economic conditions of the study area.

11.14 IMPROVEMENTS 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.

11.15 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.

11.16 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:

Brief of resume and nature of consultancy rendered by **M/s Chandigarh Pollution Testing Laboratory (CPTL)** was established in 1996 and has more than two decades of varied experiences in the field of environment. The consultancy is operating in the field of environment consultancy and allied services.

Head quartered at Mohali (Pb), CPTL has been servicing its clients, including MNC's, government institutes, public and private Indian enterprises across several sectors for the last 25 years.

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 corporation from **M/s Shree Ganga Stone Crusher & Screening Unit**.

The manner of EIA coordinator and FAE's engaged for the project has already been detailed. CPTL- EIA, division members along with their roles are tabulated below-

Functional Areas	**Name of the Expert**	**Task**
Project Coordinator	Mr. Sital Singh	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),	Mr. Satpal Verma	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)	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)	Mr. Sital Singh TM – Daljeet 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)	Mr. Aprup Anant Adawadkar	Assistance in perfection of risk Assessment report and developing. and interpreting consequence analysis
Socio-Economics (SE)	Mrs. Ramandeep Kaur	Site visit, assist in identification of report and suggesting mitigation measures,

	TM – Mr. Ranbir Singh Rana	preparation of EMP and environmental budgetary issue, identification of Project
Solid and Hazardous waste management	Mr. Surinder Singh Matharu Mr. Mohan Shri Ram Bhagwat (SW Only)	Identification of water generation from the proposed plant, suggesting adequacy of mitigation measures and management of wastes, contribution to EIA documentation.
Ecology & Biodiversity (EB)	Mr. Nagendra Prasad Todaria FAA: Ms. Babli	Site visit, field services, assessment of impacts of proposed project as biological environment, preparation of EIA report.
Hydrogeology (HG)	Mr. Mohan Shri Ram Bhagwat	Understanding and reporting Ground water conditions, finalization of Ground water sampling locations
Geology (Geo)	Mr. Mohan Shri Ram 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)	Mr. Parag Shyamrao Khujnare Mr. Jagir Singh (Noise only) TM – Mr. Jagir Singh (Vibration)	Site visit, checking of noise monitoring results, analysis of data, identification of impacts and mitigation measures
Land Use (LU)	Debarathi Ghosh	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)	Mr. Nagendra Prasad Todaria	Site Visit, Finalization of soil sampling locations, finalization of survey findings,

	FAA: Ms. Babli	identification of impacts, suggestion of mitigation measures and contribution to EIA documentation
Laboratory	Daljeet Singh and 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.

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NABET

Certificate of Accreditation

Chandigarh Pollution Testing Laboratory - EIA Division (CPTL - EIA), Mohali

E - 126, Phase VII, Industrial Area, Mohali, IDSAS Nagar, Punjab, Pin – 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 including opencast/ Underground mining	1	1 (a) (i)	A
2	River Valley projects	3	1 (c)	A
3	Metallurgical industries (ferrous only)	8	3 (a)	A
4	Cement plants	9	3 (b)	A
5	Synthetic organic chemicals industry	21	5 (f)	B
6	Distilleries	22	5 (g)	A
7	Sugar Industry	25	5 (j)	B
8	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	B
9	Bio-medical waste treatment, storage and disposal facilities	32A	7 (d a)	B
10	Common Effluent Treatment Plants (CETPs)	36	7 (h)	B
11	Building and construction projects	38	8 (a)	B
12	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators, Functional Area Experts are mentioned in RAAC minutes dated June 17 and Supplementary Minute dated Sept 23, 2022 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/22/2544 dated Sept 28, 2022. The accreditation needs to be renewed before the expiry date by Centre for Chandigarh Pollution Testing Laboratory - EIA Division (CPTL - EIA), Mohali following due process of assessment.

NABET

Sr. Director, NABET
Dated: Sept 28, 2022

Certificate No.
NABET/EIA/2225/RA 0250

Valid up to
Feb 12, 2025

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

ANNEXURE – I

LETTER OF INTENT

No. Udyog-Bhu(Khani-4)Laghu-180/2023
Government of Himachal Pradesh,
Department of Industries
Geological Wing

Dated: Shimla-171001, the 2023

LETTER OF INTENT

Sh. Tarun Sharma S/o Sh. Ashok Kumar, Prop. M/s Shree Ganga Stone Crusher & Screening Unit, Village & P.O. Upper Basal, Tehsil & Distt. Una, has applied for grant of mining lease, over an area measuring 2-91-57 hects. (Private land, hill slope), bearing Khasra Nos. 592 (0-76-20 hect.), 593 (0-52-85 hect.). 595 (0-67-48 hect.), 604 (0-08-05 hect.), 636 (0-04-05 hect.), 2226/586 (0-24-09 hect.), 2227/586 (0-24-92 hect.), 2228/591 (0-33-93 hect.), falling in Mohal/Mauza Sanjhot of Tehsil & District Una, for the extraction of sand, stone & bajri, to meet out the requirement of proposed stone crusher unit under the name and style of M/s Ganga Stone Crusher & Screening 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 the grant of mining lease and the Committee after inspecting the site recommended the area for the grant of mining lease in favour of the said applicant. Accordingly on the basis of recommendation of the Joint Inspection Committee, the '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. Tarun Sharma S/o Sh. Ashok Kumar, Prop. M/s Shree Ganga Stone Crusher & Screening Unit, Village & P.O. Upper Basal, Tehsil & Distt. Una (Himachal Pradesh) over an area measuring 2-91-57 hects. (Private land, hill slope), bearing khasra Nos. 592 (0-76-20 hect.), 593 (0-52-85 hect.). 595 (0-67-48 hect.), 604(0-08-05 hect.), 636 (0-04-05 hect.), 2226/586 (0-24-09 hect.), 2227/586 (0-24-92 hect.), 2228/591 (0-33-93 hect.), falling in Mohal/Mauza Sanjhot of Tehsil & District Una, H.P. 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 up 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.

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 Nos. 592, 593, 595, 604, 636, 2226/586, 2227/586, 2228/591 are free from all encumbrance and all the co-sharers of above said land have given their consent.
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 one year. 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.

Director of Industries,
Himachal Pradesh

Sh. Tarun Sharma S/o Sh. Ashok Kumar,
Prop. M/s Ganga Stone Crusher &
Screening Unit, Village & P.O. Upper Basal, 4227
Tehsil & Distt. Una, H.P.

Endst. No. Udyog-Bhu(Khani-4)Laghu-180/2023 Dated – 27-7-23

Copy to the following for information and necessary action:

1. The Mining Officer, Una, Distt. Una, H.P.
2. Guard file.

Director of Industries
Himachal Pradesh

ANNEXURE – II

APPROVAL LETTER

No. Udyog-Bhu(Khani-4)Laghu-180/2023 10502
Government of Himachal Pradesh
Department of Industries
"Geological Wing"

Dated; Shimla- 171001, 8/12/2023

To

Sh. Tarun Sharma S/o Sh. Ashok Kumar,
Prop. M/s Shree Ganga Stone Crusher & Screening Unit,
Village & PO Upper Basal,
Tehsil & Distt.Una (H.P).

Subject:- **Approval of Mining Plan of area applied for the grant of mining lease for extraction of sand, stone & bajri from Khasra Nos. 592, 593, 595, 604, 636, 2226/586, 2227/586 & 2228/591, measuring 02-91-57 hects. (Pvt. land, hill slope) falling in Mohal/Mauza Sanjhot of Tehsil & Distt. Una, H. P. for which Letter of Intent has been issued on 27.07.2023.**

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 27.07.2023. 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 thereunder 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, 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 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. 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; 2023

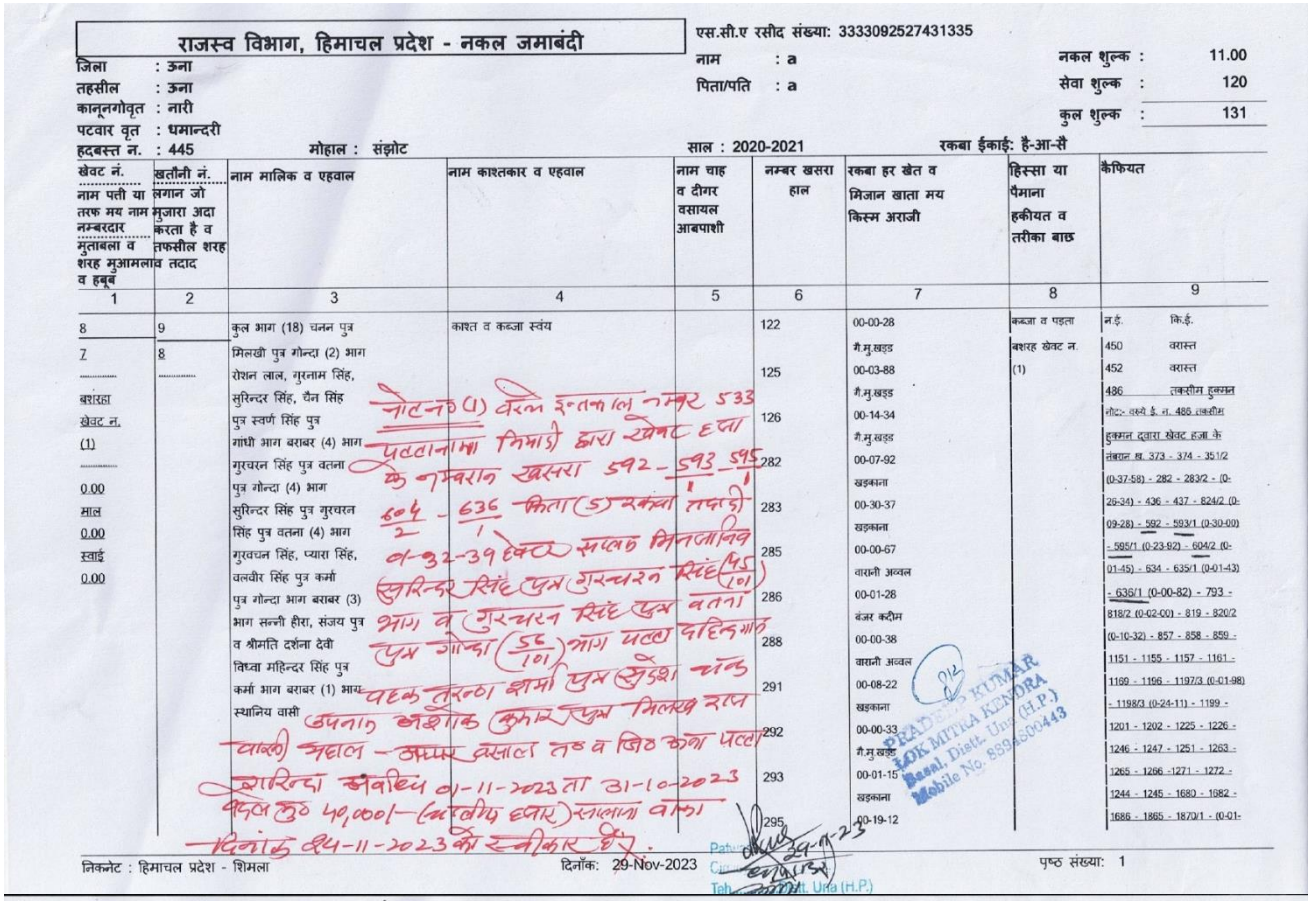
Endst. No. As above.
Copy for kind information to:-

1. Mining Officer, Una, Distt. Una, H. P. alongwith a copy of Mining Plan for further necessary action.
2 Sh. Arun Dhiman, Village & P.O. Dhaloon(Panchpuli), Tehsil Nagrota Bagwan, Distt. Kangra, H.P. 176056

Geologist Zone-II
Himachal Pradesh

ANNEXURE – III

JAMABANDI



राजस्व विभाग, हिमाचल प्रदेश - नकल जमाबंदी

एस.सी.ए रसीद संख्या: 3333092527431335

जिला : ऊना
तहसील : ऊना
कानूनगोवृत : नारी
पटवार वृत : धमान्दरी
हदबस्त न. : 445 मोहाल : संझोट

नाम : a
पिता/पति : a
साल : 2020-2021 रकबा ईकाई: है-आ-सै

नकल शुल्क : 11.00
सेवा शुल्क : 120
कुल शुल्क : 131

खेवट नं. / नाम पती या तरफ मय नाम नम्बरदार / मुनाबला व शरह मुआमला व हबबं	खतौनी नं. / लगान जो मुजारा अदा करता है व तफसील शरह तदाद	नाम मालिक व एहवाल	नाम काश्तकार व एहवाल	नाम चाह व टीगर वसायल आबपाशी	नम्बर खसरा हाल	रकबा हर खेत व मिजान खाता मय किस्म अराजी	हिस्सा या पैमाना हकीयत व तरीका बाछ	कैफियत
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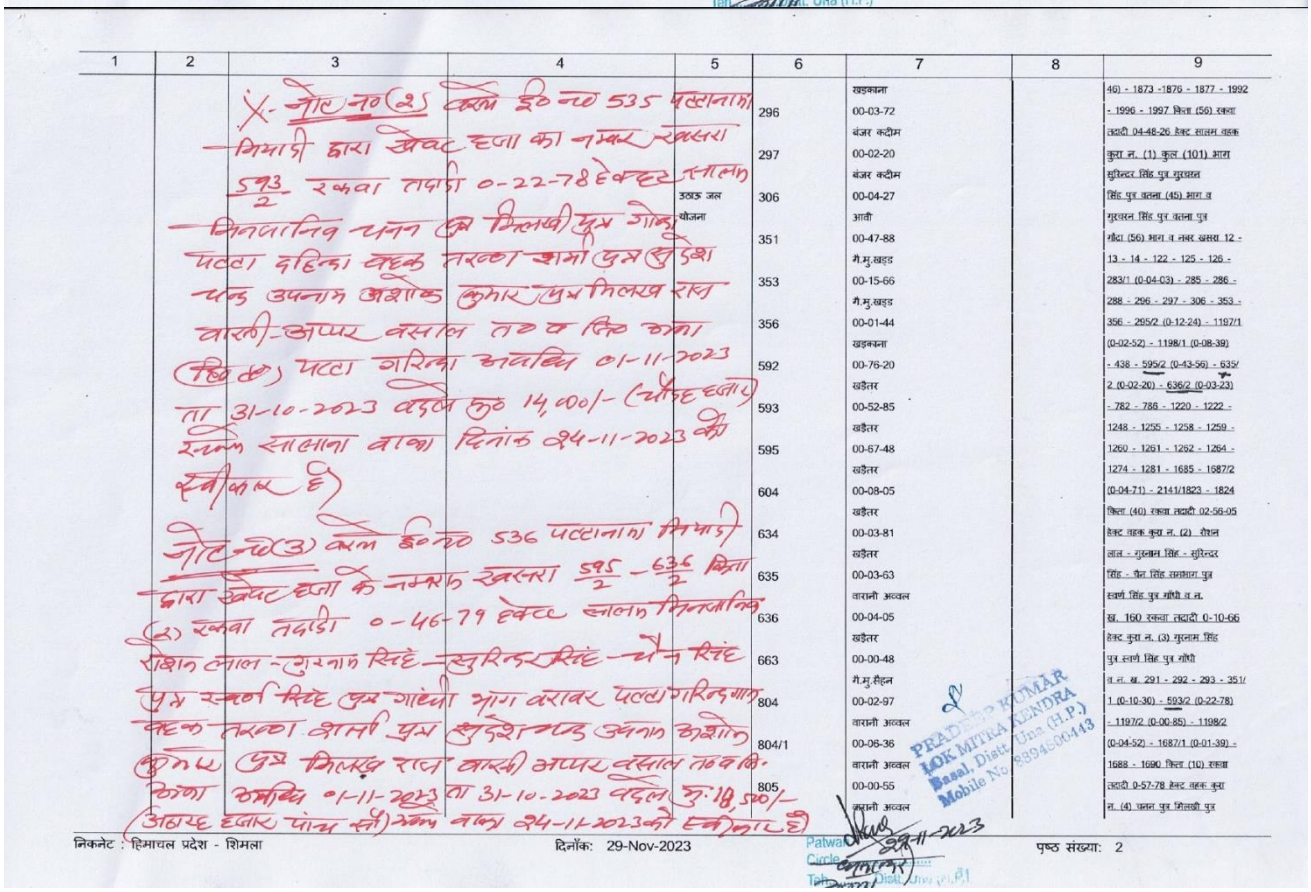
8	9	कुल भाग (18) चनन पुत्र	काश्त व कब्जा स्वंय		122	00-00-28	कब्जा व पड़ता	न.ई. कि.ई.
7	8	मिलखी पुत्र गोन्दा (2) भाग				गै.मु.खड्ड	बशरह खेवट न.	450 वरास्त
.....	.....	रोशन लाल, गुरनाम सिंह,			125	00-03-88	(1)	452 वरास्त
बशरहा		सुरिन्दर सिंह, चैन सिंह				गै.मु.खड्ड		486 तकसीम हुक्मन
खेवट न.		पुत्र स्वर्ण सिंह पुत्र			126	00-14-34		नोट:- खसरा ई. न. 486 तकसीम
(1)		गांधी भाग बराबर (4) भाग				गै.मु.खड्ड		हुक्मन द्वारा खेवट हजा के
.....		गुरचरन सिंह पुत्र वतना			282	00-07-92		नंबरान ख. 373 - 374 - 351/2
0.00		पुत्र गोन्दा (4) भाग				खड्डकना		(0-37-58) - 282 - 283/2 - (0-
माल		सुरिन्दर सिंह पुत्र गुरचरन			283	00-30-37		26-34) - 436 - 437 - 824/2 (0-
0.00		सिंह पुत्र वतना (4) भाग				खड्डकना		09-28) - 592 - 593/1 (0-30-00)
स्वाई		गुरवचन सिंह, प्यारा सिंह,			285	00-00-67		- 595/1 (0-23-92) - 604/2 (0-
0.00		बलवीर सिंह पुत्र कर्मा				वारानी अव्वल		01-45) - 634 - 635/1 (0-01-43)
		पुत्र गोन्दा भाग बराबर (3)			286	00-01-28		- 636/1 (0-00-82) - 793 -
		भाग सन्नी हीरा, संजय पुत्र				बंजर कदीम		818/2 (0-02-00) - 819 - 820/2
		व श्रीमति दर्शना देवी			288	00-00-38		(0-10-32) - 857 - 858 - 859 -
		विधवा महिन्दर सिंह पुत्र				वारानी अव्वल		1151 - 1155 - 1157 - 1161 -
		कर्मा भाग बराबर (1) भाग			291	00-08-22		1169 - 1196 - 1197/3 (0-01-98)
		स्थानिय वासी				खड्डकना		- 1198/3 (0-24-11) - 1199 -
					292	00-00-33		1201 - 1202 - 1225 - 1226 -
						गै.मु.खड्ड		1246 - 1247 - 1251 - 1263 -
					293	00-01-15		1265 - 1266 -1271 - 1272 -
						खड्डकना		1244 - 1245 - 1680 - 1682 -
					295	00-19-12		1686 - 1865 - 1870/1 - (0-01-

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 1



1	2	3	4	5	6	7	8	9
						खड्डकना		46) - 1873 -1876 - 1877 - 1992
					296	00-03-72		- 1996 - 1997 किस्त (56) रकबा
						बंजर कदीम		तदादी 04-48-26 हेक्ट सालम वाक
					297	00-02-20		कुरा न. (1) कुल (101) भाग
						बंजर कदीम		सुरिन्दर सिंह पुत्र गुरचरन
					306	00-04-27		सिंह पुत्र वतना (45) भाग व
						आवी		गुरचरन सिंह पुत्र वतना पुत्र
					351	00-47-88		गौंदा (56) भाग व नंबर खसरा 12 -
						गै.मु.खड्ड		13 - 14 - 122 - 125 - 126 -
					353	00-15-66		283/1 (0-04-03) - 285 - 286 -
						गै.मु.खड्ड		288 - 296 - 297 - 306 - 353 -
					356	00-01-44		356 - 295/2 (0-12-24) - 1197/1
						खड्डकना		(0-02-52) - 1198/1 (0-08-39)
					592	00-76-20		- 438 - 595/2 (0-43-56) - 635/
						खडैतर		2 (0-02-20) - 636/2 (0-03-23)
					593	00-52-85		- 782 - 786 - 1220 - 1222 -
						खडैतर		1248 - 1255 - 1258 - 1259 -
					595	00-67-48		1260 - 1261 - 1262 - 1264 -
						खडैतर		1274 - 1281 - 1685 - 1687/2
					604	00-08-05		(0-04-71) - 2141/1823 - 1824
						खडैतर		किस्त (40) रकबा तदादी 02-56-05
					634	00-03-81		हेक्ट वाक कुरा न. (2) रोशन
						खडैतर		लाल - गुरनाम सिंह - सुरिन्दर
					635	00-03-63		सिंह - चैन सिंह समागम पुत्र
						वारानी अव्वल		स्वर्ण सिंह पुत्र गांधी व न.
					636	00-04-05		ख. 160 रकबा तदादी 0-10-66
						खडैतर		हेक्ट कुरा न. (3) गुरनाम सिंह
					663	00-00-48		पुत्र स्वर्ण सिंह पुत्र गांधी
						गै.मु.सैहन		व न. ख. 291 - 292 - 293 - 351/
					804	00-02-97		1 (0-10-30) - 593/2 (0-22-78)
						वारानी अव्वल		- 1197/2 (0-00-85) - 1198/2
					804/1	00-06-36		(0-04-52) - 1687/1 (0-01-39) -
						वारानी अव्वल		1688 - 1690 किस्त (10) रकबा
					805	00-00-55		तदादी 0-57-78 हेक्ट वाक कुरा
						वारानी अव्वल		न. (4) चनन पुत्र मिलखी पुत्र

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 2

1	2	3	4	5	6	7	8	9
					810	00-01-62		गौरा व न. ख. 162 - 439 - 440
						खड़काना		- 295/1 (0-06-88) - 604/1 (0-
					819	00-04-18		06-65) - 777 - 803 - 804 -
						खड़काना		804/1 - 805 - 810 - 811 - 812
					824	00-18-44		- 813 - 818/1 (0-03-78) - 820/
						गै.मु.खड्ड		1 (0-00-55) - 663 - 824/1 (0-
					833	00-00-18		09-16) - 833 - 834 - 2190/850
						बंजर कदीम		- 2192/851 - 1104 - 1139 -
					834	00-00-70		1162 - 1208 - 1210 - 1250 -
						वारानी अव्वल		1267 - 1268 - 1278 - 1284 -
					857	00-03-22		1285 - 1870/2 (0-20-62) किता
						वारानी अव्वल		(34) रकबा तद्दादी 01-70-89 हेक्ट
					859	00-02-07		वाहक कुआ न. (6) कुल (17089)
						वारानी अव्वल		भाग गुरबख्श सिंह (4097) भाग
					1113	00-00-20		पुत्र व प्यारा सिंह - वलबीर
						वारानी अव्वल		सिंह समभाग (8418) भाग पुत्र
					1196	00-03-77		कर्मा पुत्र गौरा व सनी हीरा -
						गै.मु.खड्ड		संजय पुत्र व श्रीमति दर्शना
					1197	00-05-35		देवी विधवा महिन्दर सिंह पुत्र
						खड़काना		कर्मा समभाग (4574) भाग व न. ख.
					1198	00-37-02		1113 रकबा तद्दादी 0-00-20 हेक्ट
						गै.मु.खड्ड		सालम वाहक कुआ न. (8) सुभाष
					1210	00-02-71		चन्द पुत्र करतारा पुत्र गौरा
						वारानी अव्वल		व न. ख. 821 - 823 - 1140 किता
					1226	00-11-25		(3) रकबा तद्दादी 0-01-54 हेक्ट
						खड़काना		वाहक कुआ न. (10) कुल भाग (18)
					1244	00-05-14		चनन पुत्र मिलखी पुत्र गौरा
						बंजर कदीम		(2) भाग व रोशन लाल - गुरनाम
					1245	00-01-82		सिंह - सुरिन्दर सिंह - प्रेम
						वारानी अव्वल		सिंह पुत्र स्वर्ण सिंह पुत्र
					1268	00-00-45		गोधी समभाग (4) भाग गुरबरण
						वारानी अव्वल		सिंह पुत्र वरना पुत्र गौरा
					1281	00-06-60		(4) भाग व सुरिन्दर सिंह पुत्र
						वारानी अव्वल		सुरबरन सिंह वरना (4) भाग व
					1284	00-07-83		सुरबरन सिंह - प्यारा सिंह -

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 3

1	2	3	4	5	6	7	8	9
						खड़काना		वलबीर सिंह समभाग पुत्र कर्मा
					1285	00-00-58		(3) भाग व सनी हीरा - संजय
						गै.मु.खड्ड		पुत्र व श्रीमति दर्शना देवी
					1688	00-01-39		विधवा महिन्दर सिंह पुत्र कर्मा
						बंजर कदीम		समभाग (1) व न. ख 724 रकबा
					1690	00-06-85		तद्दादी 0-02-20 हेक्ट सालम वाहक
						खड़काना		कुआ न. (12) सालम कुल (24) भाग
					1865	00-00-72		बलजिंदर सिंह - लखविन्द्र सिंह
						खड़ैतर		पुत्र व श्रीमति उर्मिला देवी
					1873	00-00-69		पुत्री गुरपाल सिंह पुत्र रत्न
						बंजर कदीम		समभाग (3) भाग व अमित हीरा
					1876	00-00-86		पुत्र राजिन्दर सिंह पुत्र
						वारानी अव्वल		गुरपाल सिंह (1) भाग व तरसेम
					1877	00-03-79		सिंह पुत्र रत्न पुत्र छज्जू (4)
						बंजर कदीम		भाग व दलविंदर सिंह पुत्र
								प्रेम सिंह पुत्र थोला (4) भाग
					किता	05-16-97		ऊधम सिंह पुत्र थोला (4) भाग
					54			
					बटा 1			व सुरिन्दर सिंह पुत्र श्रीमति
					कृष्ट	अकृष्ट		रेशमे देवी विधवा किशन सिंह (4)
					00-37-46	04-79-51		भाग व जरिन्दर सिंह पुत्र व
					आवी	बंजर कदीम		श्रीमति सुमन कुमारी विधवा
					00-04-27	00-18-39		बलदेव सिंह पुत्र थोला (4) भाग
					वारानी अव्वल	खड़ैतर		व न. ख. 1815 - 2142/1823 किता
					00-33-19	02-13-16		(2) रकबा तद्दादी 0-07-84 हेक्ट
						खड़काना		वाहक कुआ न. (16) सवरन सिंह
						01-05-30		पुत्र जान चन्द पुत्र चूहड़
						गैर मुमकिन।		के नाम ठेकर दिनांक 27/08/2022
						01-42-66		को स्वीकार है

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 4

1	2	3	4	5	6	7	8	9
	10		कास्त व कब्जा स्वंय सुरिन्दर	उठाऊ जल	13	00-06-29		
	9		सिंह हिस्सादार	योजना		आवी		
	.....				373	00-00-81		
						खड्काना		
					374	00-00-76		
						बंजर कदीम		
					437	00-03-90		
						वारानी अव्वल		
					793	00-00-30		
						बंजर कदीम		
					818	00-05-78		
						वारानी अव्वल		
					858	00-06-80		
						वारानी अव्वल		
					1202	00-02-88		
						वारानी अव्वल		
					1222	00-02-00		
						वारानी अव्वल		
					1225	00-14-37		
						वारानी अव्वल		
					1251	00-09-60		
						वारानी अव्वल		
					1266	00-02-44		
						बंजर कदीम		
					1271	00-05-40		
						वारानी अव्वल		
					1680	00-00-48		
						वारानी अव्वल		
					1682	00-08-98		
						वारानी अव्वल		

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 5

1	2	3	4	5	6	7	8	9
					किता	00-70-79		
					15			
					कृष्ट	अकृष्ट		
					00-66-48	00-04-31		
					आवी	बंजर कदीम		
					00-06-29	00-03-50		
					वारानी अव्वल	खड्काना		
					00-60-19	00-00-81		
	11		सुरिन्दर सिंह हिस्सादार	उठाऊ जल	162	00-10-80		न.ई. कि.ई.
	10		बाया कुल भाग(4)गुरवचन सिंह,	योजना		आवी		450 वरास्त
	.....		प्यारा सिंह, वलवीर सिंह					
	बशहर पटा		पुत्र कर्मा पुत्र गोन्दा भाग					
	मालकान		बराबर (3) भाग सन्नी हीरा,					
			संजय पुत्र व श्रीमति दर्शना					
	माल		देवी विध्वा महिन्दर सिंह					
	स्वाई		पुत्र कर्मा भाग बराबर (1)					
	जिमगी		भाग स्थानिय वासी					
	मुश्तीयान		मुश्त्रीयान कास्त					
	वशरह परता		मुश्त्रीयान					
	देह माल							
	12		चनन हिस्सादार बाया कुल		724	00-02-20		न.ई. कि.ई.
	11		भाग(24)तरसेम सिंह पुत्र रलू			गै.मु.आबादी		439 वरास्त
	.....		पुत्र छज्जू (4) भाग दलविन्दर					
			सिंह पुत्र प्रेम सिंह पुत्र					
			थोला सिंह (4) भाग उजागर सिंह					
			पुत्र थोला सिंह पुत्र छज्जू					
			(4) भाग सुरिन्दर सिंह पुत्र					
			व श्रीमति रेशमो देवी विध्वा					
			किशन सिंह पुत्र रलू भाग					
			बराबर (4) भाग श्रीमति सुमन					
			कुमारी विध्वा व वरिन्दर सिंह					

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 6

1	2	3	4	5	6	7	8	9
			पुत्र बलदेव सिंह पुत्र थोला सिंह भाग बराबर (4) भाग बलजिन्दर सिंह, लखविन्द्र सिंह पुत्र व श्रीमति उर्मिला देवी पुत्री गुरपाल सिंह पुत्र रलू भाग बराबर (3) भाग अशिंत हीरा पुत्र व श्रीमति बबली देवी विध्वा राजिन्दर सिंह पुत्र गुरपाल सिंह भाग बराबर (1) भाग स्थानिय वासी मुश्तीयान कास्त मुश्तीयान					
	13		कास्त व कब्जा स्वंय गुरनाम	उलऊ जल	12	00-06-69		न.ई. कि.ई.
	12		सिंह, चैन सिंह, रोशन लाल,	योजना		आवी		452 वारस्त
			सुरिन्दर सिंह हिस्सादारान		438	00-04-65 वारानी अव्वल		
					803	00-02-97 वारानी अव्वल		
					812	00-09-65 वारानी अव्वल		
					1246	00-17-70 वारानी अव्वल		
					1248	00-11-20 वारानी अव्वल		
					1255	00-00-98 वारानी अव्वल		
					1258	00-02-31 बंजर कदीम		
					1259	00-04-43 गै.मु.आबादी		
					1260	00-00-36 वारानी अव्वल		
					1261	00-01-79		

1	2	3	4	5	6	7	8	9
						गै.मु.सैहन		
					1262	00-00-24 बंजर कदीम		
					1264	00-05-87 वारानी अव्वल		
					1274	00-24-60 वारानी अव्वल		
					1685	00-10-13 वारानी अव्वल		
					2141/1823	00-14-49 वारानी अव्वल		
					1824	00-00-18 बंजर कदीम		
					किता 17	01-18-24		
					बटा 1 कृष्ट 01-09-29 आवी 00-06-69 वारानी अव्वल 01-02-60	अकृष्ट 00-08-95 बंजर कदीम 00-02-73 गैर मुमकिन। 00-06-22		
	14		रोशन लाल, गुरनाम सिंह,		1815	00-07-10		न.ई. कि.ई.
	13		सुरिन्दर सिंह, चैन सिंह			वारानी अव्वल		452 वारस्त
	.....		हिस्सादारान तबादला		2142/1823	00-00-74 वारानी अव्वल		
	बराह पढ़ता		दहिन्दगान सवरन सिंह पुत्र					
	मालकान		ज्ञान चन्द पुत्र चुहड़ा स्थानिय वासी तबादला गरिन्दा		किता 2	00-07-84		
	साल स्वाई जिमगी		कास्त स्वंय तबादला गरिन्दा		बटा 1 कृष्ट वारानी अव्वल			

1	2	3	4	5	6	7	8	9
	तबादला गुरिन्दा वशरह परता				00-07-84			
	15		कास्त व कब्जा स्वंय गुरचरन		436	00-06-14		
	14		सिंह हिस्सादार			वारानी अव्वल		
	.....				820	00-10-86		
						वारानी अव्वल		
					1151	00-00-98		
						गै.मु.आबादी		
					1155	00-00-09		
						वारानी अव्वल		
					1157	00-01-58		
						बंजर कदीम		
					1161	00-03-95		
						वारानी अव्वल		
					1169	00-09-16		
						वारानी अव्वल		
					1199	00-04-09		
						वारानी अव्वल		
					1201	00-04-35		
						वारानी अव्वल		
					1220	00-02-16		
						वारानी अव्वल		
					1247	00-04-53		
						वारानी अव्वल		
					1263	00-02-37		
						बंजर कदीम		
					1265	00-06-48		
						वारानी अव्वल		
					1272	00-06-24		
						वारानी अव्वल		
					1686	00-09-18		
						वारानी अव्वल		
					1992	00-03-46		

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 9

1	2	3	4	5	6	7	8	9
						वारानी अव्वल		
					1996	00-11-67		
						वारानी अव्वल		
					1997	00-03-44		
						वारानी अव्वल		
					किता	00-90-73		
					18			
					कृष्ट	अकृष्ट		
					वारानी अव्वल	00-04-93		
					00-85-80	बंजर कदीम		
						00-03-95		
						गैर मुमकिन।		
						00-00-98		
	16		कास्त व कब्जा स्वंय सन्नी	उठाऊ जल	14	00-12-51		
	15		हीरा संजय श्रीमति दर्शना	योजना		भावी		
	.....		देवी वलवीर सिंह प्यारा सिंह		439	00-05-64		
			गुरवचन सिंह हिस्सादारान			वारानी अव्वल		
					440	00-01-50		
						वारानी अव्वल		
					777	00-00-29		
						बंजर कदीम		
					782	00-09-44		
						वारानी अव्वल		
					786	00-00-13		
						वारानी अव्वल		
					811	00-06-00		
						वारानी अव्वल		
					813	00-07-93		
						वारानी अव्वल		
					2190/850	00-12-45		
						वारानी अव्वल		
					2192/851	00-03-41		

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 10

1	2	3	4	5	6	7	8	9
						खड़कना		
					1104	00-05-03		
						वारानी अव्वल		
					1139	00-00-28		
						गै.मु.सैहन		
					1162	00-03-75		
						वारानी अव्वल		
					1208	00-03-84		
						गै.मु.आबादी		
					1250	00-00-99		
						बंजर कदीम		
					1267	00-04-58		
						वारानी अव्वल		
					1278	00-19-72		
						वारानी अव्वल		
					1687	00-06-10		
						वारानी अव्वल		
					1870	00-22-06		
						वारानी अव्वल		
					किता	01-25-65		
					19			
					बटा 2			
					कृष्ट	अकृष्ट		
					01-16-84	00-08-81		
					आवी	बंजर कदीम		
					00-12-51	00-01-28		
					वारानी अव्वल	खड़कना		
					01-04-33	00-03-41		
						गैर मुमकिन।		
						00-04-12		
	17		कास्त स्वंय गुरवचन सिंह,	उठाऊ जल	160	00-10-68		न.ई. कि.ई.
	16		प्यारा सिंह, वलवीर सिंह,	योजना		आवी		452 वारस्त

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 11

1	2	3	4	5	6	7	8	9
	.....		श्रीमति दर्शना देवी, संजय, सन्नी हीरा, रोशन लाल, गुरनाम सिंह, सुरिन्दर सिंह, चैन सिंह हिस्सादारान					
	18		शाहरे- आम		821	00-00-31		
	17					गै.मु.रास्ता		
	.....				823	00-01-03		
						गै.मु.रास्ता		
					किता	00-01-34		
					2			
						अकृष्ट		
						गैर मुमकिन।		
						00-01-34		
	19		ऐहले-हनूद		1140	00-00-20		
	18					गै.मु.ठेकस्थान पंज पीरी		
	.....	जोड़ भू-सम्पति			किता	09-55-42		
					131			
					बटा 5			
					कृष्ट	अकृष्ट		
					04-45-17	05-10-25		
					आवी	बंजर कदीम		
					00-51-22	00-29-85		
					वारानी अव्वल	खड़ेतर		
					03-93-95	02-13-16		
						खड़कना		
						01-09-52		
						गैर मुमकिन।		
						01-57-72		

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 12

राजस्व विभाग, हिमाचल प्रदेश - नकल जमाबंदी

एस.सी.ए रसीद संख्या: 3333092727437467

जिला : ऊना
तहसील : ऊना
कानूनगोवृत : नारी
पटवार वृत : धमान्दरी
हदबस्त न. : 445 मोहाल : संझोट

नाम : a
पिता/पति : a

नकल शुल्क : 1.00
सेवा शुल्क : 30
कुल शुल्क : 31

साल : 2020-2021 रकबा ईकाई: है-आ-सै

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
34 / 33 / बशरहा खेवट न. (1) / 0.00 माल 0.00 स्वाई 0.00	66 / 65	सवरन सिंह पुत्र दलीपा पुत्र देवू स्थानिय वासी	काश्त व कब्जा स्वंय	उठाऊ जल योजना	2212/2067/17	00-22-76 आवी	कब्जा व पड़ता बशरह खेवट न. (1)	न.ई. 413 कि.ई. आड रहन नोट- वरुये ई.न. 413 आड रहन दवारा खेवट हजा के न.ख. 2113/705,718,2232/719, 2233/719 किता 4 रकबा तादादी0-75-85 है. सालम मिनजानव सरवन सिंह पुत्र दलीपा वहक P.N.B शाखा नारी वदले मुवलिग 3,00,000/- (तीन लाखरुपये) मैं दिनांक 19-06-2018 को स्वाकार है ।
					118	00-01-84 खड़काना		
				उठाऊ जल योजना	169	00-01-46 आवी		
					354	00-22-48 गै.मु.खड्ड		
					355	00-01-40 खड़काना		
					2226/586	00-24-09 खड़ैतर		
					2227/586	00-24-92 खड़ैतर		
					2228/591	00-33-93 खड़ैतर		
					2229/591	00-34-23 खड़ैतर		
					2231/643	00-09-07 वारानी अव्वल		
					2113/705	00-29-77 वारानी अव्वल		
					718	00-00-66		

नोट:- वरूये इं० न० 534 पट्टानामा मियादी द्वारा खेवट हजा के नम्बरान खसरा $\frac{2226}{586}$ - $\frac{2227}{586}$ - $\frac{2228}{591}$ किता (3) रकबा तादादी 0-82-94 है० सालम मिनजानिब सवरन सिंह पुत्र दलीपा पुत्र देवू पट्टा दहिन्दा बहक तरूण शर्मा पुत्र सुरेश चन्द अपनान अशोक कुमार पुत्र मिलखा राज वासी अप्पर बसाल त० व जि० ऊना पट्टा गरिन्दा के नाम अवधि 15 साल दिनांक 01-11-2023 ता 30-10-2023 बदले रु० 30,500/- सालाना दिनांक 24-11-2023 को स्वीकार हो चुका है।

29-11-2023
Patwari Circle ...
Teh ... Distt. Una (H.P.)

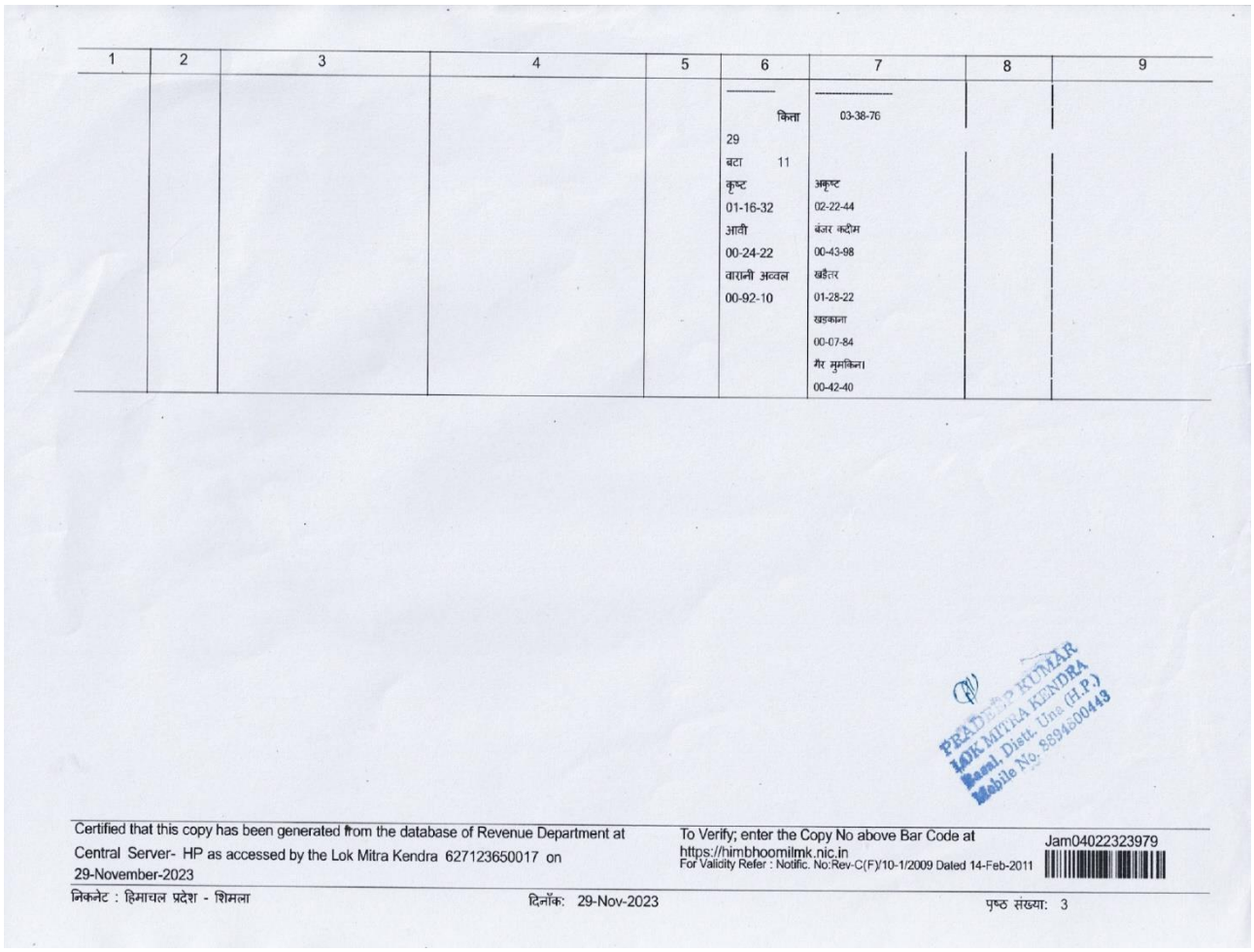
PRADEEP KUMAR
LOK MITRA KENDRA
Basal, Distt. Una (H.P.)
Mobile No. 8894600443

निकनेट : हिमाचल प्रदेश - शिमला दिनॉक: 29-Nov-2023 पृष्ठ संख्या: 1

1	2	3	4	5	6	7	8	9
						वारानी अव्वल		
					2232/719	00-08-29 वारानी अव्वल		
					2233/719	00-37-13 वारानी अव्वल		
					905	00-10-10 बंजर कदीम		
					1092	00-01-29 गै.मु.आबादी		
					1094	00-00-16 गै.मु.आबादी		
					1103	00-01-80 वारानी अव्वल		
					1164	00-02-98 वारानी अव्वल		
					1165	00-00-90 वारानी अव्वल		
					1288	00-01-75 गै.मु.खड्ड		
					1311	00-04-60 खड़काना		
					1312	00-16-72 गै.मु.खड्ड		
					1319	00-11-05 खड़ैतर		
					1489	00-03-97 बंजर कदीम		
					1491	00-01-29 बंजर कदीम		
					2234/1492	00-13-56 बंजर कदीम		
					2235/1492	00-15-06 बंजर कदीम		
					1498	00-01-50 वारानी अव्वल		

PRADEEP KUMAR
LOK MITRA KENDRA
Basal, Distt. Una (H.P.)
Mobile No. 8894600443

निकनेट : हिमाचल प्रदेश - शिमला दिनॉक: 29-Nov-2023 पृष्ठ संख्या: 2



1	2	3	4	5	6	7	8	9
					किता 29	03-38-76		
					बटा 11			
					कृष्ट 01-16-32	अकृष्ट 02-22-44		
					आवी 00-24-22	बंजर कदीम 00-43-98		
					वारानी अव्वल 00-92-10	खडैतर 01-28-22		
						खडकाना 00-07-84		
						गैर मुमकिन। 00-42-40		

PRADEEP KUMAR
LOK MITRA KENDRA
Basi, Distt. Una (H.P.)
Mobile No. 8894600443

Certified that this copy has been generated from the database of Revenue Department at Central Server- HP as accessed by the Lok Mitra Kendra 627123650017 on 29-November-2023

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

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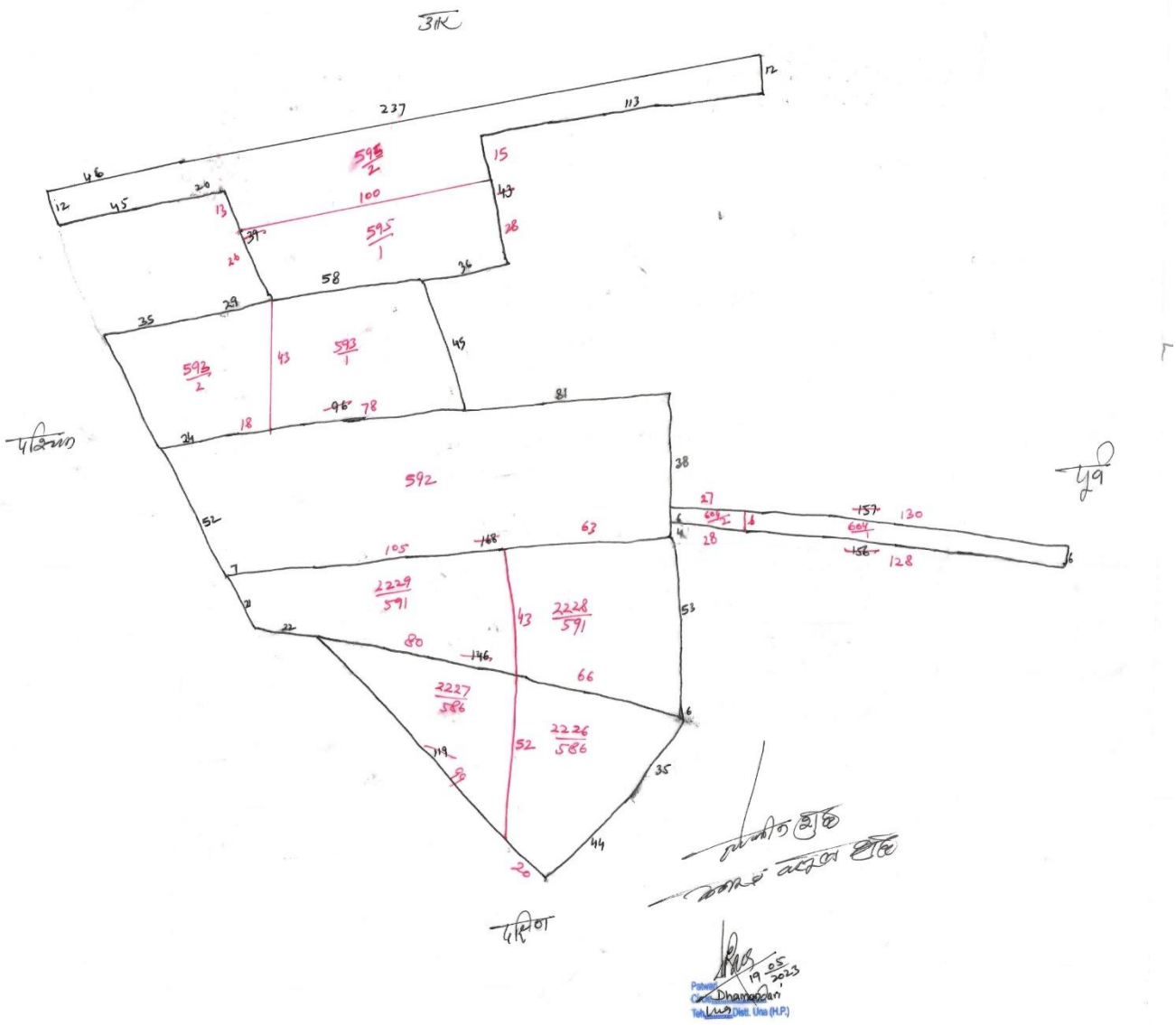
निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 29-Nov-2023 पृष्ठ संख्या: 3

ANNEXURE – IV

TATIMA



ANNEXURE - V

500m DISTANCE CERTIFICATE

No. Udyog-Bhu(Khani-4)Laghu-181/2023 10515
Government of Himachal Pradesh
Department of Industries
"Geological Wing"
Dated, Shimla-171001, the 8/12/'2023

To

Sh. Tarun Sharma S/o Sh. Ashok Kumar,
Prop. M/s Shree Ganga Stone Crusher and Screening Unit,
V.P.O. Upper Basal, Tehsil & District Una, (H.P).

Subject: Regarding distance certificate of 500 Mtrs.

Sir,

Enclosed please find herewith 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 mining lease for which Letter of Intent has been issued in favour of Sh. Tarun Sharma S/o Sh. Ashok Kumar, Prop. M/s Shree Ganga Stone Crusher and Screening Unit, V.P.O. Upper Basal, Tehsil & Distt Una, duly countersigned by the undersigned for taking further necessary action.

Yours faithfully

Encl/As above.

Geologist-Zone-II,
Himachal Pradesh,
Dated

Endst. No. Udyog-Bhu(Khani-4)Laghu-181/2023
Copy to the Mining Officer, Una, with reference to letter No. Udyog(Bhu)-UNA-Shree Ganga Stone Crusher-1439 dated 17.11.2023 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, 03 (Three) mining lease granted/applied with the department within 500 Mtr. from the periphery of the area applied for grant of mining lease by M/s Shree Ganga Stone Crusher & Screening Unit VPO Basal, Tehsil & District Una HP, over Kh. No. 592, 593, 595, 604, 636, 2226/586, 2227/586, 2228/591 measuring 02-91-57 Hect. in Mouza/Muhal Sanjhot, Tehsil & 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.	Shiva Stone Crusher VPO Dhamandari Tehsil & Distt. Una	2205/907/2, 919, 926 & 2207/915	02-94-14 Hect.	Sanjhot	Stone Crusher	Operational
2.	Sarswati Stone Crusher & Screening Plant VPO Basal Tehsil & Distt. Una	2305/928, 2306/928, 2307/928, 2313/2209/929/1, 2314/2209/929	01-48-21 Hect.	Sanjhot	Stone Crusher	Operational
3.	M/s Jagdambay Stone Crusher & Screening Plant VPO Ghaluwal, Tehsil Haroli, District Una HP	598	02-82-77 Hect.	Sanjhot	Stone Crusher	LIO Issued

Mining Officer,
Department of Industries,
Himachal Pradesh,

Geologist Zone-II,
Department of Industries,
Himachal Pradesh

प्रमाण पत्र

प्रमाणित किया जाता है कि वाक्या महाल- सन्होट तहसील व जिला - ऊना (हि० प्र०) के नम्बरान खसरा 592- 593 -595- 604 636 - 2226/586 - 2227/586 - 2228/591 किता (8) रकबा तदादी 02-91-57 हेक्टेयर के लिए M/s Shree Ganga Stone Crusher & Screening Un[it] VPO- Uppar Basal Prop. श्री तरसेम शर्मा पुत्र अशोक कुमार VPO Uppar-Basal Teh & Distt- Una (HP) ने माइनिंग लीस के लिए विभाग के पास आवेदन किया है जिसकी Joint Inspection दिनांक 10-04-2023 को हो चुकी है जिसकी Grant Lease अभी तक स्वीकृत न हुई है इसके अलावा महाल सन्होट में 500 मीटर के दायरे में दो mining lease क्रमांक शिवा स्टोन क्रैशर (खानाखेड़ी) नम्बरान खसरा 2205/907/2 - 919 - 926 - ?/9 किता (4) रकबा तदादी 02-94-14 हेक्टर व M/s सरस्वती स्टोन क्रैशर व स्क्रीनिंग यूनिट-बसाल नम्बरान खसरा 230?/92? 2307/928 - 2314/2269/929 - 2306/928 - 2313/2269/929 किता (5) रकबा तदादी 01-4? हेक्टर की माइनिंग लीस है, इसके अलावा नम्बर खसरा 59? रकबा तदादी 02-82-77 हेक्टर के लिए M/s Jagdamba Stone Crusher & Screening Unit VPO- Ghaluwal Tehsil-Har[oli] Prop. श्री रविन्द्र कुमार पुत्र करम सिंह गांव व डाकघर निवासी - कोटला तह० व जिला. ऊना (हि०प्र०) ने भी माइनिंग लीस के लिए विभाग के पास आवेदन किया है जिसकी Joint Inspection भी 10-04-2023 को हो चुकी है Grant Lease अभी तक स्वीकृत न हुई है, नम्बर खसरा 598 भी 500 मी० के दायरे के अन्दर आता है, इसके अतिरिक्त महाल सन्होट में अन्य कोई mining lease न है।

27-10-23
Dharmender
Una

ANNEXURE - VI

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		*Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P*
1.2 Address of the applicant	**Father's Name**	*Sh Ashok Kumar*
	Village	*Upper Basal*
	P.O	*Basal*
	Tehsil	*Una*
	District	*Una*
	Pin No	*174303*
1.3 Approach and location of the area	*The site applied for a mining lease is located in Mauja & Mohal Sanjhot approximately 9.2 Km from the applied stone crusher under the name & Style M/s Shree Ganga Stone Crusher & Screening unit VPO Upper Basal Tehsil Una District Una H.P and is approachable through embankment road*	
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 Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil & District Una H.P*
1.5 Date of Joint Inspection		***10-04-2023***

1.6 Members present during joint inspection

Sr. No	Name & Designation	Particulars
1.	*Sh Vishwa Mohan Dev Chauhan HAS S.D.O (Civil) Una ,District Una .*	*Chairman*
2.	*Sh Amit Modgil Sub divisional Soil Conservation Officer , Una*	*Member*
3.	*Sh Kewal Krishan Sharma A.E HPPWD*	*Member*
4.	*Sh Rajesh Sharma AE JSV*	*Member*
5.	*Sh. Satnam Singh Surveyour Flood protection*	*Member*
6.	*Sh. Mohit Bharti JEE HPSPCB Una*	*Member*
7.	*Sh. Rahul Sharma Range Forest Officer,Una*	*Member*
8.	*Shri Jeevan Kumar*	*Halqa Patwari*
9.	*Neeraj Kant Mining Officer Una*	*Member Secretary*

JIR of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, for mining lease for collection/extraction of Sand ,Stone Bajri over Khasra No 1605/1158/1 & 1606/1158/1 , measuring 02-10-07 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P , for use in stone crusher unit conducted on 10.04.2023.

2

2. Revenue Department

2.1 Status w.r.t. Demarcation of Applied for area : *The area was demarcated on 13.03.2023*

2.2 Detail of area applied

Kh. No	Area (In Hect)	Owner Govt. / private	Kism	Mohal	Mauza	Panchayat	Any other
592, 593, 595, 604, 636, 2226/586, 2227/586, 2228/591	*00-76-20 00-52-85 00-67-48 00-08-05 00-04-05 00-24-09 00-24-92 00-33-93*	*Privat e*	*Kharaitar*	*Sanjhot*	*Sanjhot*	*Nangal Salangri*	
	02-91-57						

Point of public utility in the area/near by (Village footpath, road, school,'' residential house, hospital, cattle shed, charitable building, water channel, cemetery/ cremation ground, place of worship etc. *No habitation is present near the applied area & No Village footpath, road, school, '', hospital, cattle shed, charitable building, , cemetery/ cremation ground, exists near the applied area*

2.3 Consent of Gram Panchayat: ***Resolution No 04 dated 27.01.2023***

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 No 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 a private land Hill Slope & kism of the land is Kharaitar

Patwari Circle Dhamandari Teh. Una Distt. Una (H.P.)

Recommendations: -

Since the area applied for the mining lease for collection/extraction of Stone & bajri to be used in Stone crusher unit, applied by Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P is a private land/ Hill Slope ,Revenue department has no objection in the grant of this mining lease(Hill slope) over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591, measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P.

JIR of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, for mining lease for collection/extraction of Sand ,Stone Bajri over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P , for use in stone crusher unit conducted on 10.04.2023

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 nalls/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 nalls/stream etc exists near the applied area for mining lease.*

3.4 Whether there is any property of Forest Department nearby which may have 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 & bajri to be used in the Stone crusher unit, applied by Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P (private land/ Hill Slope) ,Forest department has no objection in grant of this mining lease over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P .

Range Forest Officer
Forest Range
Una (H.P.)-174303

JIR of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, for mining lease for collection/extraction of Sand ,Stone Bajri over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P , for use in stone crusher unit conducted on 10.04.2023

4. PWD Department					
4.1 Whether any road exist near area				Yes	✓ No
If Yes then	**Type of road**	**Distance from area**	**Marked on location plan as**	**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**	**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 exist 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	*No Bridge site exists near 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

Assistant Engineer
Sub- Division H.P.P.W.D.
Dera Baba Rudru,Basal

4.6 Is there any objection if intake point from PWD road to the leased area is used in case the lease is granted, if not, whether to allow with conditions

The project proponent will not ply vehicles through village roads & will all time maintain the intake point from the PWD roads .

Recommendations: -

No public property/utility like road, bridge or structure belonging to the PWD department exists near the area applied for the mining lease for collection/extraction of Stone & bajri to be used in Stone crusher unit ,applied by Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, PWD department has no objection in grant of this mining lease over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land/Hill Slope)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P .

JIR of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, for mining lease for collection/extraction of Sand ,Stone Bajri over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P , for use in stone crusher unit conducted on 10.04.2023

5. JAL SHAKTI VIBHAG				
5.1 Whether there exists any water supply scheme within/near the area				**✓ No**
Type of Scheme	**Scheme**	**Minimum safe distance required**		
		U/S		**D/S**
	Water supply tank	**200 mtrs**	**200 Mtrs**	**200 mtrs.**
	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 JSV , if yes. Please mark on the 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 & bajri to be used in Stone crusher unit ,applied by Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, Jal Shakti Vibhag has no objection in grant of this mining lease over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591, measuring 02-91-57 Hectares (Private Land/Hill Slope)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P.

Assistant Engineer
Jal Shakti Sub-Division
Basal, Distt. Una (H.P.)

JIR of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, for mining lease for collection/extraction of Sand ,Stone Bajri over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P , for use in stone crusher unit conducted on 10.04.2023

Environment Protection & Pollution Control Board

(Summary of method for environment Protection)

The site of the applied mining lease was inspected jointly on dated 10/04/2023. HP State Pollution Control Board has no objection from a pollution point of view and the mining lease may be granted subject to the following conditions:

1. *The Mining lease area (02-91-57 Hect.) is a Hill Slope (Private Land) at Mauja & Mohal Sanjhot Tehsil Una District Una the mining shall be carried out scientifically and as per the policy of the Mining Department.*

2. *No blasting shall be carried out.*

3. *Natural Course of the 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 the Hon'ble Supreme Court dated 27/02/2012 and the Hon'ble High Court dated 15/06/2012 and 14/09/2012. The proponent shall not carry out any mining activity without obtaining consent from the State Board and EC from the 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-grass ng the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.*

JIR of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, for mining lease for collection/extraction of Sand ,Stone Bajri over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P , for use in stone crusher unit conducted on 10.04.2023

6. Industries Department	
6.1 Location of applied for area (nearest village/important features)	*The site applied for a mining lease is located in Mauja & Mohal Sanjhot approximately 9.2 Km from the applied stone crusher under the name & Style M/s Shree Ganga Stone Crusher & Screening unit VPO Upper Basal Tehsil Una District Una H.P and is approachable through embankment road*
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 Shiva Stone Crusher, VPO Dhamandri , Tehsil Una District Una, HP*	
6.5 Average daily production anticipated in Metric Tons	***100-120 tons 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 hill slope & is mostly comprised of conglomerate beds with soil matrix & is suitable to be used in crusher.*

JIR of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, for mining lease for collection/extraction of Sand ,Stone Bajri over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P , for use in stone crusher unit conducted on 10.04.2023

6.7 Feasibility of Mining

(i) Name of Mineral : *Stone & Bajri*

(ii) Type of mining Hill Slope/River Bed: ***Hill Slope***

(A)Hill Slope

(i)Average angle of slope: *Uniform slope angles are observed in the area. The hill slope having a gentle slope with an angle of 25° to 35° in the applied for mining lease area. The conglomerate deposit, where the mining lease is applied is slightly undulating with 4-5 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 comprise of conglomerate beds with thin soil matrix & is suitable to be used in crusher*

(v) Availability of area for disposal of waste: *The waste so generated will be used for reclamation of land*

(vi) Approach to the Mine area: *The applied area for mining lease is abount 9.20 Km from the area applied for stone crusher , For transportation of loaded trucks/tractors to the crusher site to Dhamandri-Basal Road Intake point ,further to crusher site the vehicles will only pass through the Private Land as well as Govt Land/embankment roads . Project proporner will make necessary arrangements between the land owners& obtain NOC from flood protrection department 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.*

(vii) Whether areas is prone to land slide if yes then the protection measures needed thereof: *As the mining lease areas is hill with gentle slope and as the adjoining lands are almost flat with very less gradient, there is no scope of 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. In order to avoid any damage to adjoining lands the buffer of 5m is proposed .*

(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:

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, or Forest departments exists 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 sand ,Stone & Bajri to be used in stone crusher unit is a Hill slope private land comprising Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591, measuring 02-91-57 Hectares falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P*
2. *The applied land for a mining lease is leased out by land owners in favour of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P.*
3. *The google coordinates of area are 31°34'18.73"N & 76°15'45.80"E*
4. *The area applied forms a compact block.*
5. *During the course of inspection it was observed by the Committee that the area applied for mining lease is found suitable for the purpose applied for.*
6. *The proposed area falls under Gram Panchayat Nangal Salangari .*
7. *As per the revenue record kism of the applied area for mining lease is Kaharaitar .*
8. *The applicant will plan the mining activities keeping 5m as buffer zone so that the adjoining lands may not be disturbed/damaged .*
9. *The applied area for mining lease is abount 9.20 Km from the area applied for stone crusher , For transportation of loaded trucks/tractors to the crusher site to Dhamandri-Basal Road Intake point ,further to crusher site the vehicles will only pass through the Private Land as well as Govt Land/embankment roads . Project proponent will make necessary arrangements between the land owners& obtain NOC from flood protrection department 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. *The distance from the applied lease area and crusher is more than 5 Km, Project proponent informed that this applied lease over the Hill slope will act as a secondary lease and the mining lease over Khasra No 1605/1158/1 & 1606/1158/1, measuring 02-10-07 Hectares (Private Land)falling in Mauja & Mohal Bhalola Tehsil Una District Una H.P will act as primary lease, keeping the point of additional lease into consideration the joint inspection Committee recommends the area applied for grant of mining lease*
11. *Project proponent will obtain separate NOC from the Flood protection department for using the embankment structure as an approach road for plying vehicles to crusher site and nearest approach road.*
12. *The working in the mining lease area will be strictly as per the Himachal Pradesh Mineral Policy 2013 & the provisions of The Himachal Pradesh Minor Minerals (concession) and Mineral (Prevention of illegal mining ,Transportation and Storage Rules ,2015& stipulation of SEIAA.*
13. *The applied area was demarcated on 13.03.2023*
14. *The applicant will start mining operations after obtaining EIA clearance from the competent authority.*
15. *The land being private(Hill slope) Forest Department has no objection to granting a mining lease.*
16. *No Structure of public utility of PWD & IPH department exists within the prescribed limit hence PWD & JSV has no objection to granting a mining lease.*
17. *No assets of the Agriculture deptt/ Soil conservation are present in the vicinity of the applied area, Subdivisional Soil Conservation Officer Una has no objection in grant of this lease.*
18. *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.*

JIR of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P, for mining lease for collection/extraction of Sand ,Stone Bajri over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P , for use in stone crusher unit conducted on 10.04.2023

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 not reccomended in survey document.*
2	*Mineral potential of the area*	*The applied Mining lease is located on a hilly terrain and suitable material for crushing is available in 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 the boulders, cobbles, pebbles, bajri, with soil /Clay and silt matrix . The boulders are spotted white, greenish white pink, purple and dark green in colour. Quartzite fragments are rounded, sub-rounded and discoidal in shape having smooth surface. The size of minor mineral varies from silt to boulder.Since the applied area is private land hill slope there are no chances of replanishment .*
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 belong M/s Shiva Stone Crusher, VPO Dhamandari, Tehsil & District Una, HP. Only one mineral concessions has been granted in this area .*

7. Recommendations		
8.1 Whether 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 & Bajri for use in the stone crusher unit applied by Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper BasalTehsil Una District Una H.P over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591, measuring 02-91-57 Hectares (Private Land/Hill slope)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P*		

Signatures:-

Sub Divisional Magistrate Sub Divisional Magistrate, Una, District Una (H.P.)	**Range Forest Officer** Range Forest Officer, Forest Range, Una (H.P.)-174303	**Assistant Engineer P.W.D.** Assistant Engineer, Sub- Division H.P.P.W.D. Dera Baba Rudru,Basal
Assistant Engineer JSV Assistant Engineer, Jal Shakti Sub-Division Basal, Distt. Una (H.P.)	**Environmental Engineer H.P.EP&PCB** Jr. Env. Engg. HPSPCB, Una Distt. Una (H.P.)	**Subdivisional Soil Conservation Officer Una** Sub Divisional Soil Cons. Officer, Una, District Una (H.P.)-174303
Mining Officer Una Mining Officer, Una, District Una (H.P.)		

JIR of Shri Tarun Sharma S/o Sh Ashok Kumar, Proprietor M/s Shree Ganga Stone Crusher & Screening unit Village & Post Office Upper Basal Tehsil Una District Una H.P. for mining lease for collection/extraction of Sand ,Stone Bajri over Khasra No 592,593,595,604,636,2226/586,2227/586,2228/591 , measuring 02-91-57 Hectares (Private Land)falling in Mauja & Mohal Sanjhot Tehsil Una District Una H.P , for use in stone crusher unit conducted on 10.04.2023

ANNEXURE – VII

NOC FROM GRAM PANCHAYAT

कार्यालय ग्राम पंचायत, नंगल सलांगड़ी

विकास खण्ड ऊना, जिला ऊना (हि०प्र०)

प्रतिलिपि प्रस्ताव संख्या 04 दिनांक

आज दिनांक 27-01-2023 को ग्राम पंचायत नंगल सलांगड़ी की बैठक आपातकाल पूर्वा सदस्यो की उपस्थिति मे श्रीमती आशा देवी प्रधान ग्राम पंचायत की अध्यक्षता में सम्पन्न हुई, जिसमें निम्नलिखित कार्यवाही पारित की गई है ।

विषय:– श्री गंगा स्टोन क्रैशर के संझोट के जमीन मालिकों की जमीन से रेत, बजरी, पत्थर गटका बगैरा उठाने हेतु अनापत्ति प्रमाण पत्र देने बारे विचार विमर्श:–

बैठक में अध्यक्ष महोदय द्वारा प्रस्तुत पेश हुआ कि सवरन सिंह पुत्र दलीपा वासी गांव संझोट ने अपनी जमीन 0-17-17 खेवट नं. 34 मिन खतौनी नं. 66 मिन खसरा 2256/586, 2227/586, 2228/591, 2229/591 किता 4 नकल जमाबन्दी साल 2020-2021 तथा सुरिन्द्र सिंह पुत्र गुरचरन सिंह वासी संझोट ने अपनी जमीन 0-47-21 वकदर 4/18 हिस्सा भूमि 02-12-44 खेवट नं. 8 मिन खतौनी नं. 09 मिन खसरा नं. 592, 593, 595, 604, 634, 636 किता 6 नकल जमाबन्दी साल 2020-2021 तथा गुरचरन सिंह पुत्र बतना वासी गांव संझोट ने अपनी जमीन 0-47-21 वकदर 4/18 हिस्सा भूमि 02-12-44 खेवट नं. 8 मिन खतौनी नं. 9 मिन खसरा नं. 592, 593, 595, 604, 634, 636 किता 6 नकल जमाबन्दी साल 2020-2021 श्री गंगा स्टोन क्रैशर एण्ड स्क्रीनिंग यूनिट स्थित अप्पर बसाल की रेत, बजरी, पत्थर गटका बगैरा (अरसा 12 वर्ष 07-01-2023 to 06-01-2035) उठाने के लिए लीज पर दी है। ग्राम पंचायत अनापत्ति प्रमाण पत्र देने बारे विचार करे।

बाद विचार विमर्श उपरांत उपस्थित पंचायत सदस्यों ने सर्वसम्मति से प्रस्ताव पास किया कि श्री गंगा स्टोन क्रैशर एण्ड स्क्रीनिंग यूनिट खनन संबंधी समस्त सरकारी नियमो व दस्तावेजों को पूर्ण करता है तो ग्राम पंचायत को कोई आपत्ति नहीं है। पास व स्वीकार है।

पंचायत सचिव
ग्राम पंचायत नंगलसलांगड़ी
पो0 खo ऊना जि0प्र0

Pradhan Asha Devi
Gram Panchayat Nangal Salangri
Teh & Distt. Una (H.P)

प्रमाण – पत्र
प्रमाणित किया जाता है कि इस प्रस्ताव की प्रतिलिपि असल अनुसार ठीक व पंचायत के कार्यवाही रजिस्टर पर दर्ज है ।

(नियम 10 और 34 देखें)

ग्राम पंचायत ..झंगाल सलगेड़ी........ विकास खण्ड......ऊना.......... जिला.....ऊना..........

तिथि, मास और वर्ष	उपस्थित सदस्यों का नाम	निष्पादित कार्य का विवरण	Signature of the Panches Present पंचो के हस्ताक्षर
		बैठक में अध्यक्ष महोदय जी ने प्रस्ताव रखा कि गांव संझोट में परमजीत पुत्र श्री परसराम के घर के ऊपर से बिजली की तारें गुजरती है। जिस कारण किसी भी प्रकार की अनहोनी हो सकती है। बिजली की तारों को साइड में किया जाना आवश्यक है। जिस बारे पंचायत विचार करे। बाद विचार विमर्श उपस्थित पंचायत सदस्यों ने सर्वसम्मति से प्रस्ताव पास किया कि इस प्रस्ताव की प्रतिलिपि SDO बिजली विभाग बसाल जिला ऊना की सेवा में आगामी कार्यवाही हेतु भेजी जावे। पास व स्वीकार है। प्रस्ताव:04 श्री गंगा स्टोन क्रैशर को संझोट के जमीन मालिकों की जमीन से रेत, बजरी, पत्थर गटका वगैरा उठाने हेतु अनापत्ति प्रमाण पत्र देने बारे विचार विमर्श:— बैठक में अध्यक्ष महोदय द्वारा प्रस्ताव पेश हुआ कि सवरन सिंह पुत्र दलीपा वासी गांव संझोट ने अपनी	

ANAND STY. MART, JAL # 2456688

प्रधान तथा अन्य सदस्यों के हस्ताक्षर

कार्यवाही रजिस्टर (PROCEEDING BOOK)

(नियम 10 और 34 देखें) 17

ग्राम पंचायत ..... विकास खण्ड..... जिला.....

तिथि, मास और वर्ष	उपस्थित सदस्यों का नाम	निष्पादित कार्य का विवरण	Signature of the Panches Present पंचो के हस्ताक्षर
		जमीन 0-17-17 खेवट न. 35 मिन खतौनी न. 66 मिन खसरा 2256/586, 2227/586, 2228/591, 2229/591 किता 4 नकल जमाबन्दी साल 2020-2021 तथा सुरिन्द्र सिंह पुत्र गुरचरन सिंह वासी संसोट ने अपनी जमीन 0-47-21 वकदर 4/18 हिस्सा भूमि 02-12-44 खेवट न. 8 मिन खतौनी न. 9 मिन खसरा न. 592,593,595,604,634,636 किता 6 नकल जमाबन्दी 2020-2021 तथा गुरचरन सिंह पुत्र वतना वासी संसोट ने अपनी जमीन 0-47-21 वकदर 4/18 हिस्सा भूमि 02-12-44 खेवट न. 8 मिन खतौनी न. 9 मिन खसरा न. 592,593,595,604,634,636 किता 6 नकल जमाबन्दी 2020-2021 श्री गंगा स्टोन क्रेशर एण्ड स्क्रीनिंग यूनिट स्थित अप्पर बसाल के रेत, बजरी, पत्थर गटका बगैरा (अरसा 12वर्ष 07-01-2023 To 06-01-2035) खनन के लिए लीज पर दी है। ग्राम पंचायत अनापत्ति प्रमाण-पत्र देने बारे विचार करे। बाद विचार विमर्श उपरांत उपस्थित पंचायत सदस्यों ने सर्वसम्मति से प्रस्ताव पास किया कि श्री गंगा स्टोन क्रेशर एण्ड स्क्रीनिंग यूनिट खनन संबंधी समस्त सरकारी नियमों व दस्तावेजों को पूर्ण करता है तो ग्राम पंचायत को कोई आपत्ति नहीं है। पास व स्वीकार है	

ANNEXURE – VIII(a)

NOC FOR WATER

№ 0377809 2023 Himachal Government Judicial Paper.

NO OBJECTION CERTIFICATE
FOR LEGAL SOURCE OF WATER

This is to certify that Tarun Sharma S/o Sh. Ashok Kumar R/o VPO Basal, Teh. & Distt. Una (H.P.)/ Proprietor of M/s Shree Ganga Stone Crusher & Screening Unit, VPO Basal, Teh. & Distt. Una (H.P.) has owned the Mining Lease in our Village Sanjhot, P.O. Dhamandari, Teh. & Distt. Una (H.P.) measuring Khasra No. 592, 593, 595, 604, 636, 2226/586, 2227/586, 2228/591 falling in Mohal/Mauza Sanjhot, Teh. & Distt. Una (H.P.)

That we have No Objection to utilise the legal source of water from our Village Sanjhot, Teh. & Distt. Una (H.P.)

Dated 12.12.2023

Pradhan
Gram Panchayat Nangal Salangri
Teh & Distt. Una (H.P)

PARDHAN
Gram Panchayat Nangal Salangari,
Developement Block Una
Teh. & Distt. Una (H.P.)

ANNEXURE – VIII(b)

WATER AFFIDAVIT

हिमाचल प्रदेश HIMACHAL PRADESH 19AA 007787

AFFIDAVIT / UNDERTAKING

I, Tarun Sharma S/o Sh. Ashok Kumar, aged 37 years, resident of VPO Upper Basal, Teh. & Distt. Una (H.P.), Proprietor of M/s Shree Ganga Stone Crusher & Screening Unit situated at Upmohal Basal, Teh. & Distt. Una (H.P.) do hereby solemnly affirm and declare as under :

i. That I hereby undertake that the water requirement shall be met from legal source as defined by the Mining Department / H.P. Govt.

ii. That the above statement is true and correct.

Tarun S

DEPONENT

Dated : 11.12.2023

Verification :

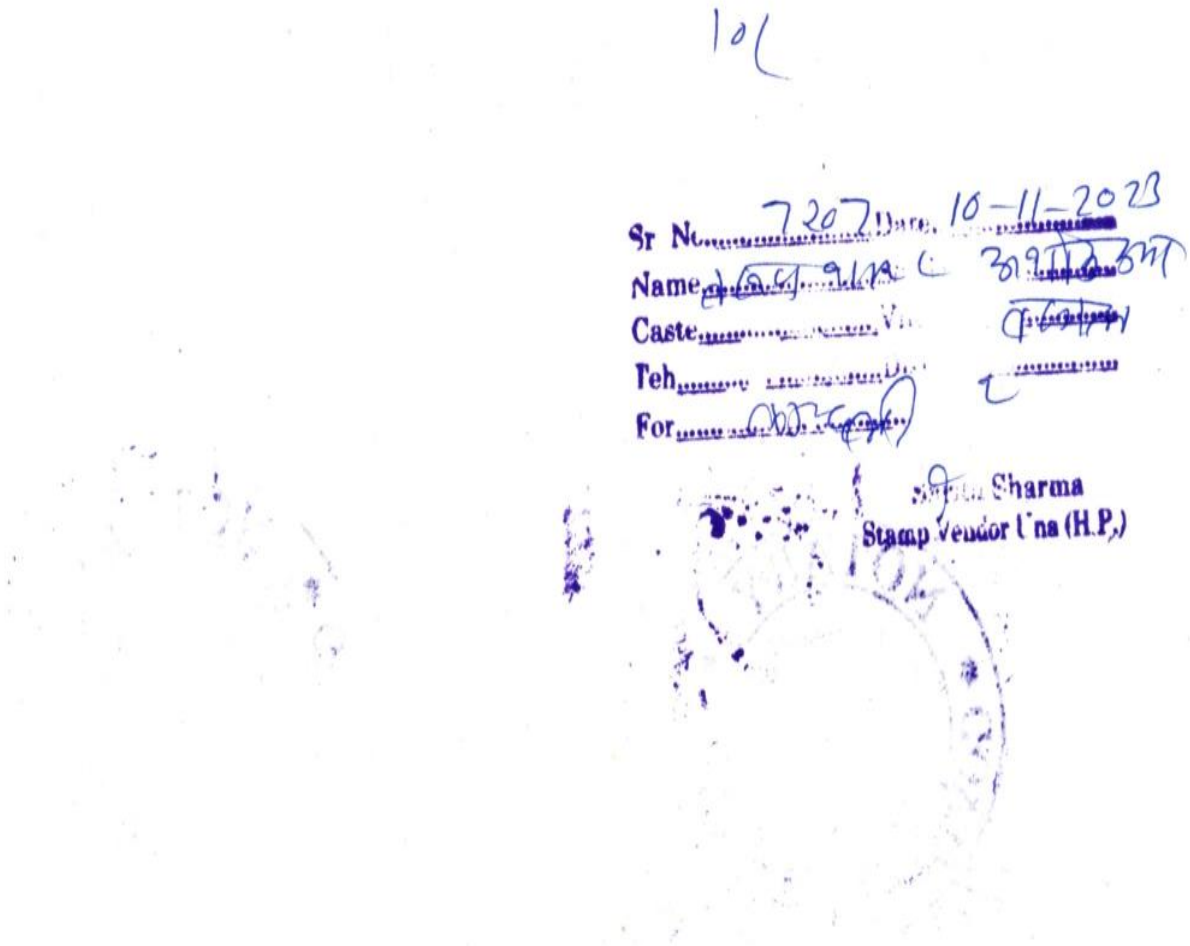
Verified at Una on this 11th December, 2023 at Una that the contents of my affidavit above are true and correct to the best of my knowledge and belief and nothing has been concealed therein.

Tarun S

DEPONENT

ATTESTED

NOTARY


Sr No. 7207 Date. 10-11-2023
Name
Caste
Teh
For
Sharma
Stamp Vendor Una (H.P.)

ANNEXURE – IX

NOC FROM DIVISIONAL FOREST OFFICER

HP FOREST DEPARTMENT
UNA FOREST DIVISION, UNA (HP)

To whom it may concern

As requested by Sh. Tarun Sharma S/o Sh. Ashok Kumar R/O VPO Upper Basal, Tehsil & Distt. Una (HP) Prop: M/s Shree Ganga Stone Crusher & Screening Unit situated at Basal Tehsil & Distt. Una (H.P), the following information is hereby authenticated in respect of Khasra No. 592, 593, 595, 604, 636, 2226/586, 2227/586, 2228/591 area measuring 02-91-57 ha. falling at Mohal Sanjhot ,Tehsil & District Una (HP) which is under private ownership.

There is no wild life sanctuary/National park/Biosphere Reserve within 10 KM distance of the mining lease site. Nangal Wildlife Sanctuary is 21.00 KM far away from the proposed mining site.

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. 9181-82 Dated Una, the 13/12/2023

Copy is forwarded to:-

1. Sh. Tarun Sharma S/o Sh. Ashok Kumar R/O VPO Upper Basal, Tehsil & Distt. Una (HP) Prop: M/s Shree Ganga Stone Crusher & Screening Unit situated at Basal Tehsil & Distt. Una (H.P) w.r.t his application dated 15.11.2023.

2. R.F.O. Una for information & necessary action w.r.t his office letter No. 172 dated 11.12.2023.

Divisional Forest Officer,
Una Forest Division Una, (HP)

ANNEXURE – X

AUTHENTICATED FLORA & FAUNA DATA

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*

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*

Working Plan for Una Forest Division

Forest Range

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*

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)*
Kehmal	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*

Range Officer
Forest Range
Una H.P.-174303

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*

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	

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*

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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*

Local Name	English Name	Scientific Name
Kirla (Girgit)	The Indian Chamaleon	*Chameleon calcartus*
Kirli	The Common House Lizard	*Hemidactylus gleadovii*
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	Eel	
Karad	Backwa	
Maha-sher	----	

****

Range Officer
Forest Range
Una H.P.-174303

ANNEXURE – XI

SITE PICTURES

ANNEXURE - XII

PLANTATION AFFIDAVIT

AFFIDAVIT

I, Tarun Sharma S/o Sh. Ashok Kumar, aged 37 years, resident of VPO Upper Basal, Teh. & Distt. Una (H.P.), Proprietor of M/s Shree Ganga Stone Crusher & Screening Unit situated at Upmohal Basal, Teh. & Distt. Una (H.P.) do hereby solemnly affirm and declare as under :

i. That the following type of tree species shall be planted.
   a) Populus ciliata (Poplar)
   b) Eucalyptus (Safeda)
   c) Toona ciliata (Tooni)

ii. That the above statement is true and correct.

Tarun S

DEPONENT

Dated : 11.12.2023

Verification :

Verified at Una on this 11th December, 2023 at Una that the contents of my affidavit above are true and correct to the best of my knowledge and belief and nothing has been concealed therein.

ATTESTED
NOTARY

Tarun S

DEPONENT

ANNEXURE – XIII

AFFIDAVIT FOR WASTE DISPOSAL

हिमाचल प्रदेश HIMACHAL PRADESH 19AA 007784

AFFIDAVIT

I, Tarun Sharma S/o Sh. Ashok Kumar, aged 37 years, resident of VPO Upper Basal, Teh. & Distt. Una (H.P.), do hereby solemnly affirm and declare as under :

i. That I am the sole Proprietor of M/s Shree Ganga Stone Crusher & Screening Unit situated at Upmohal Basal, Teh. & Distt. Una (H.P.)

ii. That waste of the above said Unit shall be disposed off properly as per the directions of Mining Department / H.P. Govt.

iii. That the above statement is true and correct.

Tarun L

DEPONENT

Dated : 11.12.2023

Verification :

Verified at Una on this 11th December, 2023 at Una that the contents of my affidavit above are true and correct to the best of my knowledge and belief and nothing has been concealed therein.

Tarun

Burl

11-12-2023

ATTESTED

NOTARY

Tarun C

DEPONENT

№ 0377807 2023 Himachal Government Judicial Paper

Dated 11.12.2023

UNDERTAKING

This is to certify that I Tarun Sharma S/o Sh. Ashok Kumar R/o VPO Basal, Teh. & Distt. Una (H.P.)/ Proprietor of M/s Shree Ganga Stone Crusher & Screening Unit, VPO Basal, Teh. & Distt. Una (H.P.) hereby undertake that the muck generated during the mining of proposed site at Sanjhot, Distt. Una (H.P.) will be properly dispose off.

Verified on this 11th December, 2023 at Una that the contents of my above statement is true and correct to the best of my knowledge and belief and nothing has been concealed therein.

Yours Sincerely

Tarun S

Tarun Sharma
S/o Sh. Ashok Kumar
VPO Upper Basal,
Teh. & Distt. Una (H.P.)
Proprietor
M/s Shree Ganga Stone Crusher & Screening Plant
situated at Basal,
Teh. & Distt. Una (H.P.)
9805098582

ANNEXURE – XIV

AFFIDAVIT FOR LABOUR FACILITY

हिमाचल प्रदेश HIMACHAL PRADESH 19AA 007785

AFFIDAVIT

I, Tarun Sharma S/o Sh. Ashok Kumar, aged 37 years, resident of VPO Upper Basal, Teh. & Distt. Una (H.P.), do hereby solemnly affirm and declare as under :

i. That I am the sole Proprietor of M/s Shree Ganga Stone Crusher & Screening Unit situated at Upmohal Basal, Teh. & Distt. Una (H.P.)

ii. That the facilities of accomodation and other things as required shall be provided to the labour employed for the said Unit.

iii. That the above statement is true and correct.

Tarun S

DEPONENT

Dated : 11.12.2023

Verification :

Verified at Una on this 11th December, 2023 at Una that the contents of my affidavit above are true and correct to the best of my knowledge and belief and nothing has been concealed therein.

ATTESTED

NOTARY

Tarun S

DEPONENT

ANNEXURE – XV

AFFIDAVIT FOR CSR ACTIVITIES

हिमाचल प्रदेश HIMACHAL PRADESH 19AA 007786

AFFIDAVIT

I, Tarun Sharma S/o Sh. Ashok Kumar, aged 37 years, resident of VPO Upper Basal, Teh. & Distt. Una (H.P.), do hereby solemnly affirm and declare as under :

i. That I am the sole Proprietor of M/s Shree Ganga Stone Crusher & Screening Unit situated at Upmohal Basal, Teh. & Distt. Una (H.P.)

ii. That our plant shall active in CSR activities and shall provied necessary material as required from time to time.

iii. That the above statement is true and correct.

DEPONENT

Dated : 11.12.2023

Verification :

Verified at Una on this 11th December, 2023 at Una that the contents of my affidavit above are true and correct to the best of my knowledge and belief and nothing has been concealed therein.

ATTESTED
NOTARY

DEPONENT

ANNEXURE – XVI

UNDERTAKING OF AIR, WATER & NOISE

No 0377806 2023 Himachal Government Judicial Paper.

Dated 11.12.2023

UNDERTAKING

WATER SAMPLING COORDINATES

This is to certify that I Tarun Sharma S/o Sh. Ashok Kumar R/o VPO Basal, Teh. & Distt. Una (H.P.)/ Proprietor of M/s Shree Ganga Stone Crusher & Screening Unit, VPO Basal, Teh. & Distt. Una (H.P.) do hereby undertake that I will follow the Protocol for Water Sampling Coordinates.

Verified on this 11th December, 2023 at Una that the contents of my above statement is true and correct to the best of my knowledge and belief and nothing has been concealed therein.

Yours Sincerely

Tarun Sharma
S/o Sh. Ashok Kumar
VPO Upper Basal,
Teh. & Distt. Una (H.P.)
Proprietor
M/s Shree Ganga Stone Crusher & Screening Plant
situated at Basal,
Teh. & Distt. Una (H.P.)
9805098582

№ 0377808 2023 Himachal Government Judicial Paper

Dated 11.12.2023

UNDERTAKING

AIR, WATER & NOISE ENVIRONMENT (24 HOURS)

This is to certify that I Tarun Sharma S/o Sh. Ashok Kumar R/o VPO Basal, Teh. & Distt. Una (H.P.)/ Proprietor of M/s Shree Ganga Stone Crusher & Screening Unit, VPO Basal, Teh. & Distt. Una (H.P.) do hereby undertake that I will comply the Rules and Regulations mentioned in the Water, Air & Noise Pollution Act during the operation.

Verified on this 11th December, 2023 at Una that the contents of my above statement is true and correct to the best of my knowledge and belief and nothing has been concealed therein.

Yours Sincerely

Tarun S

Tarun Sharma
S/o Sh. Ashok Kumar
VPO Upper Basal,
Teh. & Distt. Una (H.P.)
Proprietor
M/s Shree Ganga Stone Crusher & Screening Plant
situated at Basal,
Teh. & Distt. Una (H.P.)
9805098582