

सेवा में,

राष्ट्रीय हरित प्राधिकरण प्रिन्सिपल बैंच नई दिल्ली

ORIGINAL APPLICATION NO 662 OF 2024

गोपाल चन्द्र वनवासी

अपीलार्थी

बनाम

मिनीस्ट्री ऑफ माइन्स

प्रति उत्तरदाता

1- कि प्रार्थी द्वारा 28/05/2024 को एक प्रार्थना पत्र माननीय अध्यक्ष राष्ट्रीय हरित प्राधिकरण नई दिल्ली को प्रेषित किया था जिसमें प्रार्थी द्वारा आपदा की दृष्टि से जिला बागेश्वर को जोन-5 घोषित करने के बाद भी खनन विभाग व जिला अधिकारी द्वारा बागेश्वर में किये जा रहे खड़िया खनन/खनन को बन्द किये जाने से सम्बन्धित विषय पर है।

2-प्रार्थी ने अपने प्रार्थना पत्र में खड़िया खनन पट्टा धारकों द्वारा खड़िया खनन क्षेत्र के लिये अवैध रूप से कच्चे मोटर मार्गों का निर्माण स्वेच्छा से अवैध रूप से किया है तथा खड़िया खनन क्षेत्र के लिये खनन कारोबारियों द्वारा वन भूमि/वन पंचायत भूमि/सरकारी भूमि तथा अतिरिक्त कृषि भूमि से होकर अवैध रूप से ट्रको/भार मशीनों के आवाजाही के लिये अवैध मोटर मार्गों का निर्माण किया है।

3-कि खड़िया खनन कारोबारियों द्वारा सरयू नदी की सहायक नदी पुंगर नदी के सतत प्रवाह को खड़िया खनन से निकलने वाले मलुवा नदी में डालकर नदी के रुख को परिवर्तित किया है तथा नदी को प्रदूषित किया है।

4-खनन पट्टा धारकों द्वारा खनन क्षेत्र के आस-पास कोई भी हरित पट्टिका का निर्माण नहीं किया है तथा अवैध खनन कर वायु प्रदूषण जल प्रदूषण किया जा रहा है।

5-खनन कारोबारियों द्वारा आपदा की दृष्टि से जोन-5 में रखे गये क्षेत्र में अवैज्ञानिक तरीके से खड़िया खनन, वन भूमि, वन पंचायत भूमि, सरकारी भूमि, में अवैध खनन कर पर्यावरण असंतुलन जैसी स्थिति पैदा की जा रही है नदियों/नालों को दूषित किया जा रहा है।

6-एन0एस0 कॉर्पोरेशन उड़्यार द्वारा किये जा रहे खनन से पुंगर नदी को दूषित किये जाने सम्बन्धित छाया चित्र संलग्न 1 क

7—बलराज एसोसिएट माइन्स द्वारा ग्राम करूली तहसील बागेश्वर द्वारा अवैध रूप से खोदी गयी वन पंचायत भूमि का छाया चित्र संलग्न 1 ख तथा जल प्रदूषण किये जाने सम्बन्धित छाया चित्र संलग्न 1 ग है।


8— माननीय राष्ट्रीय हरित प्राधिकरण के आदेश के बाद मौके जांच के लिये आई पर्यावरण, वन एवं जलवायु परिवर्तन की टीम के जांच अधिकारी डा० विपिन गुप्ता द्वारा मौके पर विधिवत जांच नहीं की गयी है। खनन क्षेत्र से 3-4 किमी० दूर से देखकर नदी को प्रभावित करने वाली तथा प्रदूषित करने वाली घटनाओं का जायजा लिया जा रहा था जबकि इतनी दूरी से वास्तविकता का पता लगाये जाने नामुकिन है।

9—उत्तराखण्ड प्रदूषण नियन्त्रण बोर्ड द्वारा माननीय न्यायालय के समक्ष मौके पर जांच नहीं करते हुए झूठी रिपोर्ट प्रस्तुत की है जबकि माननीय उच्च न्यायालय नैनीताल के आदेश के बाद कोर्ट कमीशनरों द्वारा वास्तविक रिपोर्ट सम्बन्धित न्यायालय में प्रस्तुत की गयी है। रिपोर्ट की प्रति संलग्न 2 क संलग्न है। जो रिपोर्ट माननीय हरित न्यायिकरण समक्ष प्रस्तुत किये गये है अवैध खननकर्ताओं के दबाव में आकर उत्तराखण्ड प्रदूषण नियन्त्रण बोर्ड द्वारा एक षडयन्त्र के तहत जो रिपोर्ट माननीय प्राधिकरण के समक्ष प्रस्तुत की है वह पूर्णतः झूठी है।

10—माननीय उच्च न्यायालय नैनीताल के आदेश के क्रम में जिला बागेश्वर में सम्पूर्ण खडिया खनन पर रोक लगा दी गयी है। आदेश की छाया प्रति संलग्न 2 ख संलग्न है।

अतः माननीय न्यायालय राष्ट्रीय हरित प्राधिकरण नई दिल्ली से प्रार्थना है कि उत्तराखण्ड प्रदूषण नियन्त्रण बोर्ड के खिलाफ झूठी रिपोर्ट पेश करने के अपराध में उनके खिलाफ प्रथम सूचना रिपोर्ट अन्तर्गत धारा 199 आदि धाराओं में भारतीय न्याय संहिता के तहत दर्ज कराने के आदेश पारित करने की कृपा करेंगे।

दिनांक-13/01/2025

 प्रार्थी 2025
गोपाल चन्द्र वेनवासी पुत्र श्री मदन राम
निवासी ग्राम रीठा पोस्ट कन्धार
तहसील गरुड़ जिला बागेश्वर।

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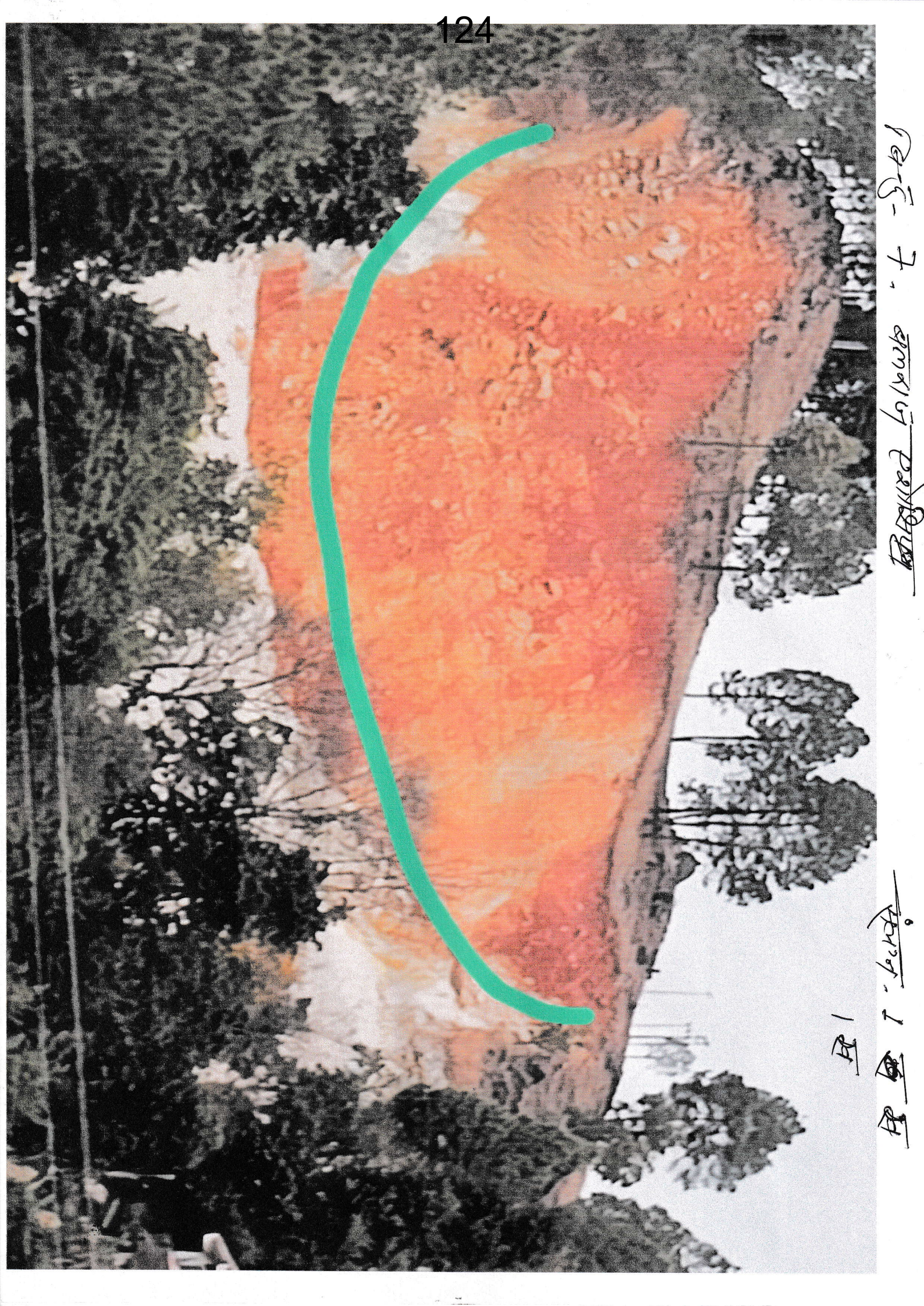
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HIGH COURT OF UTTARAKHAND
AT NAINITALCourt Commissioner's Report
IN
SUO MOTU [PIL] NO. 174 OF 2024

In the matter of:

In re: In the matter of developing cracks in the houses, fertile land of poor villagers and drying up of drinking water sources due to land subsidence in some villages of District Bageshwar.

Versus

State of Uttarakhand and Ors

...Respondents

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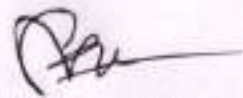
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3	Annexure CCR-1 (A) copy of the site inspection report filed by the Ministry of Environment Forest & Climate Change, Regional Office (NCZ) before the Ld. N.G.T.	
4	Annexure CCR-2 (COLLY) (A) copy of the still images showing signs of distress in the houses, agricultural fields and temple.	
5	Annexure CCR-3 (COLLY) (A) copy of the still images of various mining sites with non-existent Green Belts and Retaining Walls	
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8	Annexure CCR-6 (COLLY) (A) copy of the still images of various mining sites with visual non-adherence to the norms relating to the dumps of burden.	
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11	Annexure CCR-9 (COLLY) (A) copy of the still images of various mining sites using heavy earth moving equipment.	
12	Annexure CCR-10 (COLLY) (A) copy of photographs displaying the poor living conditions of Labour.	
13	Annexure CCR-11 (A) copy of the email sent to A.L.C. Bareilly.	
14	Annexure CCR-12 (A) copy of the Government Order No.16/7/2015-M.VI(Part) Government of India, Ministry of Mines dated 16.09.2015.	
15	Annexure CCR-13 (COLLY) (A) copy of the email sent to SPCB and the reply received.	

Submitted by:-



Mayank Rajan Joshi
Advocate



Sharang Dhulia
Advocate

HIGH COURT OF UTTARAKHAND
AT NAINITAL

Court Commissioner's Report

IN

SUO MOTU [PIL] NO. 174 OF 2024

In the matter of:

In re: In the matter of developing cracks in the houses, fertile land of poor villagers and drying up of drinking water sources due to land subsidence in some villages of District Bageshwar.

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....Respondent

It is necessary to bring to the attention of this Hon'ble Court that we have, after our return from Bageshwar, received offers of financial gratification to compromise the instant report. However, as representatives of the Hon'ble Court, we have carried out the duties assigned to us with uncompromising integrity and are now presenting the report.

1. That the Suo Motu P.I.L. No. of 2024 was registered by the Hon'ble Court, vide order dated 07/11/2024. Hon'ble Court had taken cognisance of a news item, wherein it stated that due to rampant unregulated mining of soapstone in certain villages of Tehsil Kanda of District Bageshwar, the agricultural fields, as also buildings have subsided, and cracks have developed in the agricultural fields and water sources have also dried-up, due to which, poor residents of those villages are living in constant threat of natural calamity, while affluent persons have shifted to safer places.
2. Hon'ble Court had vide order dated 09/12/2024 ordered as herein under:
"Having regard to the seriousness of the issue, we hereby appoint Mr. Mayank Ranjan Joshi and Mr. Sharang Dhulia, both learned Advocates of this Court, as Court Commissioners,

who shall visit the affected villages of Tehsil Kanda, District Bageshwar and submit a report regarding damage caused by mining. Remedial measures, if any, may also be suggested by them."

3. In pursuance of the afore-stated directions of the Hon'ble Court, liaison was established with the Office of District Magistrate, Bageshwar and Superintendent of Police, Bageshwar. District Mining Officer Bageshwar was made the liaison to facilitate the visit by the D.M. Bageshwar.
4. We undertook our journey to Bageshwar on 13/12/2024, where a vehicle was arranged by the District Administration for transport, but Sri Sharang Dhulia had to travel alone, and he reached Bageshwar at 8:30 p.m. on the same day, whereas I was engaged with some commitments and had to travel by own vehicle and reached Bageshwar at 12:30 a.m. on 14/12/2024.
5. On 14/12/2024, a visit was made to Village Kande Kanyal in Tehsil Kanda of District Bageshwar. We stayed in the village for approximately 1:30 hrs and then proceeded to Mines situated at Village Bajeeena. After having lunch, we went to the mines located in village Kanda Tharp in the same area. We visited the Local Police Station to enquire about crimes that were being registered concerning mines/mining. We then proceeded to the Community Health Centre Kanda and spoke to the Doctor regarding the medical/injury cases coming to the hospital from mines or mine-related accidents.

It is relevant to state that the Member of the Legislative Assembly for the area had also arrived at the Kalika Temple when we were visiting the site, and we chose not to interact with him.

6. On 15/12/2024, we visited the Reema area of Tehsil Kapkot, Bageshwar, as Local residents of the area had made numerous calls to us, and several people had even come to meet us at P.W.D. Inspection House, Bageshwar, requesting us to visit Reema. We left from Bageshwar at 10:00 A.M. in the morning

and reached Reema at around 12:15 P.M., we made physical visits to mining areas in Village Surkali and Village Maholi and returned back at 8:30 P.M. and left Bageshwar early in the morning of 16th December 2024.

7. It is relevant to state that before embarking on our visit to District Bageshwar were able to lay our hands on site inspection report filed by the Ministry of Environment Forest & Climate Change, Regional Office (NCZ) before the Ld. N.G.T., and we found that in the report, since we lacked geotechnical expertise, we resorted to experts in the field.

The experts we contacted called the report a white paper to balance the position, and they rubbed off the report in its original form, they suggested we take along a Qualified Architect to ascertain what was happening on the ground, and they believed that the mining was the primary factor responsible for slope failure and thus leading to failure of houses.

We then turned to our mutual friend, Sri. Sachin Uniyal who holds a graduation in Architecture from U.T.U. and postgraduation in Ecology, Environment & Sustainable Development from Tata Institute of Social Sciences, to help us with our visit as he had the technical as well as scientific expertise to assess the situation on ground.

The efforts of Sri. Uniyal were pivotal in preparation of this report, and without his expertise and help, we wouldn't have been able to present this Report.

We, thus, request this Hon'ble Court to acknowledge the efforts of Sri. Sachin Uniyal and we also request the Hon'ble Court to divide the financial remuneration for the visit between the three of us, as we are certain that Sri. Uniyal made more efforts than us to bring the reality before this Hon'ble Court.

[(A) copy of the site inspection report filed by the Ministry of Environment Forest & Climate Change, Regional Office (NCZ) before the Ld. N.G.T. is annexed as Annexure-CCR-1]

8. Court Commissioners after their interaction with the villagers and visit to the affected area and mining sites, were made aware of the following issues by the villagers:
- A. 24-hour operation of the Mines.
 - B. Encroachment and Mining of Van Panchayat Lands.
 - C. Felling of trees by Labourers of the mines in Forests as well as Van Panchayat Lands.
 - D. Air Pollution.
 - E. Sound Pollution.
 - F. Continuous breakage of water supply lines and Irrigation Canals (*Guls*) due to falling debris.
 - G. Non-enforcement of Labour Laws.
 - H. Diversion of D.M.F. Funds.
 - I. Land Subsidence.
 - J. Drying of water Springs.
 - K. Default in payment of Lease Amount to the land owners by the mine operator.

9. Keeping the aforesaid issues raised by the Villagers in mind, the Court Commissioners ventured into the fact finding enquiry to ascertain the causes of Land Subsidence, and firstly visited the Kande-Kanyal Village and found alarming levels of Land Subsidence in most of the village houses.

[(A) copy of the still images showing signs of distress in the houses, agricultural fields and temple are annexed as Annexure-CCR-2(Colly)]

10. The Court Commissioners after the conclusion of our visit to the mining-affected areas felt that the mining of soapstone in the region is leading to critical environmental and socio-economic issues for which the community is at the receiving end. The issues formulated by us are as follows:

- A. Illegal Mining
- B. Operation of mines beyond the permitted working time.
- C. Encroachment and Mining of Van Panchayat Lands.
- D. Drying up of water springs.


- E. Unauthorised usage of Forest/Van Panchayat/Revenue Land by the mine operators.
- F. Unauthorised/Illegal felling of trees in the Forest as well as Van Panchayat Forests.
- G. Employment of Foreign Labour.
- H. Air, Sound and Water Pollution.
- I. Unscientific Mining.
- J. Failure of the Central Labour Department to enforce Labour Laws.
- K. Misuse of D.M.F. Funds.

11. Findings


A. Land Subsidence

- I. The issue of land subsidence is one of the major concerns found in the region, particularly in areas such as Kanda-Kanyal, Kanda, and other mining sites. The removal of the slope's toe (lower portion) during soapstone mining operations has led to a loss of structural integrity in the slopes, resulting in increased vulnerability to mass movement. The absence of essential stabilization measures, such as retaining walls and benches (prescribed in the approved mining plan), has further exacerbated slope instability. These structures are designed to reduce gravitational forces acting on the slope and mitigate the loss of support for the overlying soil and rock. The lack of such measures has triggered a progressive chain reaction of slope failure, with soil and rock masses shifting downward under the influence of gravity and hydraulic forces. As a result, the terrain is experiencing ongoing subsidence, posing a threat to nearby structures and infrastructure. Additionally, The soil in the region is

predominantly loamy and loose¹ as it is highly prone to erosion and destabilization, particularly during the monsoon season. When Rainwater infiltrates cracks and fissures, it reduces the soil's shear strength and increases pore water pressure. The combined effects of gravity, hydraulic loading, and the lack of slope stabilization measures have caused widespread slope failures, leading to downhill movement of masses.

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- II. Additionally, in all regions where land subsidence is occurring, the mines are located on the lower slopes or at Bottom of the terrain, directly impacting the stability of upper slope areas where villages are situated. This positioning significantly increases the risk of physical and human loss as the downward movement of land destabilizes the settlements and infrastructure above. To mitigate such risks, mining activities should be strictly restricted in lower slope areas beneath residential zones during the approval process as a precautionary measure. The absence of effective post-mining reclamation efforts, such as backfilling and revegetation, has left disturbed slopes vulnerable to erosion and long-term instability.

B. Unscientific Mining Operations.

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- I. Non-existence of Green Belts and Retaining Walls around the mine boundaries, as was seen in the mining plan. Absence of safety protocols like buffer zones, slope monitoring, and protective structures.

[(A) copy of the still images of various mining sites with non-existent Green Belts and Retaining Walls are annexed as Annexure-CCR-3 (COLLY)]

¹ Bela Majila & Dr. Ranjana Shah, Analysis of Fertility Nutrients Present in the Soil of Bageshwar District (Uttarakhand), 12 Int'l J. Chem. Stud. 08-12 (2024) P-ISSN: 2349-8528, E-ISSN: 2321-4902, available at <https://www.chemijournal.com/archives/2024/vol12issue1/PartA/11-6-39-514.pdf> (last visited Dec. 17, 2023)

- II. The use of benches, with a maximum height i.e. 6-9 meters, and ultimate pit slope i.e., 30°-45°, were not followed, which is essential for maintaining slope stability.

[(A) copy of the still images of various mining sites with visually vertical pit slope and non-adherence to the norms are annexed as Annexure-CCR-4 (COLLY)]

- III. The pit slope at the dipmost point exceeds 45° to 55°, contrary to the specified limit, posing a risk to slope stability leading to slope failure.

[(A) copy of the still images of various mining sites where non-adherence to the norms is leading to slope failure are annexed as Annexure-CCR-5(COLLY)]

- IV. The slope of the overburden (OB) and interburden (IB) dumps exceeds the maximum allowable 37.5° from the horizontal, resulting in potential instability and reduced safety².

[(A) copy of the still images of various mining sites with visual non-adherence to the norms relating to the dumps of burden are annexed as Annexure-CCR-6 (COLLY)]

- V. Topsoil and interburden were not adequately separated, leading to the loss of valuable soil for reclamation and backfilling purposes. Waste rock was not managed and backfilling was not being carried out as per the approved plan.

[(A) copy of the still images of various mining sites with visual non-adherence to the norms relating to the preservation of topsoil are annexed as Annexure-CCR-7 (COLLY)]

² Gara, Sravan Kumar, Nirbhay Narayan Singh, Randip Singh, & K. S. Rao, Slope Stability Analysis for Optimisation of Overburden Dump Capacity in Opencast Coal Mines, in Rocscience International Conference (RIC 2023) 109, 109-18 (Atlantis Press 2023).

VI. Insufficient attention to drainage and water management, especially during the monsoon season, has resulted in increased rainfall infiltration into exposed slopes, accelerating erosion and subsidence. Garland drains have not been constructed around the periphery of the quarry, undermining stormwater drainage and contributing to water accumulation issues.

[(A) copy of the still images of various mining sites with visual non-adherence to the norms relating to drainage and water management are annexed as Annexure-CCR-8(COLLY)]

VII. The following practices were undermined due to a lack of enforcement and oversight, leading to ineffective implementation across most mining sites.

- (a) Mining was supposed to be carried out in two pits simultaneously to optimize resource extraction.
- (b) Green belts were non-existent.
- (c) An average soil thickness of 1.0 m is considered for removal and storage. Topsoil was supposed to be scraped and temporarily stored along the slope of the working pits.
- (d) Interburden and topsoil were to be used for backfilling from the second year onward to restore the original topography.
- (e) The land was supposed to be reclaimed from the end of the first year in each pit to restore the maximum original topography for agricultural use.
- (f) Water was to be used for dust suppression, green belt development, and drinking, which were missing in most mining sites.
- (g) Rainwater harvesting through channelization and storage in storage pits was supposed to be done but was not seen on sites.

- (h) Construction of garland drainages was supposed to be done to collect and manage rainwater, preventing accumulation in mining pits.

[(A) copy of the still images of various mining sites using heavy earth moving equipment are annexed as Annexure-CCR-9(COLLY)]

C. Environment Impacts

- I. The absence of proper drainage such as sediment traps, catchment basins etc. and control measures in mining areas has led to soil leaching, sedimentation, chemical runoff, and pollution in nearby water bodies, contributing to declining water quality and posing risks to human health.
- II. Most of the mining areas are approved in spring shed recharge zones, where heavy machinery such as Earth Moving Equipments have disrupted traditional water channels that recharge the spring shed—critical to local populations for drinking water and agriculture. The use of such heavy machinery has altered the geological aquifer system and water channels, leading to water scarcity and declining water quality. The removal of vegetation, loosening of soil, and disturbance of natural drainage patterns have further intensified these issues, reducing water retention and increasing surface runoff during the monsoon. For instance, the traditional source of drinking water for Kande-Kanyal village has experienced a significant reduction in water levels, especially during the lean summer period.
- III. Most of the mines remain exposed throughout the season where the failure to adhere to geotechnical standards during mining activities. This has led to an increased incidence of soil erosion and landslides in forest land and Van Panchayat land (particularly in

areas where mines are located adjacent). For instance, in the Bhauryal Mine in Village Maholi, the absence of trenches has exacerbated soil erosion and triggered landslides during the monsoon, as unstable slopes remain exposed and unprotected.

- IV. Elevated levels of particulate matter from soapstone mining and transportation activities, including drilling, blasting, crushing, and transportation of mined material, contribute to air pollution. This releases fine particulate matter such as PM10 and PM2.5, posing health risks like respiratory issues and reducing overall air quality in the region.

D. Impacts on Physical Infrastructure

- I. In the Bageshwar region, traditional houses—Kumauni Bakhli are predominant and deeply rooted in the mountainous terrain, reflecting the cultural and environmental adaptation of the local communities.³ These houses are constructed using locally available materials such as stones, wood, and slate. Stone provides structural rigidity, aiding in the even distribution of earthquake forces across the structure, thereby reducing the risk of seismic failure. The typical design features a low-rise, compact, and rectangular layout, which minimises vertical movement during earthquakes, thus limiting potential structural damage. Timber is extensively used in beams, columns, and roofing, offering the flexibility required to absorb seismic forces. This elasticity helps mitigate ground motion impacts, reducing the risk of cracks or collapse under seismic stresses.

³Ranjan Rao, Ar. Nitika, & Saxena, Ar. Saurabh. "Comparative Analysis of Traditional and Contemporary Architecture in Context to Sustainable Characteristics and its Construction Techniques: A Case of Kumaon Region." *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, vol. 11, no. 6, Jun. 2023, <https://www.ijraset.com/research-paper/comparative-analysis-of-traditional-and-contemporary-architecture>

- II. Over generations, these structures have demonstrated remarkable resilience, even in Seismic Zone V, with no recorded evidence of widespread structural failure due to seismic events. However, due to slope failures and downward mass movement, these monolithic structures are now experiencing shifting foundations, as the lower mass supporting them also shifts. Structural cracks, particularly diagonal, have been observed in many walls of older buildings, indicating toppling effects caused by the loss of soil beneath the foundation.

- III. Interestingly, even reinforced concrete structures, which feature proper columns, beams, and other modern structural measures, are displaying similar failure patterns due to shifting ground conditions and slope instability. This highlights the challenges posed by mass movement and landslides in the region, affecting both traditional and modern structures.


E. Socio-Ecological Impacts

- I. The community residing in the Bageshwar region is primarily an agro-pastoral society, practising agriculture for subsistence-based livelihoods. Their way of life is deeply intertwined with the surrounding ecology and ecosystem functions, with centuries of adaptation and fine-tuning to mitigate risks from the environment. Their dependency on natural resources is absolute, and they have long worshipped nature in the form of deities, reinforcing their cultural and spiritual connection to the land.


- II. However, sacred sites (temples), cultural landmarks (such as historical settlements and traditional trails), and traditional water sources have been compromised due to land subsidence, pollution, and loss of biodiversity. These changes have weakened

the bond between local communities and their cultural heritage. Additionally, the decline in natural resources like water and forests hampers community-based livelihoods that rely on cultural practices such as farming, artisanal activities, and traditional resource management.

- III. Many villagers who have not been involved in mining operations have lost access to essential resources such as agricultural fields, forest areas, and grazing lands, as pathways connecting these areas have been disrupted or altered.
- IV. Most of the workforce comes from Nepal and outside the region, residing in self-constructed tent structures on forest land and Van Panchayat land near the mining areas without proper authorization. They primarily rely on fuelwood collected from nearby forests for their living, contributing to deforestation. During the visit, the inspection team observed numerous fallen trees, primarily pine and oak, indicating significant environmental degradation.



F. Labour Laws, Safety & Hazards Measures

- I. Labour Laws were in for a toss in the whole region of Bageshwar, where employment of child labour was the biggest concern apart from non payment of minimum wages as well as non payment of wages altogether.
 - II. We were told that Children are employed to creep into the cracks to extract the soapstone, as the adults have difficulty in getting into them due to their larger size as well as inflexibility.
 - III. The workers were living in very poor conditions and were barely provided with any basic needs, except of
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the mine operated by N.S. Corporation where a tinshed was constructed for labour.

[(A) copy of photographs displaying the poor living conditions of Labour are annexed as Annexure-CCR-10 (COLLY)]

- IV. Despite the commitment to follow safety precautions under the Mine Act 1951, Metalliferous Mines Regulations 1961, and Mines Rules 1955, many of these provisions were not effectively implemented, leading to increased risks in mining operations.
- V. Firefighting and first-aid provisions were either missing or insufficient, putting the safety of workers at risk in the event of emergencies.
- VI. Safety equipment such as boots, helmets, and goggles were not consistently provided or regularly checked, diminishing their availability and effectiveness in preventing injuries.
- VII. Mine operations did not consistently follow approved mine plans, leading to unsafe practices and the absence of regular updates, contributing to poor site management.
- VIII. Maintenance and testing of mining equipment were neglected, resulting in equipment failures and safety hazards.
- IX. Dust suppression measures on haulage roads and loading/unloading points were often overlooked, increasing air pollution and risk to workers' respiratory health.

J. Other issues with the Mining Policy and its enforcement.

- I. Poor regulation and illegal mining lead to significant revenue losses for the state government. For instance, in Thaur Singh Gariya's mine, overburden was dumped on Revenue Land and Van Panchayat Lands without any permission or penalties from the DMO, there were blockages of streams.
- II. Disputes over land ownership and usage rights arise when mining projects encroach on other's land or community lands.
- III. Rampant illegal mining operations bypass environmental and legal regulations, causing unchecked damage.
- IV. EIAs are often superficial, failing to capture the long-term impacts of mining on the environment and communities.
- V. SEIAA and SEAC have failed in their mandate to protect the environment.

F. Complicit State Machinery

I. Semi-mechanised Mining

- (a) Neither the State of Uttarakhand, nor the Union of India have anywhere explained the definition of the word semi-mechanised mining, yet Environmental Clearances are being issued to the prospectors allowing them to undertake semi-mechanised mining.
- (b) This usage of **heavy earth-moving equipment (HEMM)** in mining operations without defined policy limits can lead to various challenges and negative consequences. When the policy framework does not specify guidelines for the deployment, operation, or monitoring of such

equipment, it can result in over-exploitation of resources, environmental damage, and socio-economic issues.

- (c) HEMM significantly increases the scale and pace of mining, leading to excessive extraction of mineral resources. This can deplete reserves prematurely, impacting future availability. Thus can cause over extraction of resource.
- (d) Large-scale use of HEMM accelerates deforestation, topsoil removal, and disruption of landforms, making land reclamation more difficult.
- (e) The operation of heavy machinery generates significant air and noise pollution, adversely affecting nearby communities and ecosystems.
- (f) The lack of clear operational guidelines can lead to unsafe working conditions, increasing the likelihood of accidents involving HEMM. The absence of regulations may allow untrained personnel to operate HEMM, further endangering workers' lives.
- (g) The absence of policy-defined limits enables illegal miners to deploy HEMM in ecologically sensitive zones or beyond permissible areas. Operators may bypass environmental clearance (ECs) and use HEMM without considering the environmental or social implications.
- (h) Undefined limits create loopholes, enabling operators to misuse permits and licenses for profit-driven over-extraction. Without a policy framework, regulators find it challenging to monitor HEMM usage or enforce restrictions

effectively.

- (i) No clear operational limits on the size, type, and number of HEMM that can be used for specific mining activities has been set up by the state.

II. *State Environmental Impact Assessment Agency*

- (a) State Environmental Impact Assessment Agency hereinafter referred to as SEIAA has the pivotal role of ensuring that the mining activities that are undertaken under its watch are scientific and do not cause any Socio-Economic and Environmental damage. But in the case at hand it appears that the SEIAA in Uttarakhand functions tacitly against its mandate, where it gives Environmental Clearance for a project and then just becomes a mute spectator of environmental and socio-economic degradation.
- (b) It is relevant to state that SEIAA has granted a total of 373 EC's as is visible on the Parivesh Portal⁴, but has uploaded the data of only 68 files and out of those 68 EC's (files) the data of only 59 EC's (files) has been uploaded and rest 9 are stated to have been processed offline. We noticed that the KML files uploaded on the website of SEIAA were wrong and SEIAA has given the clearance to the project with wrong data being presented to it.
- (c) We have no hesitation in stating that the agency responsible for the protection of socio-economy as well as the environment is failing in its primary mandate, and is hiding information by not uploading it on the portal and thus keeping

⁴ https://environmentclearance.nic.in/Staterecord.aspx?State_Name=Uttarakhand

it from the general public to hide itself from public scrutiny.

III. District Administration

- (a) The District Administration, particularly the SDM, had gone to the village Kande-Kanyal before our visit, as we were told by the villagers, and they were threatened by the administration. We would not have been speaking of this had the Sub Divisional Magistrate not interfered in our interaction with the Villagers, the SDM tried to suppress the voice of the Villagers in front of us; he was asked by us to leave the scene, but instead of leaving, he remained there until we had to protest that if he remained at the scene, we would be leaving and not conducting the exercise as directed by this Hon'ble Court.

After the Sub Divisional Magistrate left, the villagers who were in tears, started speaking against the administration turning a blind eye to them and their complaints, they made us aware of the apathy they were being subjected to and how their lives were affected due to the mining operations.

- (b) There was a father who was crying, he told us that his children were unable to sleep as the machines operated throughout the night, and the small kids were unable to sleep due to the sounds of blasting and hammering. He told us that the whole house shakes due to these machines and the mining operations continue unabated 24 hours and seven days a week, the only time when they stop is during rainy season.

- (c) None of the mines that we visited along with the administration were functioning, when we asked the villagers as well as the labourers, they told us that the administration had called for ceasing the work due to our visit. But in the evening, when we left in our vehicle, we found that machines were working past sunset.
- (d) We came to know that revenue officials in the district were sparingly transferred, and Villagers told us that some were posted in Bageshwar for more than 10-15 years. If transferred, they come back to Bageshwar.
- (e) We have no hesitation in stating that the Revenue Officials in Bageshwar were unable to show us the correct revenue maps of the places we went. The places that we asked them to show on Revenue Maps looked like forest land, and the officials were of no help to us, it certainly felt like they were hiding the scale of the problem and encroachment of revenue as well as forest lands due to illegal mining.
- (f) We found a soapstone dumpsite built in the heart of forest land, and a road that was carved in the forest, both were illegal and were leading to Jagthali-Bajeena Soap-Stone Mine in Kanda, when we asked the officials to show us the site on Sajra Map (Revenue Map), they even after the lapse of an hour were unable to point us in the right direction.
- (g) When we reached the mine owned by Sri. Thakur Singh Gariya in village Surkali, Sri Sharang Dhulia, received a phone call from a known individual who requested us not to give any adverse finding concerning the Mine

owned by Sri. Thakur Singh Gariya. We firmly believe that the information about our visit to the said mine was passed on by the Revenue Officials, who were already apprehensive of us visiting the site.

- (h) There are lapses on the part of the District Administration where they turn a blind eye towards the illegality being perpetrated by mine owners and on the other they fail to report the same to the appropriate department.
- (i) It reasonably appeared that the encroachment of Van Panchayat lands and felling of trees was well within the knowledge of the Revenue Officials.

IV. Industrial Development (Mining Directorate)

- (a) The district of Bageshwar has 160+ soapstone mines, apart from numerous stone and gravel leases and stone crushers.
- (b) The mining operations in the district are controlled by a District Mining Officer hereinafter referred to as DMO who happens to be a probationary Mining Inspector and has been given the charge of District Mining Officer. Amusingly, the department has engaged an Outsourced Mining Inspector in the district. These are the only two Officers posted in the District for enforcement purposes apart from a geologist and a surveyor. The total strength of the staff we were told was 9.

Moreover, the Officers in the District Bageshwar are with an educational

background in Geology and not mining.

- (c) After our initial visit on the first day, we had a firm view that the District Administration and the Mining Department were hand in glove with the mine owners. This idea was strengthened by our visits to the mines where we found that all the mining plans were only on paper and none of the plans were being followed, thus the mining was wholly unplanned as well as unscientific.
- (d) The DMO Ms. Jigyasa Bisht whenever asked as to what step she had taken against the violation, had an answer that the mining policy was silent on the fact as to what was supposed to be done.
- (e) The topsoil and overburden were intermixed at all the mines, and debris was falling from the slope and was at some places being dumped into the rivers, when asked if any action was taken against them, the DMO had no answer.
- (f) When we enquired about the non-adherence to the scientific mining practises by the mine operator and the non-availability of retaining wall structures or mining that was being done in an unauthorised manner against the mining plan, all she could offer was silence.

We also posed a query whether she has reported any wrongdoing anywhere in the district to anyone, like the violations of labour laws, environment clearance or pollution-related issues to any specialised agency, the answer to this was negative as the policy has

no directions to this effect.

- (g) Upon our enquiry about the plantation or the green wall, which the mine operator was mandated to do under the EC, the DMO rubbed it off her shoulders and shifted the responsibility onto the revenue officials and stated that they give clearance once a letter from revenue is presented that plantation has been done.

We again stressed the fact that plants, if planted, are supposed to be somewhere and maintained by the operator, to which we were told that plants on site were damaged by fire or were eaten by the grazing animals.

When we were adamant about seeing the photographs or any other evidence regarding the plantation that was being done, we were told that the plantation was done in the van panchayat and not in and around the mining areas.

- (h) We saw a mine that was openly dumping the overburden over the hill slope into a stream in front of the mine owned by Smt. Nandita Tiwari, we enquired if any penalty has been imposed on it. There was no answer to our query.
- (i) We even insisted DMO Bageshwar to impose penalties on the mines that were flouting the rules, regulations or guidelines, or were encroaching the forest land, particularly the Smt. Nandita Tiwari's mine that was dumping overburden over the hill slope, the mine across the mine of Smt. Nandita Tiwari and the Jagthali Bajena Mine. She did nothing as

opposed to an officer who should have taken cognizance of the same.

- (j) The mine is owned and operated by Sri. Thakur Singh Gariya situated in village Kiroli was operating illegally, we were told that the mine was closed and its Consent to Operate (CTO) had expired, but we saw an excavator working, and fresh soapstone having been extracted and filled in sacks, encroachment of forest land, cutting of trees for firewood, etc was also evident at the site. We asked the DMO to take appropriate action, but she did nothing and in the meantime Sri. Sharang Dhulia received a phone call requesting him to give a favourable report regarding this particular mine, after which we with even greater thrust, asked the DMO and the SDM to take steps and cease the excavator and the illegally mined soapstone as well as take immediate steps against the consent given by the government in favour of the mine operator due to multiple lapses on the part of the mine operator.

The DMO instead of acting against the said mine operator, ceased only the illegally mined soapstone which was packed in 250 sacks, and gave its custody to the mine manager.



- (k) In the mine owned and operated by Sri. Surendra Singh Bhauriyal (Village Maholi), we saw large-scale destruction of forest land, missing boundary pillars, unscientific mining, and a landslide that had taken out a huge chunk of forest land and trees with it. There were huge pine trees that were illegally cut and were being used by the labourers as

firewood. The team of forest department found a large two-man cross-cut saw and associated tools that were used to cut the trees.

Upon scrutinising the area via satellite imagery we found that the said mine has encroached upon large swathes of forest/van panchayat lands, and was guilty of felling trees illegally.

- (l) **The Royalty on Soap Stone has not been raised by the State of Uttarakhand in last 8 years.**

V. Labour Department

- (a) It appeared to us that labour laws were non-existent in the mines of Bageshwar, we interacted with several labourers who did nothing about their rights. The local population is at the receiving end due to this as it is not getting fair wages and working conditions.
 - (b) We interacted with officials of the State Labour Department and came to know that the mines are under the administrative control of the Central Labour Department.
 - (c) We then dropped contacted Asst. Labour Commissioner (Central), Bareilly, via telephone and sought a response on enforcement. We did send an email to the Asst. Labour Commissioner (Central), Bareilly, whereafter we were made aware of the fact that the earlier A.L.C. had relinquished her charge and had proceeded on training, and the said charge was with A.L.C. (Central), Dehradun, via WhatsApp.
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- (d) We then had a word with A.L.C. (Central) Dehradun, Sri. Randeep Singh via telephone, told us that no enforcement drive has been done in Bageshwar since April, and there has been no communication from the State Administration regarding labour rights as well.

[(A) copy of the email sent to A.L.C. Bareilly is annexed as Annexure-CCR-II]

VI. Forest Department

- (a) We firstly would like to express our appreciation for Sri. D.S. Martolia, I.F.S., D.F.O. Bageshwar, who was prompt and made available the concerned Range Forest Officer and his staff to help us in our fact-finding visit.
- (b) The department in the hills is heavily understaffed and a single forest guard has responsibility of 3-4 beats and it is humanly not possible for a single man to patrol such large areas.
- (c) Since the Forest Land and Van panchayat lands overlap at places, the authority of the forest department is diminished until the forest offence is reported.
- (d) The forest department in Bageshwar is severely understaffed at base level to ensure enforcement.

VI. Misuse of D.M.F. Funds.

- (a) According to the directions/guidelines under the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) vide Government Order

No.16/7/2015-M.VI(Part) Government of India, Ministry of Mines dated 16.09.2015 a direction has been issued to the various State Governments to implement/incorporate the Pradhan Mantri Khanij Kshetra Kalyan Yojana into the rules framed by them for the District Mineral Foundations and to implement the said Scheme.

- (b) That under the said scheme under the heading 2. General Guidelines sub clause (b) it has been stated:- An amount not exceeding 5% of the annual receipts of the Foundation subject to an upper limit fixed by state government may be utilised for administrative, supervisory and overhead costs of the Foundation.

[(A) copy of the Government Order No.16/7/2015-M.VI(Part) Government of India, Ministry of Mines dated 16.09.2015 is annexed as Annexure-CCR-12]

- (c) That the amount from the DMF fund has been misused by the Foundation and amusingly the expenditure has been done for various renovations in the office of the Chairman of the Foundation who happens to be the District Magistrate of Bageshwar. The amount illegally spent has been tabulated below:-

Project Particulars	Amount Spent
Water Proofing Work At DM Office Bageshwar	Rs. 2.3 Lakh
Tin shed Construction work on the auditorium building located in the office premises of Block Kapkot	Rs. 5.03 Lakh
Furnishing and renovation work of meeting hall at DM Office Bageshwar	Rs. 11.31 Lakh
Supply Of Visitor Chairs And Verticle Blinds & Curtain Rod, Curtain For District Magistrate Office Bageshwar	Rs. 3.06 Lakh
Remaining Work Of Improvement/Beautification Of Meeting Hall And Office Of Sub Collector Kapkot	Rs. 15. Lakh
Renovation Work at DM Office Bageshwar	Rs. 20.21 Lakh

Improvement/beautification work of meeting hall and office of Tehsil office Kapkot
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Rs. 14.79 Lakh

VII.State Pollution Control Board

(a) We sent an email to the Pollution Control Board (Uttarakhand) seeking details of enforcement staff in Bageshwar and as such the Board provided us with the following information that the Board has no office in the District of Bageshwar, and we believe that the Office of the Board caters to the whole Division of Kumoun. The office of Member Secretary, State Pollution Control Board in its reply has stated that the Board has a Regional Office in Haldwani, where a Regional Officer (Regular), an Assistant Scientific Officer (Regular), a Junior Engineer (UPNL), a Scientific Assistant (Project Staff), and three Monitoring Assistants (Project Staff) are posted. The sanctioned strength of Technical Staff is 06 in number. Moreover, they visit Bageshwar concerning cases received for consent applications, complaints and court-related matters.

[(A) copy of the email sent to SPCB and the reply received are annexed as Annexure-CCR-13 (COLLY)]

(b) We had a word with the Regional Officer of SPCB Haldwani, Sri. Anurag Negi posed a specific query about whether the SPCB has received any complaint from any government agency raising the issue of Pollution in the District Bageshwar.


(c) The SPCB is severely understaffed and if the Regional Office is understaffed to this extent

then enforcement of Pollution violations is a farce reality.


11. We are thankful that the Hon'ble Court was pleased to give us this opportunity to learn, and at the same time, we would like to bring this on record that during and after our visit we were called by various people including our friends and acquaintances from the Court, who offered financial gratification to manage our report. The financial gratification that was being offered was only for the reason that we found out that the mining in Bageshwar was continuing unregulated, unabated and unscientific leading to socio-economic and environmental losses.

12. Conclusion

In the present state the policies enacted by the State of Uttarakhand, upon review and comparison with the policies of other states in the Union may be categorised as lenient, and lenient mining policies can have severe and far-reaching effects on the environment, economy, society, and governance. When regulations are relaxed or poorly enforced, the negative consequences of mining activities often outweigh their benefits.



Lenient policies allow unrestrained exploitation of mineral resources, leading to their rapid depletion and leaving little for future generations, it further encourages illegal mining and black-market trade of minerals, undermining the rule of law. Moreover, weak regulatory frameworks encourage illegal mining, often resulting in unscientific and unsustainable extraction methods. Weak policies result in tax evasion, underreporting of profits, and loss of royalties, depriving governments of substantial revenue and they lead to overexploitation of resources, which may provide immediate financial benefits but leaves future generations with exhausted reserves and environmental liabilities. Whereas lack of oversight fosters corrupt practices in granting mining licenses and regulating operations.



The mining operations in Bageshwar are unregulated and unregulated mining will lead to large-scale deforestation, destroying habitats and endangering wildlife species. Toxic mining waste, including heavy metals, will contaminate rivers

and groundwater, severely affecting ecosystems and drinking water sources. Dust, particulate matter, and harmful gases released during mining harm air quality, affecting both the environment and public health. **Excessive extraction of minerals in its unregulated and unscientific practice has soil rendered land unusable for agriculture or habitation. Communities near mining sites face health risks due to exposure to land collapsing hazards, contaminated water, polluted air and excessive sound.**

The policies in their present form fail to prioritize the rights of local populations, leading to forced evictions and loss of livelihoods. Mining without strict environmental safeguards has destroyed heritage sites and pristine landscapes.

Lenient mining policies prioritize short-term economic gains at the expense of long-term sustainability, environmental health, and social welfare. A stricter regulatory framework, combined with effective enforcement mechanisms, is crucial to mitigate these adverse effects and ensure that mining contributes positively to national development without compromising ecological balance and social justice.

Stringent policies in mining are essential to ensure sustainable development, environmental protection, and social justice. Mining activities, while contributing significantly to economic growth, often have profound impacts on the environment, local communities, and public health.

Stringent mining policies are not only a regulatory necessity but also a moral obligation to ensure that economic development does not come at the cost of environmental degradation, social injustice, and long-term ecological imbalance. A well-regulated mining sector can contribute to national growth while safeguarding the rights and well-being of all stakeholders.

13. Recommendations

- A. Necessary parties for adjudication:
- (i) Secretary, Ministry of Mines, GoI.
 - (ii) Regional Controller of Mines, Dehradun.
 - (iii) Secretary, Ministry of Labour & Employment.
 - (iv) Director General of Mine Safety, GoI.

- (v) Chief Labour Commissioner, GoI, Delhi.
- (vi) Secretary, Ministry of Environment, Forest and Climate Change.
- (vii) State Level Expert Appraisal Committee through its Secretary.

B. Following directions, SEIAA may be directed:

- (i) to compulsorily upload all the Environmental Clearances granted/rejected by it in a time-bound manner on its website,
- (ii) to upload the KML files of the boundaries of all 161 mines in the area after cross-verification,
- (iii) to take action against mines that are violating the terms of EC,

In order to ensure compliance personal responsibility be fixed on the Chairman, SEIAA for the accuracy of data uploaded on the SEIAA's web portal.

- C. The State Pollution Control Board has no office in the District of Bageshwar, and we believe that the Office of the Board caters to the whole Division of Kumoun, from the website of the board it has come to light that the Board is seriously understaffed, in these circumstances, we recommend that directions may be given to the Respondent State to ensure that appropriate staff is positioned in each District to ensure sustainable use of resources and prevent any illegality.

We recommend the establishment of offices of the Pollution Control Board in every Tehsil of the State along with a direction that the Board shall undertake *Suo Motu* enforcement of pollution-related issues.



- D. Disciplinary proceedings be drawn against Sri. Vineet Kumar, I.A.S., for abusing his position and misusing D.M.F. Funds for the renovation of his office, where the cost of renovation was Rs. 33,82,000/-.

Disciplinary proceedings be drawn against Ms. Anuradha Pal, I.A.S., for abusing her position and misusing D.M.F. Funds for the renovation of her office and the office of S.D.M. Kapkote, where the total cost of renovation is Rs.

18,06,000/-.

The said officers belong to the cadre of Indian Administrative Service, and it is expected they know the meaning of Administrative and Establishment expense, in the case at hand, these officers have abused their position to divert public money for unauthorised purposes. These officers instead of utilising these funds for the people affected due to mining, have used the money to procure capital expenditure under DMF Funds that they were not authorised to undertake. The officers are also guilty of financial mismanagement, as the audit of DMF accounts is pending for the past 4 years.

The amount of money misused be recovered as recovery of said amount from the erring official would set an example for others.

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- E.** A Financial Audit of DMF Funds, as well as a Physical Audit of DMF works, is eminently needed as we have anonymously come to know that there exists large-scale mismanagement of funds and procurement of works. **The DMF Funds have not been audited in the last 4 years.**
- F.** Since the extent of mining is very large in Bageshwar, and there are continuous signs of illegal and unscientific mining, we strongly recommend that technology be taken to use by this Hon'ble Court where this Hon'ble Court may order a HACKATHON amongst G.I.S. & R.G.I.S. students/researchers, offering them recognition and financial reward, wherein they will be able to predict the losses caused by mining to the state exchequer and environment including water sources air and land, they can easily determine illegal mining by mine owners without even visiting the site and this exercise can be publicised at national level by the SEIAA, and financial reward if any could be generated through SEIAA and DMF (Bageshwar).
- G.** We recommend that Senior Officer from Mining Department be posted at Bageshwar with adequate number of mining inspectors with a background in mining.

- H. We recommend transferring revenue officials from Bageshwar who have elongated stay or are returning.
- I. We strongly recommend a policy review on the mining policy, appointment policy of mining officers, and environmental management policies of the State where the policies prima facie are lenient and are leading to socio-economic and environmental degradation.
- J. We strongly recommend that the Ministry of Labour, Government of India, be directed to open an office and station a Labour Enforcement Officer in Bageshwar as we saw the engagement of Child Labour at the mine of Sri. Surendra Singh Bhauriyal, wherein the labour told us that they were 18 years old but could not produce any document to that effect.

Moreover, labour laws violations are rampant in the mines where

- K. We strongly recommend the cancellation of the leases of Sri. Thakur Singh Gariya (Village Surkali) and Sri. Surendra Singh Bhauriyal (Village Maholi) for excavating/mining/dumping over and above their lease area and their failure to comply with the conditions of the Lease and Environmental Clearance. Their sites lacked boundary pillars and the Satellite Imagery portrays the extent of illegal mining.
- L. The unrestricted use of heavy earth-moving equipment can have detrimental effects on the environment, economy, and local communities. State and SEIAA must introduce clear and enforceable guidelines to ensure that usage of machinery aligns with sustainable development goals, minimises environmental damage, and protects the rights and livelihoods of affected populations.

The absence of specific provisions regarding machinery in the State's mining policies highlights the need for an updated and comprehensive regulatory framework. Policies must evolve to address advancements in mining technologies and their implications.

We thus strongly recommend banning the usage of

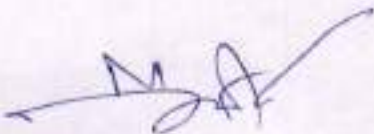
Heavy Earth Moving Equipment in the state of Uttarakhand till a comprehensive policy is developed by the State.

- M. We also recommend the SEIAA and SEAC members to physically visit the mining-affected areas, and submit their report on Environmental Impact Assessment specifically macro analysis of granting multiple small leases in a small area and the problems it has created.
- N. Finally, the mining policy bars employment of foreign labour and mandates that only Indians be allowed to work in the mines, yet a large number of Nepalese nationals are working in these mines, as the labour laws are non-existent and it is easy for the mine owners to exploit the gullible Nepali's.

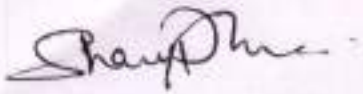
The appropriate end to this report for us would be to dedicate this report to Girida, a celebrated Kumouni poet, and it would also be reasonable to quote him with his words which appropriately describe the present scenario of Bageshwar:

आज हिमाल तुमनकै धत्युंछो,
जागो, जागो हो मेरा लाल,
नि करि दी हालो हमरी निलामी,
नि करि दी हालो हमरो हलाल।

(अर्थात, आज हिमालय तुम्हें पुकार रहा है,
जागो-जागो, ओ मेरे लाल।
मत होने दो मेरी नीलामी,
मत होने दो मेरा हलाल।)


Maxank Rajan Joshi
Advocate


Sharay Shukla
Advocate



Sharang Dhulia

Advocate



Mayank Rajan Joshi

Advocate



ANNEXURE CCR-I,

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

IN
ORIGINAL APPLICATION No. 1115/2024

News Item titled "Rampant mining causes Joshimath-like crisis in Uttarakhand's Bageshwar" appearing in India Today dated 14.08.2024

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FILED BY:

PRATYAKASH GUPTA,
(ADV. FOR RESPONDENT NO. 3)

DEHRADUN:

DATED: 09/12/2024

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

IN
ORIGINAL APPLICATION No. 1115/2024

News Item titled "Rampant mining causes Joshimath-like crisis in Uttarakhand's Bageshwar" appearing in India Today dated 14.08.2024

Affidavit on behalf of Respondent No. 3, Ministry of Environment, Forest & Climate Change, through its Regional Office, 25, Subhash Road, Dehradun-248001.



Affidavit of Vipin Gupta (Male) aged about 34 years S/o Shri Ved Prakash Gupta, presently posted as Scientist-C, in the Regional Office of the Ministry of Environment, Forests and Climate Change (MoEF&CC) at Dehradun.

Vipin Gupta
(Deponent)

I, the deponent named above do hereby solemnly affirm and state as under:

1. That the deponent in his official capacity is conversant with the facts of the case and duly authorized by the competent authority to file the

Vipin Gupta

present reply affidavit on behalf of respondent No. 3.

2. That the present original application is registered suo motu based on the news item appearing in India Today dated 14.08.2024 which relates to the rampant mining in Bageshwar District of Uttarakhand resulting in the Joshimath-like situation in the Kanda area, where cracks have appeared in homes, temples, fields, and roads. That taking cognizance of news article, the Hon'ble Tribunal vide order dated 30.08.2024 has impleaded this office as Respondent No. 3 and directed to file his response/reply by way of affidavit at least one week before the next date of hearing.
3. That in pursuance of the above order, the following response/reply by way of affidavit is being submitted by answering respondent for kind consideration of this Hon'ble Tribunal.
4. To ascertain the correct position, the truthfulness of the facts disclosed in the news article as mentioned in para- 2 above, a site visit was conducted by Ministry's Regional Office, Dehradun between 23.11.2024 and 26.11.2024. The Site Inspection Report is annexed herewith as **ANNEXURE-I** for kind perusal/consideration of this Hon'ble Tribunal.
5. It is therefore humbly requested to this Tribunal that the reply affidavit on behalf of answering respondent (Respondent No. 3) may kindly be taken on record.



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- 6. That the answering respondent reserves its right to file additional affidavit, if required, till pendente lite.
- 7. That in view of the foregoing submissions, this Hon'ble Tribunal may be pleased to pass such or further orders as it may deem fit in the given circumstances of the case.

Vipin Gupta

DEPONENT

डॉ. विपिन गुप्ता / Dr. Vipin Gupta
 वैज्ञानिक 'सी' / Scientist 'C'
 प्रयोग, का एन जलवायु परिवर्तन संस्थान / MoEFACC
 क्षेत्रीय कार्यालय / Regional Office
 भारत सरकार / Government of India
 25, सुभाष रोड, देहरादून / 25, Subhash Road, Dehradun

VERIFICATION:

Verified at Dehradun, Uttarakhand on this 09 day of December, 2024 that the contents of the above affidavit are true and correct to my knowledge and are based on official records, no part of it is false and nothing material is concealed there from.

MSJ
SDM



Sr. No. 8048/2024
 This affidavit is sworn before me by
 Shri... Vipin Gupta
 who is identified by Shri Ram Singh Negi
 at Dehradun on... 09/12/2024

Vipin Gupta

DEPONENT

डॉ. विपिन गुप्ता / Dr. Vipin Gupta
 वैज्ञानिक 'सी' / Scientist 'C'
 प्रयोग, का एन जलवायु परिवर्तन संस्थान / MoEFACC
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 भारत सरकार / Government of India
 25, सुभाष रोड, देहरादून / 25, Subhash Road, Dehradun

Rajender Singh Negi
 (Rajender Singh Negi)
 Advocate & Notary, Dehradun

Vipin Gupta

File No.: NGT/14/2024
Government of India
Ministry of Environment Forest and Climate Change
Regional Office (NCZ)

SITE INSPECTION REPORT

Subject: Original Application No. 1115/2024 in respect of News Item titled "Rampant mining causes Joshimath-like crisis in Uttarakhand's Bageshwar" appearing in India Today dated 14.08.2024 before the Hon'ble National Green Tribunal, Principal Bench, New Delhi.

Reference: Hon'ble NGT's order dated 30.08.2024 in aforesaid matter wherein the Hon'ble NGT has taken *suo motu* cognizance based on the Indian Today's news regarding the rampant mining in Kanda area of Bageshwar District, Uttarakhand, reportedly resulting in cracks in homes, temples, fields and roads.

The Hon'ble NGT, while quoting the aforesaid news item, has further mentioned that a 1,000-year-old Kalika temple is also at risk due to nearby mining activities as the cracks have appeared in the temple premises, with locals attributing the damage to a open cast soapstone (Talc or Khadiaya) mine just 50 meters away. The article further claims that there has been no visible government effort to address the situation or help those affected. Hon'ble NGT in its order dated 30.08.2024 has correctly mentioned that the villagers initially supported talc mining for the jobs it provided. However, now they are worried for the safety of their homes and Kalika temple due to adjacent open cast soapstone (talc or khadiya) mine. It may however be noted that the District Administration vide order dated 01.06.2023 has closed the operations in all the mines within 50 m of existing CNG Godown, Aabadi Area and Motor Road including this particular mine. This open cast soapstone mine lease was allocated to Shri Kuldeep Singh Bisht.



Photo 1: Open Cast Soap Stone Mining at Kanda Tehsil, Bageshwar



Handwritten signature

2. The Hon'ble NGT, vide aforesaid order dated 30.08.2024, has impleaded the Ministry of Environment Forest and Climate Change (MoEF&CC), New Delhi (hereinafter referred to as the Ministry) through its Regional Office (NCZ), Dehradun, as one of the respondents and directed to file response/reply by way of affidavit.

3. In compliance to Hon'ble NGT's order dated 30.08.2024, the Ministry's Regional Office (NCZ), Dehradun carried out an inspection of the site at Kanda-Kaniyal village between 23.011.2024 and 26.11.2024 for verification of various issues raised by the India Today in its news item referred above. Kanda Kaniyal Village falls under the Kanda Tehsil of Bageshwar District, nestled in the Kumaon region. Kanda Tehsil is situated at 1500-1900m above sea level. Village is surrounded by mountains, terraced fields, and organic tea platforms. The coordinates of Kanda Tehsil are N 29° 49' 07.3011" and E 79° 52' 35.9969 E". The landscape boasts a rich ecology and biodiversity, with flora including Banjh (Oak) *Quercus leucotrichophora*, Buransh (Rhododendron) *Rhododendron arboreum*, Chir (Pine) *Pinus roxburghii*, Deodar (Cedar) *Cedrus deodara*, Surahi (Cypress) *Cupressus torulosa*, Pangar (Indian Horse Chestnut) *Aesculus indica*, Walnut *Juglans regia*, Tun (Toon) *Toona ciliata*, Semal (Silk Cotton Tree) *Bombax ceiba*, Angu (Date Palm) *Phoenix dactylifera*, Mehal (Pear Tree) *Pyrus pashia*, Angyar (Indian Birch) *Lyonia ovalifolia*, Ghingar (Firethorn) *Pyracantha crenulata*, Utish (Alder) *Alnus nepalensis*, and Poplar *Populus deltoides*.

The local wildlife includes species such as the Leopard (*Panthera pardus*), Wild Boar (*Sus scrofa*), Fox (*Vulpes vulpes*), Barking Deer (*Muntiacus muntjak*), Indian Muntjac (*Muntiacus muntjak*), and Rabbit (*Oryctolagus cuniculus*). Bird species found in the area include the House Sparrow (*Passer domesticus*), Partridge (*Perdix perdix*), Jungle Fowl (*Gallus gallus*), Eagle (*Aquila chrysaetos*), Vulture (*Gyps bengalensis*), Crow (*Corvus splendens*), and Cuckoo (*Eudynamis scolopacea*).

The tehsil is also culturally significant with a strong tradition of folk music, dance, and handicrafts. Kanda's proximity to popular tourist spots like Bageshwar, known for the Bagnath Temple, also contributes to its cultural and religious importance. The total geographical area of Kanda-Kaniyal village is 231.24 hectares.

4. The Kalika Temple in Kanda, located in the Bageshwar district of Uttarakhand, is a significant religious site believed to have been established in the 10th century. It is known for its historical and cultural importance, particularly in the context of local beliefs regarding the protection against malevolent forces. Villagers/Temple Committee Members were present during the site inspection. The views of the villagers/members were also taken (List of Committee members attached as an Annexure-I). In addition, the records of the District Administration and its Department of Geology and Mining at Bageshwar, Uttarakhand, were also reviewed during this period.



Vinay Kumar



Photo 2: Kalika Temple in Kanda Tehsil



Photo 3- Cracks in flooring of Kalika Temple

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5. The Ministry's observations based on the site inspection, review of records of the District Administration/Department of Geology & Mining, Bageshwar and interaction with villagers/Temple Committee Members, are given below for kind consideration of the Hon'ble NGT:

- (i) The villagers and temple committee members raised following issues:
- The cement flooring of an abandoned structure at the back side of the temple is sinking and developing cracks.
 - The roof of an abandoned structure at the back side of the temple has subsided by 1 foot.
 - The third dome of the temple appears tilted.
 - Cracks and subsidence have at the front portion of the Dharamshala near temple.
 - Tiles in the inner sanctum of the Kalika Temple are broken and the ground is sinking, causing displacement.
 - Large cracks caused by heavy machinery mining were previously filled by the miner.

During the site visit, no mining was found operational near village and CNG Godown as it was closed by the District Administration on 01.06.2023. A few minor cracks were observed on the flooring inside the temple. Subsidence of roof and flooring at the backside of the temple were found unnoticeable through visual inspection. Architectural expertise would be required to assess the extent of subsidence. No major cracks were observed on the fields around temple as those cracks might have been previously filled by the Miner in compliance of orders by the District Administration.



Photo 4: Abandoned Opencast Mine behind Kalika Temple



- (ii) The villagers informed about occurrence of cracks in a house owned by Shri Hem Chandra Kandpal S/o Shri Prayag Dutt. As per report of the joint inspection carried on 03.09.2024 by the team comprising of the Naib Tehsildar, Kanda (Bageshwar), I/c Mining Officer, Bageshwar, Junior Engineer, PWD (Public Works Department) Bageshwar, Additional Assistant Engineer, PMGSY (Pradhan Mantri Gram Sadak Yojana) Bageshwar, and Assistant Geologist, Department of Geology and Mining, Bageshwar, the house of Shri Hem Chandra Kandpal had observed some cracks on the outer walls of the house and a crack (1 cm wide and 6 m long), which extended from floor to wall of the room inside house. This house is more than 95 years old. This joint inspection report also mentioned about occurrence of minor cracks and subsidence in five other houses of the village (**The detailed report is attached as an annexure II**).

The suggestions of Joint Committee also given below:-

- Structural/engineering deficiencies were found in building construction, such as the absence of beams and columns in most buildings.
- Adequate drainage systems were not observed at the site in question. Rainwater and household water are being discharged uncontrollably, which is saturating and weakening the ground surface.
- Weak rocks such as dolomite, limestone, and talc were observed in the area, which weather quickly when in contact with water.
- Exposed bedrock is not visible on the surface at the sites in question.

The joint committee also given following suggestions:

- Appropriately designed retaining walls or gabion walls should be constructed at designated levels.
- Cracks in the buildings should be repaired by filling them with suitable filling material.
- Proper drainage systems should be installed at the sites.
- Landslide-preventing grasses or plants should be planted at the aforementioned sites.

- (iii) Subsequently, a team comprising of two Senior Geologists from the Geological Survey of India (GSI) visited the Bageshwar district for preliminary assessment of ground subsidence affected villages between 12.09.2024 and 14.09.2024. The GSI team, accompanied by the SDM, Kanda, Bageshwar and other local authorities visited Kanda Kaniyal village for investigation of cracks in two residential houses and Kalika temple.

The GSI team pointed out that House No. 1 at coordinates N 29°49'42.01", E 79°53'31.48" was located in a natural depression with water seepage observed about 300 m upslope. The development of cracks was mainly due to its location, which acted as a conduit for subsurface water as indicated by seasonal springs and



Vim Singh

seepage. The Primary cause of cracks was due to gradual piping action (removal of fines) controlled by water seepage.

In case of House No. 2 at coordinates N 29°49'38.79", E 79°53'32.04" the cracks at the outer edge of the porch were likely due to the defacing of a steep bench created downslope. Those cracks were not related to the open cast soapstone mine, which is located about 70 m south of the house.

In case of Kalika temple, approximately 40 m of the open cast mine, a curvilinear crack was observed on the floor of temple measuring 2-5 mm wide and 2-3 m long. Those cracks in the floor of temple prima facie appeared due to defacing of slope. The cracking patterns on the northern slope of the temple and house below were similar.

The GSI team concluded that the cracks and subsidence were mainly due to varying causes of ground instability, including water seepage, erosion, and mining activities, which would be necessitating the tailored recommendations for each site. In case of House No. 1, GSI team recommended to provide a deep lined trench with weep holes to the upslope of the house to collect and divert the subsurface water and establish proper drainage to direct the water downslope. This solution might address the current issue, but given the house's location in a natural depression, surface water flow during heavy rains could pose a risk. The cracks at the outer edge of the porch in House No. 2 could be mitigated by constructing a retention wall with weep holes to support the steep face of the bench, if required. The cracks in Kalika Temple prima facie appeared due to defacing of slope but the role of open cast soapstone mine cannot be denied. Therefore, GSI team recommended to collect photos and videos before backfilling of the mine to better understand its impact on the destabilization of areas present upslope to those mines **(The detailed GSI report is attached as an annexure III).**

6. Key observations

Key Points emerged from the site inspection and review of records of District Administration and Geology and Mining Department, Bageshwar are as under:

1. Structural and drainage deficiencies, water seepage, and natural ground instability are key factors contributing to the observed damage.
2. The proximity of the open-cast soapstone mine may also be a contributing factor. The role of opencast mine could not be denied as the timeline of cracks in the temple and houses below with reference to mine development would be required to put proper light on the issue.
3. Cracks in the Kalika Temple and nearby residential houses indicate structural distress caused by subsurface erosion, slope defacing, and possibly past mining activities.
4. Construction of retaining or gabion walls, repairing of cracks and improvement of drainage systems is required to be improved.



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5. To stabilize slopes, preserve structural integrity, and prevent erosion and ground saturation in Kanda-Kaniyal village, implementing retaining or gabion walls, repairing cracks, and enhancing drainage systems is essential.
6. Rainwater management is required to be improved through channels or culverts to mitigate erosion risks and support long-term structural stability.
7. Implement tailored recommendations for each site, focusing on water management and structural reinforcement are required to mitigate future risks.
8. Collaborative approach is required to involving geological experts, local authorities, and the community to safeguard structures and promote sustainable development.

7. Conclusion

Structural and drainage deficiencies, water seepage, and natural ground instability are key factors contributing to the observed damage. The proximity of the open-cast soapstone mine may also be a contributing factor. The role of opencast mine could not be denied as the timeline of cracks in the temple and houses below with reference to mine development would be required to put proper light on the issue. Cracks in the Kalika Temple and nearby residential houses indicate structural distress caused by subsurface erosion, slope defacing, and possibly past mining activities.

Department of Geology and Mining, Bageshwar was requested to provide information on the functional open-cast soapstone mines and status of Environmental Clearance granted in Kanda Tehsil- Bageshwar, The Information is still awaited.

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Submitted by

Ashish

(Dr. Ashish Kumar)
Additional Director/Scientist-E



M. S. Gaur

Annexure-I

S. No	Name of Member	Father's Name	Residence
1	Raghubir Singh Majila	Bhawan Singh Majila	Village Pangchodha
2	Tej Singh Nagarkoti	Sakat Singh Nagarkoti	Village Kanda
3	Virendra Singh Nagarkoti	Former District Panchayat Member	Village Kanda
4	Mahesh Chandra Pant	Ramesh Chandra Pant	Village Kanda
5	Gopal Singh	Padam Singh	Village Kanda
6	Kedar Singh Majila	Trilok Singh Majila	Village Pangchodha
7	Ratan Singh Daphola	Trilok Singh Daphola	Village Dapholi



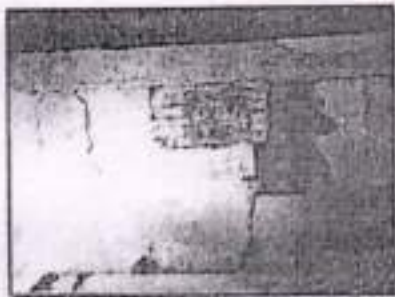
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विषय-नों कालिका मन्दिर काण्डा पड़ाव एवं उसके आस-पास के क्षेत्रों में हो रहे भूधसाव एवं भूगर्भीय सर्वेक्षण सम्बन्ध में।

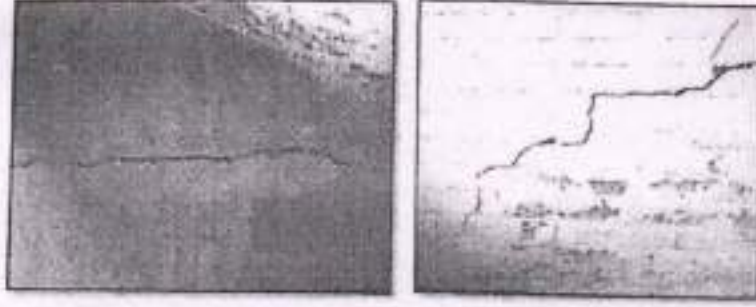
प्रस्तावना-उपरोक्त विषयक उपजिलाधिकारी, काण्डा के पत्र संख्या 202/पी0ए0-विविध/2023-24 काण्डा दिनांक 02/09/2024 के माध्यम से अवगत कराया गया है कि उपरोक्त विषयक विभिन्न समाचार पत्रों/सोशियल मीडिया के माध्यम से संज्ञान में लाया गया है कि कालिका मन्दिर काण्डा पड़ाव एवं उसके आस-पास के क्षेत्रों में भूधसाव से ग्रामवासियों के मकानों में दरारें आ रही हैं। साथ ही आम जनमानस द्वारा सुरक्षात्मक उपाय किये जाने का अनुरोध किया जा रहा है। उक्त के सम्बन्ध में जिलाधिकारी महोदय बागेश्वर द्वारा दूरभाष पर तत्काल प्रश्नगत क्षेत्र का भूगर्भीय सर्वेक्षण करने तथा भूगर्भीय सर्वेक्षण में कार्यदायी संस्थाओं को भी उपस्थित रहने के निर्देश दिये गये हैं, जिससे क्षेत्र में निर्मित/निर्माणाधीन/प्रस्तावित निर्माण कार्यों की स्थिति भी स्पष्ट हो सके तथा सर्वेक्षण उपरान्त संयुक्त निरीक्षण आख्या उपलब्ध कराये जाने का उल्लेख किया गया है। प्रभावित स्थल का संयुक्त निरीक्षण तहसीदार काण्डा, प्रभारी जिला खान अधिकारी बागेश्वर, सहायक अभियन्ता लोनिवि बागेश्वर, अपर सहायक अभियन्ता पीएमजीएसवाई बागेश्वर तथा सहायक भूवैज्ञानिक बागेश्वर द्वारा दिनांक 03/09/2024 को भवन स्वामियों एवं स्थानीय निवासियों की उपस्थिति में सम्पन्न किया गया, जिसकी संयुक्त निरीक्षण आख्या निम्नवत है।

स्थिति-प्रश्नगत स्थलजनपद बागेश्वर, जिला मुख्यालय से लगभग 30 किमी० की दूरी पर काण्डा पड़ाव-भाकडपंत मोटर मार्ग पर हिल साईड में अवस्थित है।

स्थल 01-हेम चन्द्र काण्डपाल पुत्र श्री प्रयाग दत्त-आवासीय भवन की बाहर की दीवार पर दरारें हैं, भवन के अन्दर कमरे में लगभग 01 सेमी० चौड़ी तथा 06 मी० लम्बी दरार है, जो फर्श से दीवार तक जा रही है। किचन के फर्श पर दरारें व गीली अवस्था में है। भवन के दूसरे कमरेके दरवाजे खोलने-बन्द करने में अटकरहे है। फर्श तथा दीवारों पर हल्की दरारें हैं। आंगन में बाहर दीवारी की ओर हल्का धंसाव है। परिवार भवन में निवास कर रहा है। निरीक्षण के दौरान भवन स्वामी द्वारा अवगत कराया गया की भवन लगभग 95 वर्ष पुराना है जिसमें वर्ष 2016 से दरारें आना शुरू हो गयी थी।

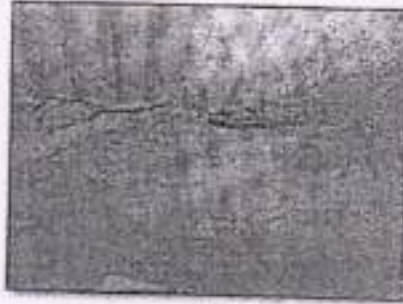
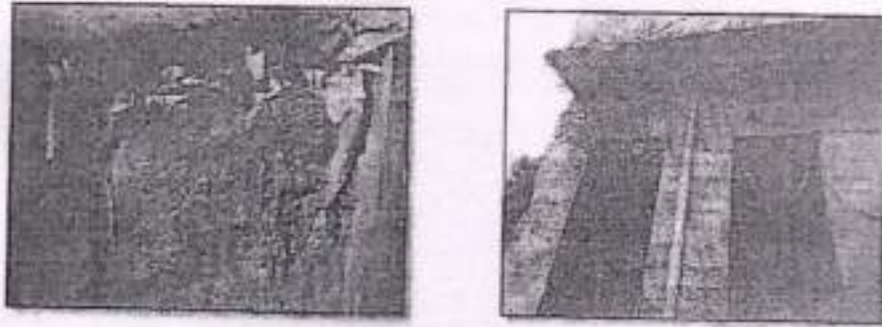


Vishal Kumar



स्थल के चित्र

महेश चन्द्र काण्डपाल पुत्र श्री हरीश चन्द्र काण्डपाल—आवासीय भवन की बाहर तथा अन्दर की दीवारों पर अनवस्त दरारें हैं, कमरों के दरवाजे तिरछे हो गये हैं। परिवार अन्यत्र निवास कर रहा है। आंगन में बायी ओर हल्का धंसाव है। निरीक्षण के दौरान हेम चन्द्र काण्डपाल द्वारा अवगत कराया गया कि भवन लगभग 05 वर्ष पुराना है।



स्थल के चित्र

निरीक्षण के दौरान अवगत कराया गया कि आवासीय भवनों के पीछे ढालदार भूभाग के अपस्लोप से पानी भवनों की ओर प्रवाहित होता है एवं वर्षा में अत्यधिक मात्रा में पानी आता है। वर्तमान में भवनों के पीछे नाली है जिसमें पानी प्रवाहित हो रहा है तथा आवासीय भवनों के बायें किनारें पानी प्रवाहित है। भवनों के पीछे ढालदार भूभाग जल प्रवाह क्षेत्र प्रतीत होता है। स्थल से खनन क्षेत्र की दूरी लगभग 110 मी० है।

स्थल समुद्र तल से लगभग 1640 मीटर की ऊंचाई पर तथा निम्न अक्षांश व देशान्तर पर स्थित है:-

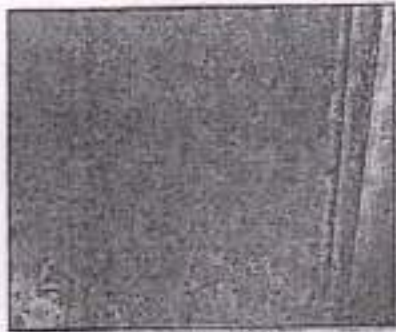
उत्तर 29° 49' 42.2" अक्षांश

पूर्व 79° 53' 31.3" देशान्तर



Vinay Kumar

स्थल 02—साधू राम पुत्र श्री विल राम—आवासीय भवन की बाहर व अन्दर की दीवार पर हल्की दरारें हैं जिनकी मरम्मत की गई है। आंगन के फर्श में बाहर दीवारीकी ओर दरारें हैं तथा हल्का धंसाव है। परिवार भवन में निवास कर रहा है। निरीक्षण के दौरान भवन स्वामी द्वारा अवगत कराया गया कि भवन लगभग 12 वर्ष पुराना है। शौचालय में हल्की दरारें हैं। अवगत कराया गया है कि 08/08/2024 को अतिवृष्टि से आंगन से लगभग 15 मी० की दूरी पर नीचे की ओर खेत धंस गये हैं, वर्तमान में यह पीछी तथा घास से ढका है। स्थल से खनन क्षेत्र की दूरी लगभग 30 मी० है।



स्थल के चित्र

स्थल समुद्र तल से लगभग 1630 मीटर की ऊंचाई पर तथा निम्न अक्षांस व देशान्तर पर स्थित है:-

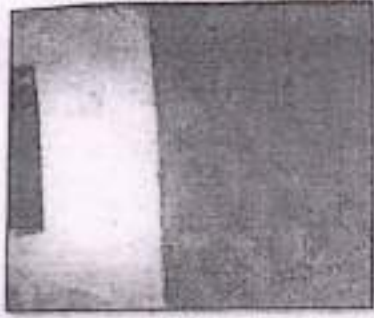
उत्तर 29° 49' 38.8" अक्षांस

पूरब 79° 53' 32.2" देशान्तर

स्थल 03—किशन राम पुत्र श्री दौलत राम, पूरन राम पुत्र श्री दौलत राम, प्रेम राम पुत्र श्री दौलत राम—आवासीय भवन की बाहर की दीवार पर हल्की दरार है। आंगन में हल्का धंसाव व हल्की दरार है। आंगन के बाये किनारे पर हल्का धंसाव हो रहा है। परिवार भवन में निवास कर रहे हैं। निरीक्षण के दौरान भवन स्वामी द्वारा अवगत कराया गया कि भवन लगभग 25-30 वर्ष पुराना है। भवन से लगभग 20 मी० की दूरी पर मोटर मार्ग है। स्थल से खनन क्षेत्र की दूरी लगभग 25-30 मी० है।



Signature



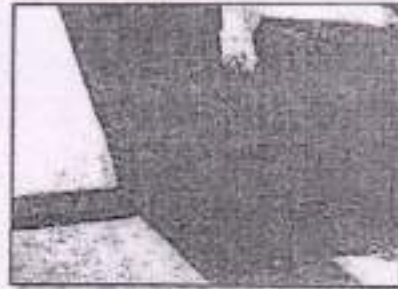
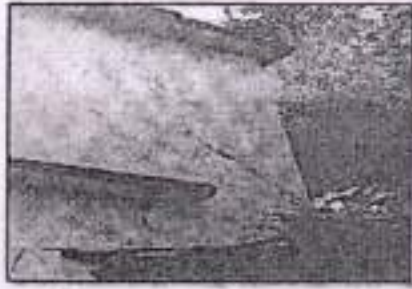
स्थल के चित्र

स्थल समुद्र तल से लगभग 1630 मीटर की ऊंचाई पर तथा निम्न अक्षांस व देशान्तर पर स्थित है—

उत्तर $29^{\circ} 49' 39.2''$ अक्षांस

पूरब $79^{\circ} 53' 32.4''$ देशान्तर

स्थल 04—हरीश राम पुत्र श्री कुंवर राम—आवासीय भवन के बाहर किनारे की दीवार पर हल्की दरार है। परिवार भवन में निवास कर रहा है। निरीक्षण के दौरान भवन स्वामी द्वारा अवगत कराया गया कि भवन लगभग 30 वर्ष पुराना है। स्थल से खनन क्षेत्र की दूरी लगभग 45 मी० है।



स्थल के चित्र

स्थल समुद्र तल से लगभग 1640 मीटर की ऊंचाई पर तथा निम्न अक्षांस व देशान्तर पर स्थित है—

उत्तर $29^{\circ} 49' 39.1''$ अक्षांस

पूरब $79^{\circ} 53' 31.2''$ देशान्तर

स्थल 05—दिनेश वर्मा पुत्र श्री गिरीश लाल वर्मा—निरीक्षण के दौरान भवन स्वामी द्वारा अवगत कराया गया कि भवन/दुकानके पीछे उत्तर-पूरब दिशा में लगभग 30 मी० की दूरी पर घंसाव हो रहा है, वर्तमान में यह क्षेत्र घास तथा पीपों से ढका है। स्थल से खनन क्षेत्र की दूरी लगभग 50-60 मी० उत्तर-पूरब दिशा में है।



Vim Gun



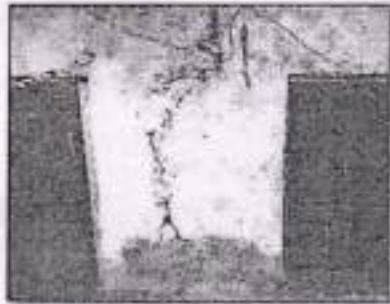
स्थल के चित्र

स्थल समुद्र तल से लगभग 1650 मीटर की ऊंचाई पर तथा निम्न अक्षांस व देशान्तर पर स्थित है:-

उत्तर $29^{\circ} 49' 32.6''$ अक्षांस

पूरब $79^{\circ} 53' 29.7''$ देशान्तर

स्थल 06-जोगा राम पुत्र श्री लछम राम-निरीक्षण के दौरान भवन स्वामी द्वारा अवगत कराया गया की भवन के अन्दर कमरे में दरार थी जिनकी मरम्मत की गई है। भवन के किचन में सीलन है। शौचालय में हल्की दरारें हैं। गीसाला की बाहर तथा अन्दर की दीवारों पर दरारें हैं। परिवार भवन में निवास कर रहा है। निरीक्षण के दौरान भवन स्वामी द्वारा अवगत कराया गया की भवन लगभग 12 वर्ष पुराना है। आवास से लगभग 20-25 मी० दूरी पर दक्षिण-पूरब दिशा में प्राकृतिक जल स्रोत तथा मोटर मार्ग है। अवगत कराया गया है कि जल स्रोत में वर्ष भर पानी रहता है। स्थल से खनन क्षेत्र की दूरी लगभग 50-60 मी० है।



स्थल के चित्र

स्थल समुद्र तल से लगभग 1630 मीटर की ऊंचाई पर तथा निम्न अक्षांस व देशान्तर पर स्थित है:-

उत्तर $29^{\circ} 49' 41.9''$ अक्षांस

पूरब $79^{\circ} 53' 33.3''$ देशान्तर

क्षेत्रीय एवं स्थानीय भूगर्भीय संरचना-

जनपद बागेश्वर का सम्पूर्ण क्षेत्र मुख्यतः सेरार हिमालय और मध्य हिमालय में अवस्थित घट्टानों की उत्पत्ति से निर्मित है। क्षेत्र में उत्पत्ति कई चक्रों में हुई विभिन्न टैक्टोनिक भूवर्तन के कारण क्षेत्र की भूवैज्ञानिक संरचना अत्यधिक जटिलता लिये हुए है। जनपद बागेश्वर में विभिन्न स्थानान्तर्गत Current Bedded Quartzite, Micatale Schist, Limestone, Conglomerate, Slate, Quartzite.



Vim Gaur

का उत्तरी भाग जो अधिकांशतः हिमाच्छादित है, कायान्तरित चट्टानों से निर्मित है जो कि मध्य हिमालय का भाग है। मध्य हिमालय जोन का सेन्द्रल क्रिस्टलाइन भाग धस्त की तरह प्रदर्शित है जो कि विभिन्न टेक्टोनिक सेटिंग अवधियों के दौरान लेसर हिमालय जोन की Metasedimentary-Sedimentary चट्टानों के ऊपर अवस्थित है। सेन्द्रल क्रिस्टलाइन जोन में मुख्यतः गिम्मेटाइट, माइका नाइस, कैंल्क नाइस, क्वार्ट्जाइट, मार्बल, माइका शिस्ट तथा एम्फीबोलाईट चट्टानें पायी जाती हैं। जनपद वागेश्वर का अधिकांश भाग Geotectonic Zone के अन्तर्गत आता है जिसे लेसर हिमालय कहा जाता है। लेसर हिमालय के अन्तर्गत मुख्यतः अचलादी शील, मेटा अवसादी शील, अन्तः संतरीय आग्नेय चट्टानों से निर्मित है। जहां भू-संरचनात्मक रूप से क्रमशः बेरीनाग एवं मुनस्यारी धस्त क्षेत्र के अन्तर्गत पूरव से पश्चिम दिशा में विस्तारित है।

पूर्व में भू-वैज्ञानिकों द्वारा किये गये भूगर्भीय अध्ययनों के अनुसार क्षेत्र का लिथोयूनिट निम्नवत् है-

अल्मोड़ा समूह	मुनस्यारी धस्त	मुनस्यारी फोरमेशन
जौनसार समूह	बेरीनाग धस्त	बेरीनाग फोरमेशन
तेजम समूह	गंगोलीहाट फोरमेशन	मन्वाली फोरमेशन
दामथा समूह		रोधगढ़ फोरमेशन

प्रश्नगत स्थल लघु हिमालय पर्वत श्रृंखला के विकसित सोपानों के मध्य तेजम समूह के देवबन गंगोलीहाट फोरमेशन, मन्वाली फोरमेशन के मध्य अवस्थित है। स्थल एवं आसपास का क्षेत्र मृदा के आवरण से ढका है। स्थल एवं स्थल के निकटवर्ती क्षेत्रों में सतह पर भूरे रंग की महीन एवं मोटे कणों वाली मृदा के साथ चट्टानों के छोटे कोणीय टुकड़ों के मिश्रण का आवरण है। प्रश्नगत स्थल डोलोमिटिक लाइमस्टोन, टॉल्क प्रकार की चट्टानों के अन्तर्गत आता है।

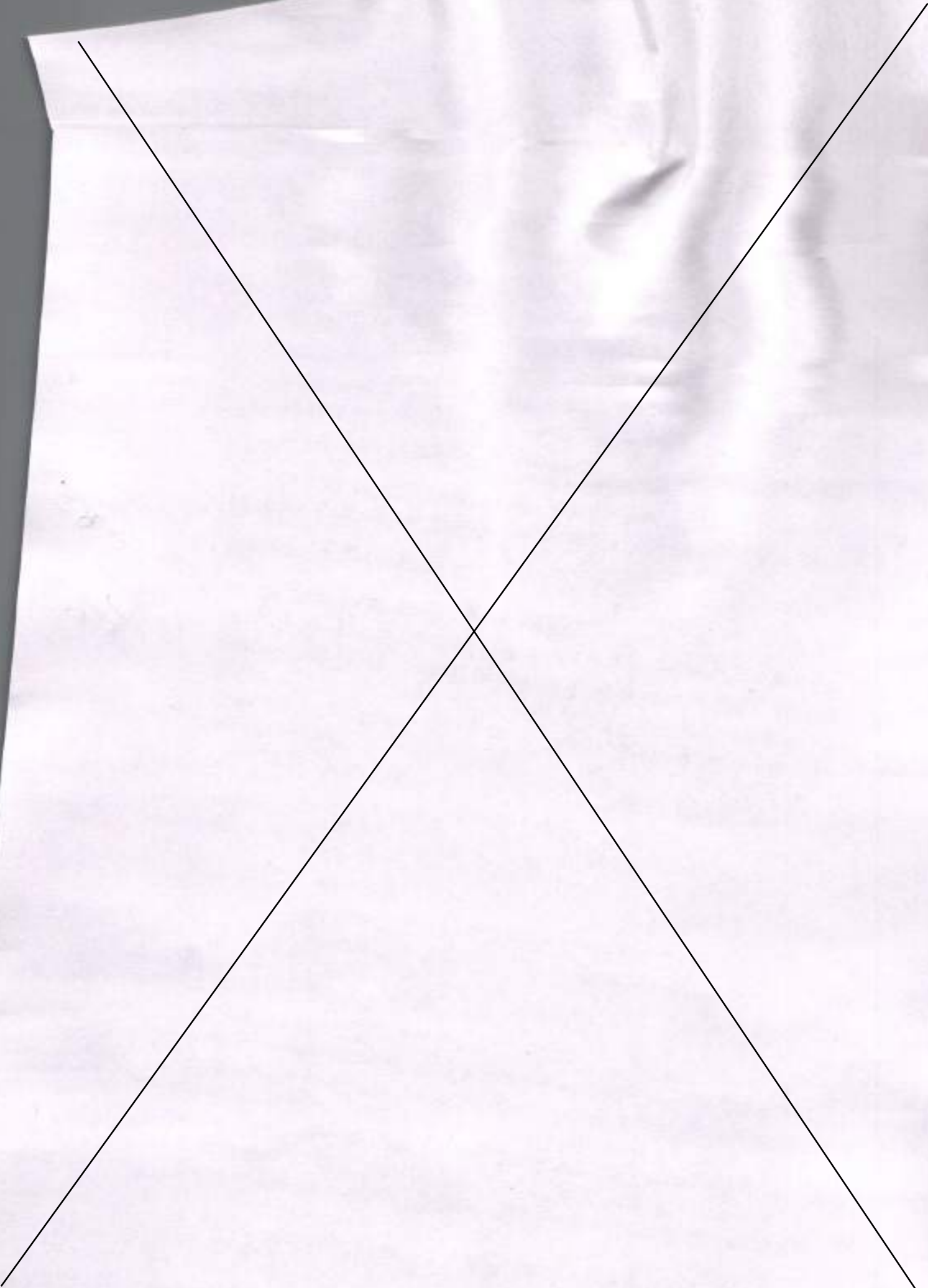
भूधसाव/दरारों के सम्भावित कारण-

प्रश्नगत स्थल काण्डा पड़ाव, ग्राम काण्डेकन्याल, तहसील काण्डा में निरीक्षण के समय पाये गये तथ्यों के अनुसार क्षेत्र में होने वाले भूधसाव/दरारों के सम्भावित कारण निम्नलिखित हैं-

1. भवनों के निर्माण में अभियान्त्रिकी/संरचनात्मक कमियाँ पायी गयी, जैसे- अधिकांश भवनों में बीम एवं कॉलम का अभाव आदि।
2. प्रश्नगत स्थलों के अन्तर्गत जल निकासी की पर्याप्त व्यवस्था नहीं पायी गयी। वर्षा जल तथा आवासीय भवनों में प्रयुक्त होने वाले जल को अनियन्त्रित रूप से प्रवाहित किया जा रहा है जो स्थल की भूसतह को जल संतृप्त कर कमजोर कर रहा है।
3. प्रश्नगत स्थलों के अन्तर्गत डोलोमाईट, लाईम स्टोन, टॉल्क प्रकृति की कमजोर चट्टानें अवलोकित की गयी हैं, जो जल के सम्पर्क में आकर शीघ्र अपक्षयित होती हैं।
4. प्रश्नगत स्थलों पर भूसतह पर स्वरथाने चट्टानें मृष्टिगोचर नहीं होती हैं।



Vimran

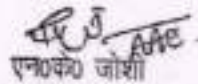


1. स्थल 01,02,03,04 पर स्थित आवासीय भवन के आँगन के नीचे सीढ़ीनुमा खेतों में निर्धारित स्तरों पर उपयुक्त रूप से डिजाईन की गयी सुरक्षा दीवार/गैबियन दीवार का निर्माण किया जाना होगा।
2. स्थल 05 पर स्थित भवन/दुकान के पीछे उत्तर-पूरव दिशा में उपयुक्त निर्धारित स्तरों पर उपयुक्त रूप से डिजाईन की गयी सुरक्षा दीवार/गैबियन दीवार का निर्माण किया जाना होगा।
3. भवनों की दरारों को उपयुक्त फिलिंग मटीरियल द्वारा भर कर मरम्मत की जानी होगी।
4. उपरोक्त प्रश्नगत स्थलों पर जल निकासी हेतु उचित व्यवस्था की जानी होगी।
5. उपरोक्त प्रश्नगत स्थलों पर भूस्खलन को रोकने वाली घास/पौधों का रोपड़ किया जाना होगा।

निष्कर्ष-

प्रश्नगत स्थलों को सुरक्षा प्रदान करने की दृष्टि से उपरोक्त सुझावों की पालना की जानी होगी अन्यथा प्रश्नगत स्थलों को भविष्य में खतरा उत्पन्न होने की संभावना से इंकार नहीं किया जा सकता है तथा स्थल 01 के 02 परिवारों, हेम चन्द्र काण्डपाल पुत्र श्री प्रयाग दत्त एवं महेश चन्द्र काण्डपाल पुत्र श्री हरीश चन्द्र काण्डपालको अन्यत्र सुरक्षित स्थान पर विस्थापित किया जाना सुरक्षा के दृष्टिकोण से उचितप्रतीत होगा।

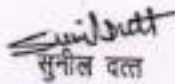
उक्त के अतिरिक्त अवगत कराना है कि श्री कुलदीप सिंह बिष्ट के पक्ष में स्वीकृत सोपस्टोन खनन पट्टा वर्तमान में असंचालित है।


अनंद जोशी

अपर सहायक अभियन्ता पी०एम०जी०एस०वाई०
बागेश्वर।


निरज कुमार

कनिष्ठ अभियन्ता
लो०नि०वि० बागेश्वर।


सुनील दत्त

सहायक भूवैज्ञानिक, भूतत्व एवं
खनिकर्म विभाग, जनपद बागेश्वर।

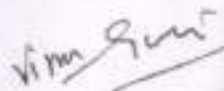

ज्योत्सना बिष्ट

प्रभारी जिला खान अधिकारी
भूतत्व एवं खनिकर्म विभाग,
जनपद बागेश्वर।


रितु गौस्वामी

तहसीलदार काण्डा।




विनाय कुमार

NOTE ON PRELIMINARY ASSESSMENT OF GROUND SUBSIDENCE SITUATION
IN BAGESHWAR DISTRICT, UTTARAKHAND

By

Yogendra Singh, Sr. Geologist and Tahir Mushtaq, Sr. Geologist

Geological Survey of India, SU: Uttarakhand, Dehradun

In pursuance to the office order no. D-26013/2/93/COS from the Geological Survey of India, State Unit: Uttarakhand, Dehradun, a team comprised of Yogendra Singh, Sr. Geologist and Tahir Mushtaq, Sr. Geologist visited the Bageshwar District for preliminary assessment of ground subsidence affected villages as reported by the Press Information Bureau on 05.09.2024. The GSI team made site visit to affected villages from 12th to 14th September, 2024. Prior to site visit GSI team had discussions with the District Magistrate and the District Disaster Management officials on 12/09/2024. The district administration informed that the rehabilitation cases for reported eleven villages are not recent ones and provided a list of the affected villages, as shown in Table I. The location of these villages over geological map of Bahgeshwar district is shown in Fig. 1.

Table I: Table showing the list of villages and number of houses rehabilitated or are in progress.

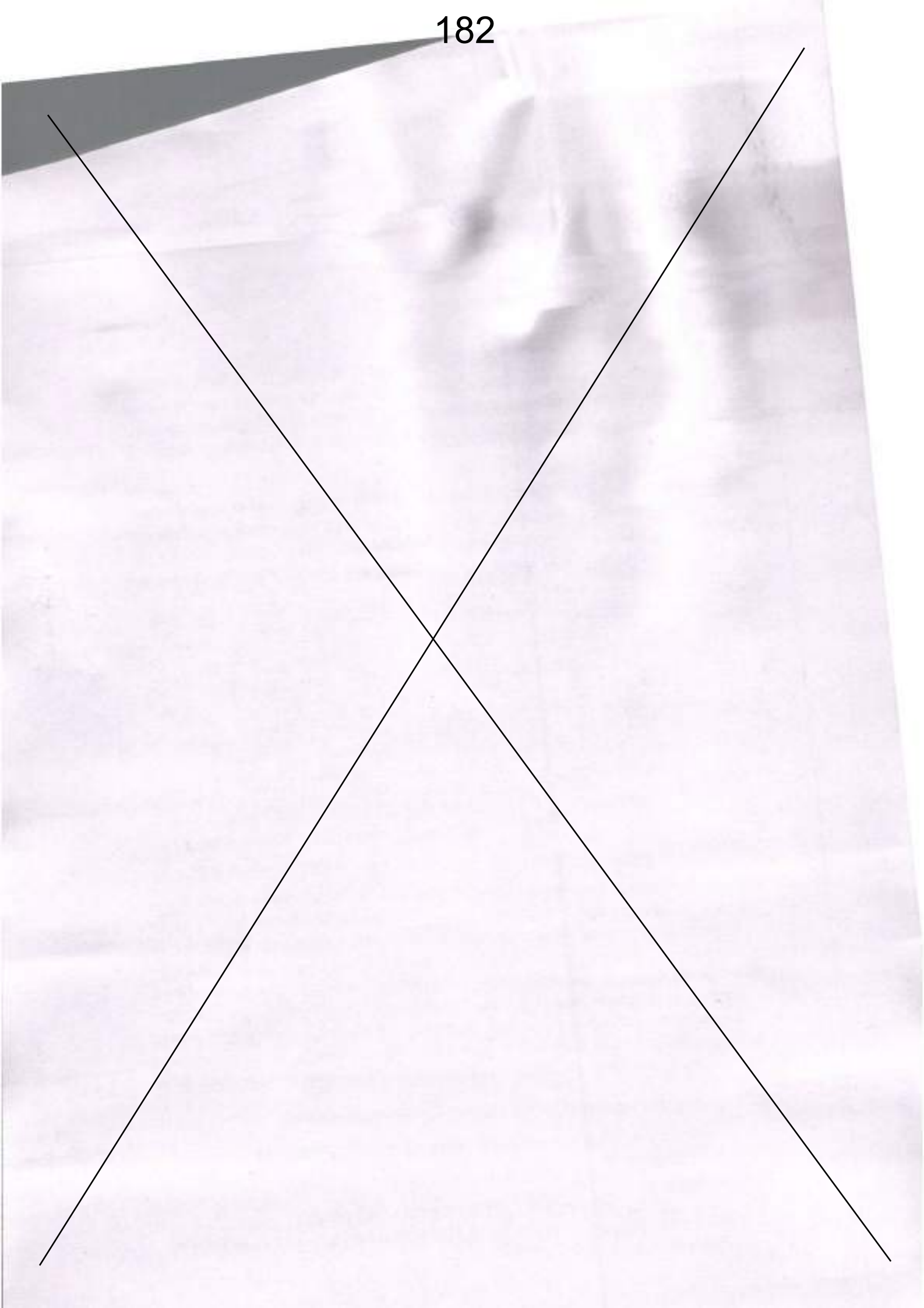
No	Tehsil	Village	Latitude	Longitude	Number of families	Year of rehabilitation	Status of rehabilitation
1.	Kapkot	Badeth	N29°59'30"	E79°55'51"	12	2017	Completed
2.		Doarh	N30°12'23"	E79°53'17"	12	2013	Under progress
3.		Kuwari	N30°05'09"	E79°47'51"	11	2013	Completed
4.		Phullai	N29°55'35"	E79°54'20"	03	2017	Completed
5.		Malladesh	N29°57'19"	E79°57'12"	04	2017	Completed
6.		Badiyskot	N30°06'46"	E79°50'17"	07	2017	In progress
7.		Naikuri	N29°59'29.6"	E80°00'33.5"	01	2017	Completed
8.		Karmi	N30°02'51"	E79°53'23"	06	2022	Under progress
9.	Kanda	Seri	N29°51'25.7"	E79°57'26.3"	08	2017	Under progress
10.		Simgarhi	--	--	02	2017	Completed
11.	Gorur	Jakh	N29°55'08.9"	E79°43'56.9"	02	2018	Completed

As it is clear from the Table-I that the rehabilitation cases of individual villages dates back up to 2013, it was necessary to prioritise the villages, where recent ground cracks have been developed or need immediate attention for geological survey by GSI. In view of this, the team met with local administration at tehsil level to find out the priority villages and the detailed description is as follows.

1. **Kanda Tehsil:** The team met with Sh. Anurag Aarya, SDM, Kanda Tehsil on 12/09/2024 and discussed about the ground situation of Seri and Simgarhi Villages under the jurisdiction of Kanda Tehsil. In this meeting, it was informed that ground crack have not been reported from Simgarhi village and the rehabilitation of two houses have been already done and there is no need for geological survey at present. The team was requested to visit Seri and Kanda Kaniyal village as



Vinay Kumar



new cases of house cracks have been reported from these two villages of Kanda Tehsil. The preliminary assessment of these individual villages is discussed below:

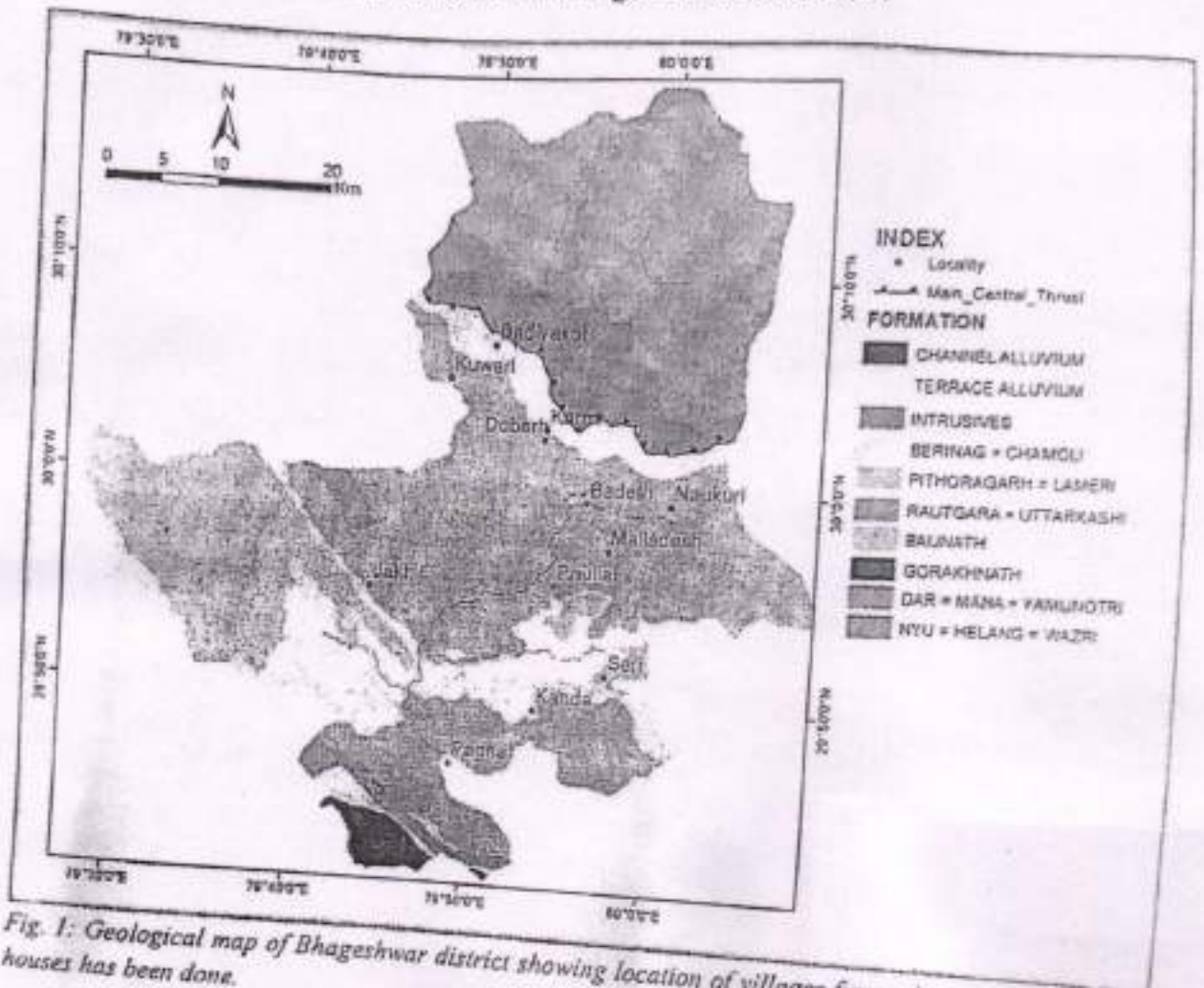


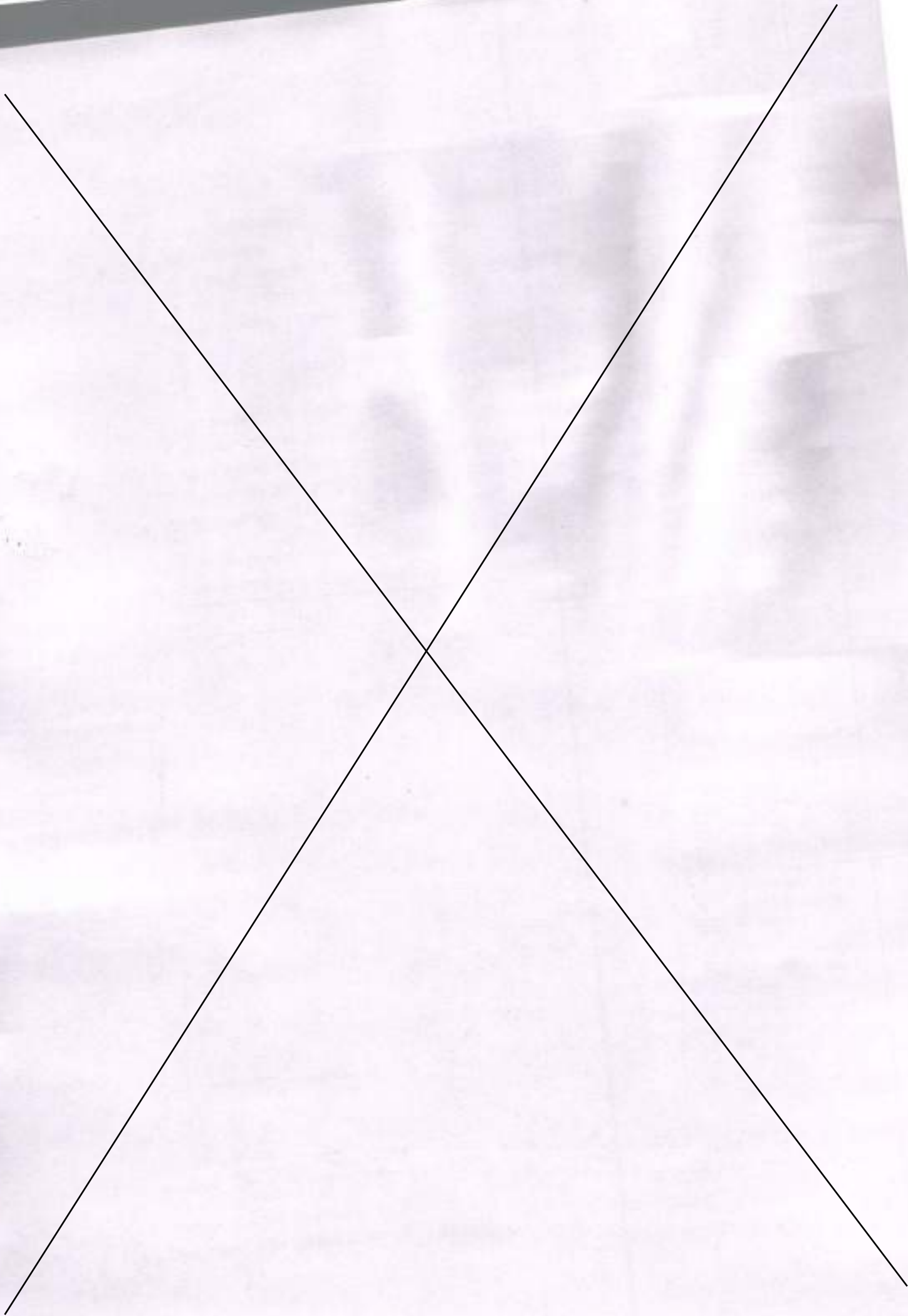
Fig. 1: Geological map of Bhageshwar district showing location of villages from where rehabilitation of houses has been done.

a) **Kanda Kanlyal Village:** The GSI team, accompanied by Sh. Anurag Arya, SDM, Smt. Ritu Goswami, Naib Tehsildar, and other local authorities, visited Kanda Kanlyal village. The Tehsil administration prioritized the investigation of cracks in two residential houses and the Kalika Temple. The location of these investigated sites in Kanda Kanlyal village is shown in Fig. 2. The observations and suggestions for individual site are discussed below:

House-1: During the field inspection, multiple cracks were observed in the walls and floor of the house (Fig. 3) at coordinates N 29°49'42.01", E 79°53'31.48" but no ground crack were found. (The house is located in a natural depression, with water seepage observed about 30 meters upslope. The development of cracks is mainly due to its location, which acts as a conduit for subsurface water, as indicated by seasonal springs and seepage.) Although a channel was built to manage the seepage, its lining is damaged, causing water to flow underneath the house. This water movement saturates the slope material beneath,

Vim Gaur





gradually leading to ground settlement. While the house is situated in an unsuitable area, the primary cause of cracks in the house is due to gradual piping action (removal of fines) controlled by water seepage. The suitable remedial measures are given under conclusion and recommendations heading.

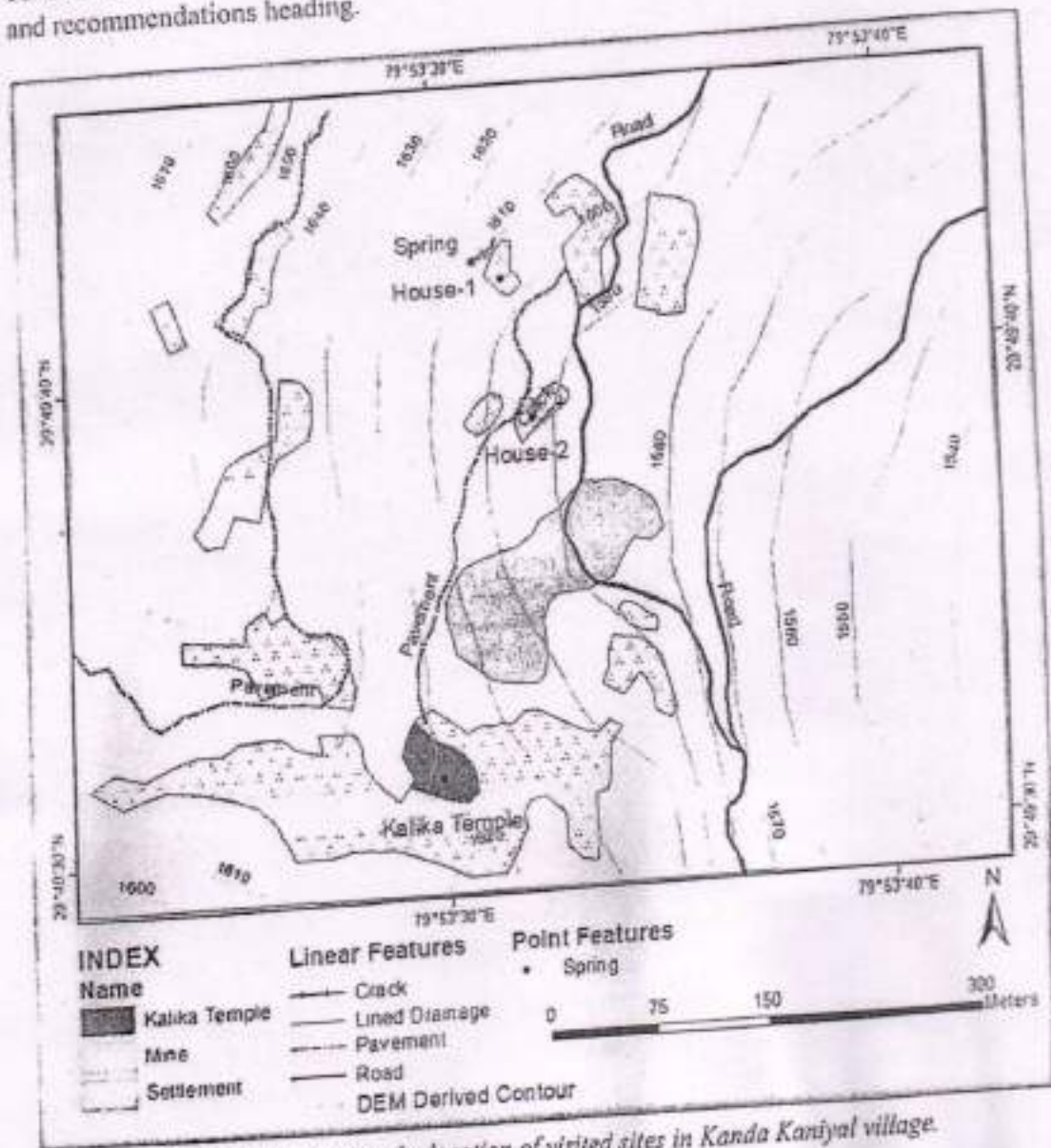


Fig. 2: Map showing the location of visited sites in Kanda Kaniyal village.

House-2: During the field inspection, a linear crack was observed near the outer boundary of the house porch at coordinates N 29°49'38.79", E 79°53'32.04" (Fig. 4). No cracks were found in the walls or ceiling of the house. The cracks at the outer edge of the porch are likely due to the defacing of a steep bench created downslope. The concrete slab is not provided with any reinforcement and it is usual to develop such cracks in outer part. These cracks are not related to the open cast mine soapstone mine, which is situated about 70 meters south of the house.



Vinay Kumar

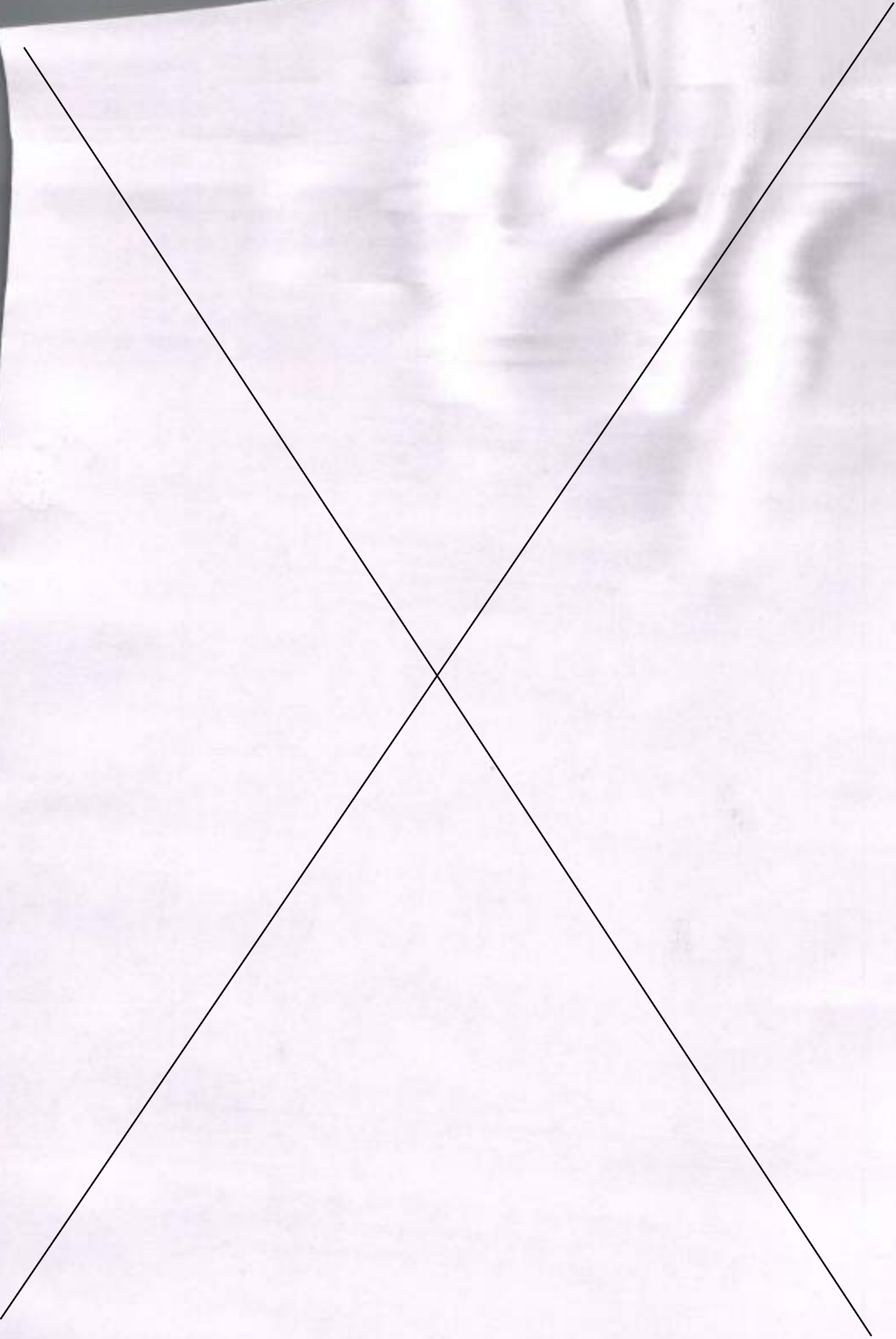




Fig. 3: Field photograph showing cracks in House-1 of Kanda Kaniyal Village.

Fig. 4: Field photograph showing cracks in the porch of House-2 of Kanda Kaniyal Village.

Kalika Temple: The temple is located at coordinates N 29°49'31.72", E 79°53'29.53" on a small ridge trending NW-SE, approximately 40 meters southwest of the open-cast mine. A curvilinear minor crack was observed on the floor of temple complex, measuring 2m x 5mm in width and extending 2-3 meters in length. The steep cutting for road construction has been observed just below the floor where cracks are developed. These cracks in floor of temple prima facie appear to result from defacing of slope. However, several cracks have been reported in two houses situated on the slope below the temple complex. The cracking patterns on the northern slope of the temple and the houses below are similar oriented in a NW-SE direction with the open face toward the NE. These cracks prima facie appear to result from defacing of slope but the role of open cast soapstone mine cannot be simply denied as the timeline of cracks with reference to mine development can put pressure in light on the issue. At present, the excavated part has been backfilled with waste material due to which the steepness of the excavated slope could not be observed.

- b) **Seri village:** The GSI team, accompanied by Smt. Ritu Goswami, Naib Tehsildar, and other local authorities, visited Seri village. The team examined six damaged houses, some of which had been rehabilitated in 2016-17 and 2019-20, with new cracks appearing in two of them. Additionally, several seepages, paleo subsidence scars, and sinkhole locations reported by local villagers were also noted down. The field photograph of one of the damaged houses are shown in Fig. 5. The residents of this house have been rehabilitated by the administration.

Analysis of Google Earth imagery indicates that Seri village is situated on a cone-shaped paleo slide material, sloping to the west (Fig. 6). This material is deposited over Augan Gneiss from the Proterozoic Baijnath Formation. The overburden is unsorted and contains large granite gneiss boulders embedded in a fine-grained matrix. The northern edge of the cone is defined by an unlined first-order nala fed by a spring located upslope to the east.

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(Fig. 6). According to a 1963 SOI toposheet, this nala used to merge with another first-order nala, but they no longer connect, and the springs have appeared.

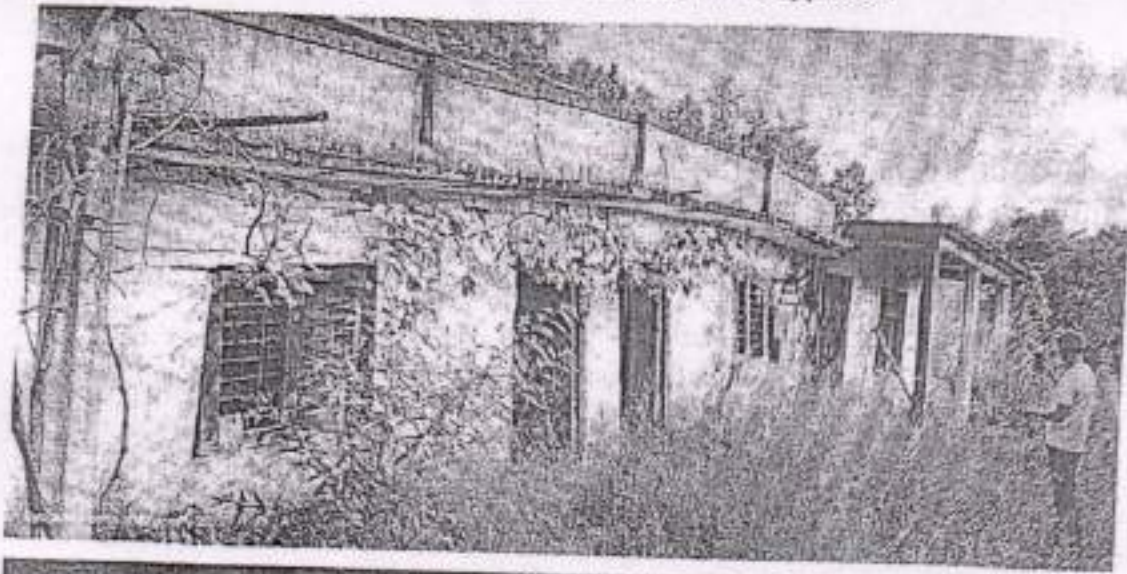


Fig. 5: Severely damaged house with inside photograph from Seri village.

Over time, new springs have formed, feeding the cone's crown and causing water to seep down its slopes (Fig. 6). This subsurface water percolation through the overburden material washes away finer particles, leading to sinkholes near the crown and subsidence in the mid-section. The spring-fed nala has also contributed to the slow undercutting of the slide material, causing instability along its flank, evident from the tilted trees.

Multi-temporal Google Earth Imagery shows that houses previously built near the crown, periphery, and toe of the paleo slide were repeatedly constructed but could not withstand the ground instability. The majority of rehabilitated houses were also in these areas as evident from the comparison of houses in 2009 and houses present today (Fig. 6). Recently, cracks have started to appear in homes located in the middle part of the village. Numerous



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paleo-subsidence and landslide scars have been observed in the lower agricultural lands below the village, with villagers reporting similar subsidence issues there. The imagery also indicates the emergence of circular depressions in the agricultural fields.

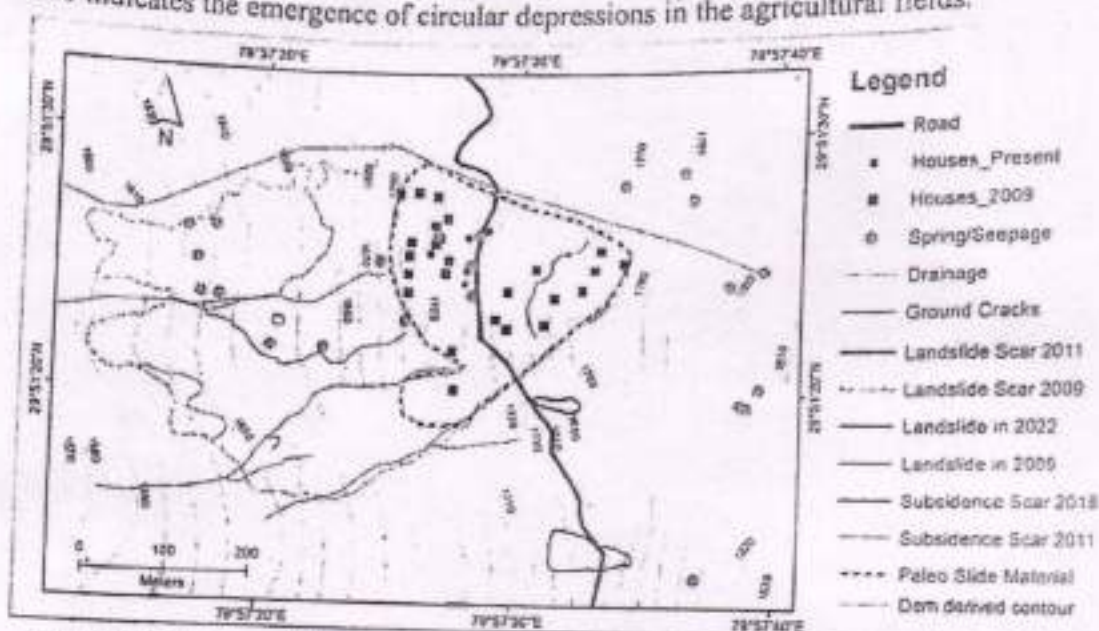


Fig. 6: Map showing different ground deformation and hydrological features of Seri Village.

2. Kapkot Tehsil: Kapkot Tehsil is one of the most severely affected areas in Bageshwar District, where a total of fifty-six families have been impacted by cracks in their homes under various conditions. The District Administration has facilitated their timely relocation to safer areas, taking into account geological studies and recommendations from the Department of Geology and Mining, Uttarakhand. These studies assessed cracks in houses and identified suitable rehabilitation sites for eight villages: Kuwari, Naukuri, Badeth, Malladesh, Phullai, Dobarh, Badiyakot, and Karmi, as indicated on SOI Toposheet nos. 53N/16, 53O/09, and 53C/01. Currently, rehabilitation has been completed for thirty-one families in five villages Kuwari, Naukuri, Badeth, Malladesh, and Phullai while efforts for twenty-five families in three villages Dobarh, Badiyakot, and Karmi are ongoing. According to the administration, there are no recent or old ground cracks in these villages and the rehabilitation was based solely on the observed cracks in the houses. Details regarding these villages, including their locations, number of families affected, year of rehabilitation, and current rehabilitation status, are provided in Table 1. Since there are no recent ground cracks, the administration did not require a site visit for further geological investigation by GSI but a brief discussions cum Bhumisamvad was held at Tehsil office on 12/09/2024 and 15/09/2024. In this discussion SDM along with Naib Tehsildar and Patwari of different villages participated. The aim of this discussion was to aware the administration about how to access and use of National Landslide Susceptibility Map (NLSM) map of GSI. The discussion was also aimed to emphasize about the ground conditions in which GSI should be contacted for assessment of ground situation.

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Vinay Kumar

3. **Garur Tehsil:** The Garur Tehsil is located in the west of Bageshwar district and two houses have been rehabilitated from Jakh village of Garur Tehsil. To understand the ground condition of Jakh village, the GSI team visited the Garur Tehsil office on 13/09/2024 and met with Smt Nisha Rani, Tehsildar, Garur. She apprised about the problem of rehabilitation of two houses in Jakh village and informed that the problem was related to breaking of water pipeline and these are no recent ground cracks in the village but apprehend to visit the site for confirmation. In view of this the team visited Jakh village on 14/09/2024 and the observation are as follows:
The area falls under,

a) **Jakh village:** The Jakh village falls in SOI Toposheet no. 530/09, with the rehabilitated homes situated at coordinates N 29°55'8.01", E 79°43'56.59". During the field visit, GSI team was accompanied by Sh. Yuvraj Goswami, Revenue Sub Inspector. He informed that an issue began in September 2020 when a water pipeline above the homes of Sh. Rajendar Singh and Surinder Singh (Narain Singh's son) ruptured in night on a rainy day. This led to a sudden flow of water that saturated the slope, causing cracks to develop in the north side of the above mentioned houses. The location of houses and water pipeline are shown in Fig. 7.

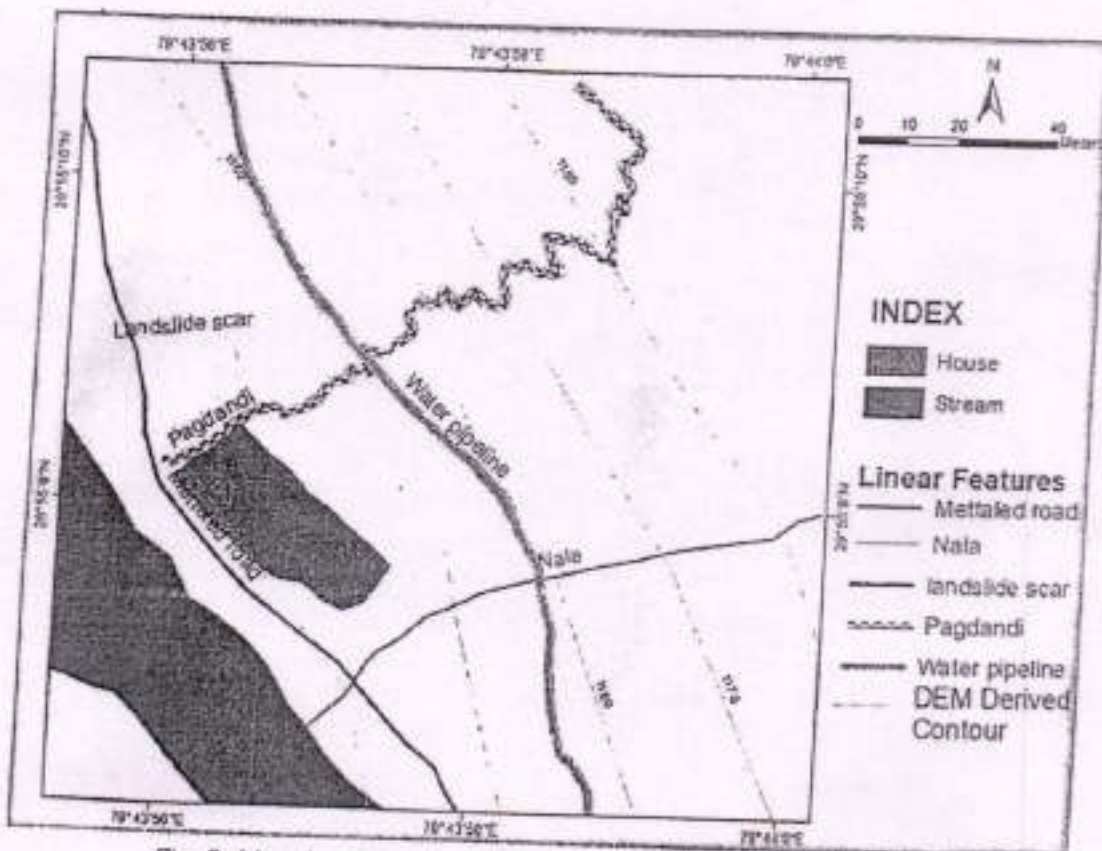


Fig. 7: Map showing ground features of affected area in Jakh village.

The presence of an old landslide scar located north of the rehabilitated homes was observed during field visit with the slope material consists of calcrete. The study of Google Earth



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Imagery revealed that a landslide was triggered in 2012 during road construction. As per the information from local people a gabion wall was installed for support to this landslide. However, the 2020 water surge reactivated the landslide, increasing the risk of calccrete boulders rolling down and threatening the safety of residents. To mitigate this risk, the administration relocated the affected families to a safer location. The old scars of ground cracks were observed in agricultural land present above the landslide scar indicating its retrogressive nature.

4. **Pagna-Sakteshwar Road Subsidence:** A meeting was conducted with Shri Ashish Kumar Bhatgain, the District Magistrate of Bageshwar, to discuss the observations made by the GSI team in various localities. During this meeting, he highlighted significant subsidence that occurred on the Pagna-Sakteshwar road on September 13, 2024. In response, the GSI team, accompanied by Sh. Bijendra Singh Mehra, Assistant Engineer from PWD, Bageshwar, visited the site of the road subsidence at coordinates N 29°46'54.91", E 79°48'58.45". This subsidence disrupted the connection between Sakteshwar and Bageshwar, and the Pagna-Sakteshwar road has experienced step-like subsidence at the specified location (see Fig. 8). Ground features in and around the subsidence area are depicted in Fig. 8.

The road subsidence caused due to landslide measures approximately 90 meters in length. 60 meters in width, and 4 meters in depth, with a downslope movement of 1 to 2 meters. A soapstone mine is located just beneath the subsidence area (see Fig. 8). The landslide was triggered by the removal of toe support for soapstone extraction. The failed material consists mainly of weathered soapstone-bearing rock and overburden, categorizing it as a shallow translational failure. The landslide may continue to retrogress until it reaches the overlying competent bedrock, which is dolomitic limestone. A 42-geoparametric data sheet can be found in Annexure-1.

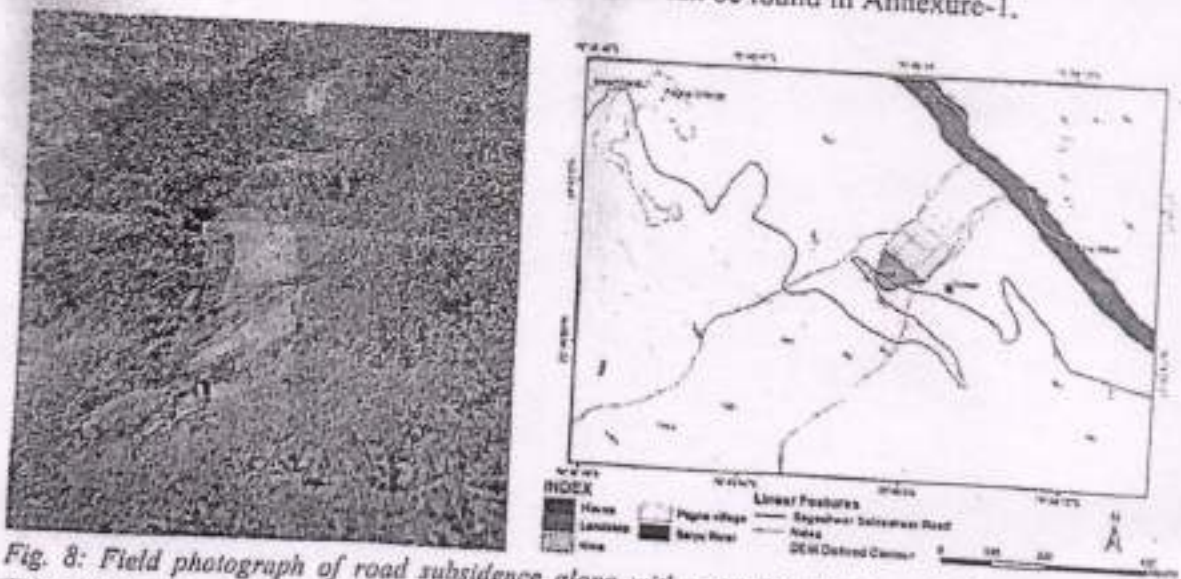


Fig. 8: Field photograph of road subsidence along with map showing ground features of Pagna-Sakteshwar road subsidence location.

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Conclusion and Recommendations: The preliminary assessment of ground subsidence in Bageshwar District suggest that many interventions date back several years, highlighting the necessity to prioritize locations with recent subsidence issues, if any. Key findings underscore the varying causes of ground instability, including water seepage, erosion, and mining activities, necessitating tailored recommendations for each site.

1. **Kanda Kaniyal Village:** The House-1 is located in a natural depression and a seasonal spring/seepage is present behind the house. It is recommended to provide a deep lined trench with weep holes to the upslope of the house to collect and divert the subsurface water and establish proper drainage to direct the water downslope. This solution may address the current issue, but given the house's location in a natural depression, surface water flow during heavy rains could still pose a risk. The cracks at the outer edge of the porch in House-2 can be mitigated by constructing a retention wall with weep holes to support the steep face of the bench, if required. The cracks in Kalika Temple prima facies appear to result from defacing of slope but the role of open cast soapstone mine cannot be denied. Therefore, it is recommended to collect photos and videos before backfilling of the mine to better understand its impact on the destabilization of areas present upslope to these mines.
2. **Seri village:** The ground subsidence problem in Seri village primarily stems from the free flow of spring water at the crown of the paleo slide and erosion along the nala flank. Based on these preliminary findings, it is recommended to establish controlled drainage for the spring water originated upslope of Seri village and to line the nalas on the northern and southern side of Seri village. The detailed study of the village will be helpful in developing a proper slope management plan.
3. **Jakh Village:** The landslide present on the road section is retrogressive in nature as suggested by ground cracks in the agricultural land. In view of this, it is recommended to place a retaining wall with weep holes instead of gabion wall at the toe of the landslide to mitigate the risk in future.
4. **Pagna-Sakteshwar Road Subsidence:** Geological assessments indicates that mining activities in the downslope of the affected area have already compromised the natural stability of the material. Currently, the excavated area of the mine has been backfilled, making it difficult to assess changes in the natural slope profile. As a result, it is recommended to document the excavated slope through photos and videos before backfilling in the future. This documentation will provide valuable information on the potential impact on the stability of upslope areas if any ground instability issues arise. Restoring the natural stability of the material appears unlikely, as engineering solutions may not economically prevent the already triggered landslide, especially considering that the bedrock beneath is soft soapstone. The landslide is expected to retrograde uphill, and it is suggested that the recently constructed house near the crown of the landslide be



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relocated. A detailed study is also recommended to evaluate the area's suitability for restoring the existing road.

Addressing these recommendations across different locations is essential to mitigate risks, enhance community safety, and prevent future damage. Prompt action will not only protect existing structures but also inform future planning and development in subsidence-prone areas. The collaboration between geological experts and local administration is crucial to ensure the effective implementation of these measures.

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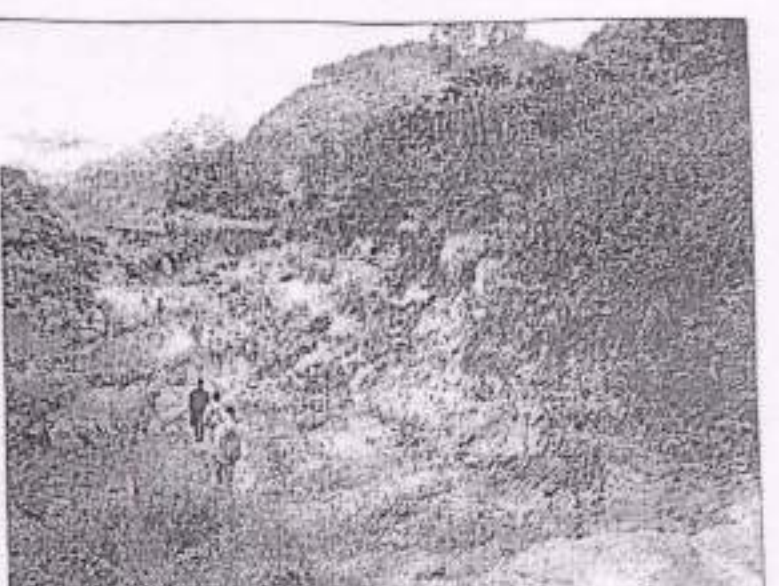

Vishu Kumar

Annexure-1

No	Field	Description
1	Slide No	01
2	State	Uttarakhand
3	District	Bageshwar
4	Toposheet	53013
5	Name of the slide	Pagna Landslide
6	NH/SH/Locality	Bageshwar-Pagna-Sakteshwar road
7	Latitude	29° 46' 54.91"
8	Longitude	79° 48' 58.45"
9	Length	90 m
10	Width	60 m
11	Height	65 m
12	Area	5400 sq. m
13	Depth	4 m
14	Volume	21600 cube m
15	Run Out Distance	NIL
16	Type of material	Soil
17	Type of movement	Slide
18	Rate of movement	Rapid
19	Activity	Active
20	Distribution	Confined
21	Style	Single
22	Failure mechanism	Shallow planer failure
23	History	13.09.2024
24	Geomorphology	Valley
25	Geology	Dolomitic limestone.
26	Structure	S0//S1: Variable due to fold closure , S2: 030/75SE
27	Landuse/ landcover	Mine (Open cast soapstone mine)
28	Hydrological condition	Damp
29	Triggering factor	Rainfall
30	Death of person	NIL
31	People affected	NIL
32	Livestock loss	NIL
33	Communication	Bageshwar-Pagna-Sakteshwar road
34	Infrastructure	NIL
35	Agriculture/Forest/Barren	Agricultural land on lease for mining of soapstone.
36	Geo-scientific causes	Removal of toe support during excavation for soapstone.
37	Remedial measures	Rehabilitation of newly constructed house along with detailed study is recommended for restoring the existing road.
38	Remarks	



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39	Photos/ Sketches/Sections	
		
40	Summary/Abstract	
41	PDF	
42	Landslide category	II

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This affidavit is sworn before me by
Shri. Vipin Gupta
who is identified by Shri. Ram Singh Negi
at Dehradun on 09/12/2024

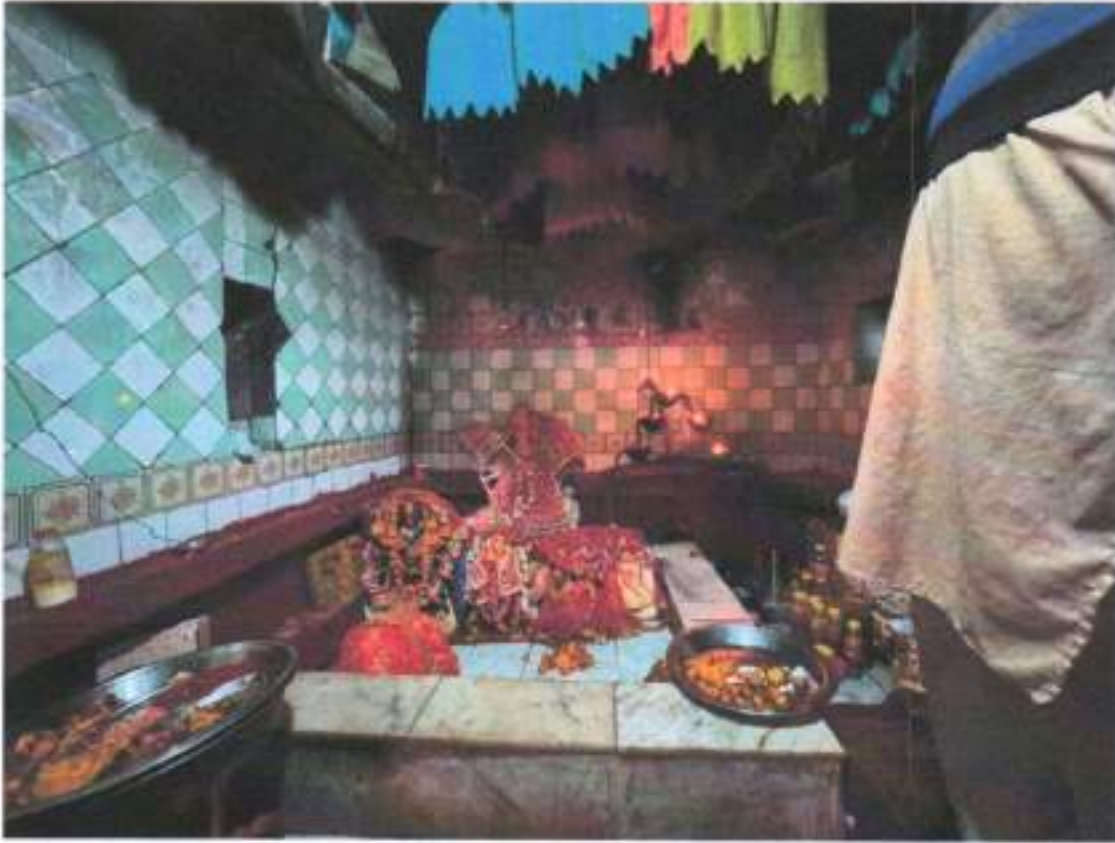


(Rajender Singh Negi)
Advocate & Notary, Dehradun

Vipin Gupta

ANNEXURE CCR-2 (COLLY)

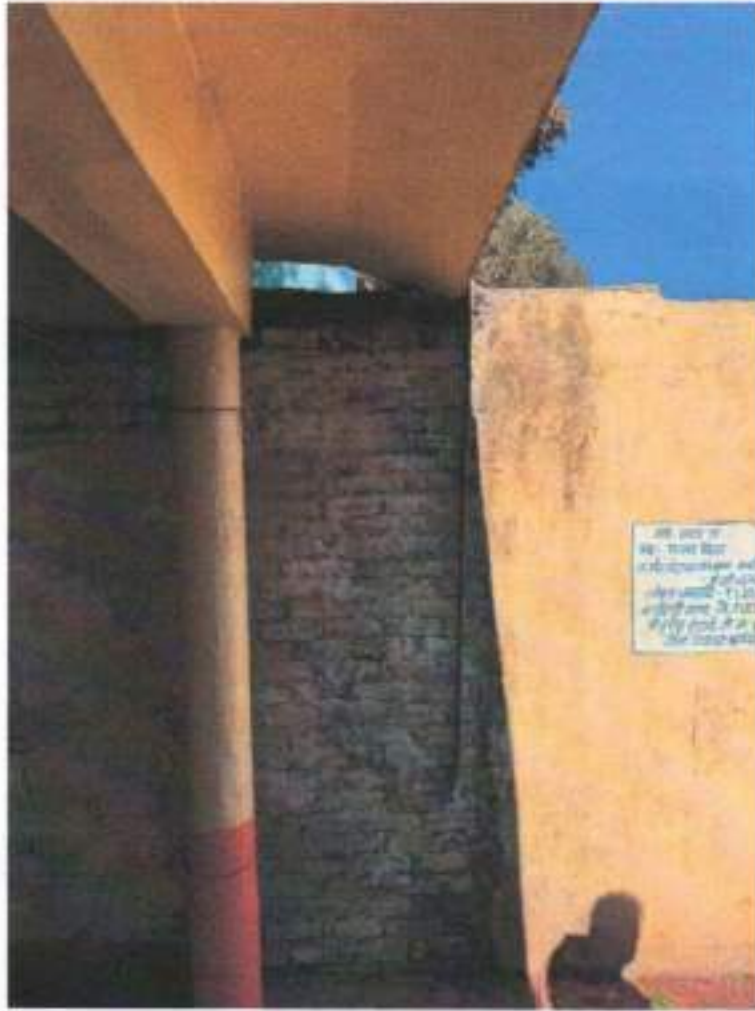
Still images showing signs of distress in the houses, agricultural fields and temple.



Sanctum of the temple is tilting towards left (UP)
Lateral Cracks on the Floor around Temple (DOWN)



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Land subsidence has led to the sinking of roof which is now resting on the wall. (UP)
Cracks on the Floor (DOWN)



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Cracks in Agricultural Fields



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Cracks in Agricultural Fields



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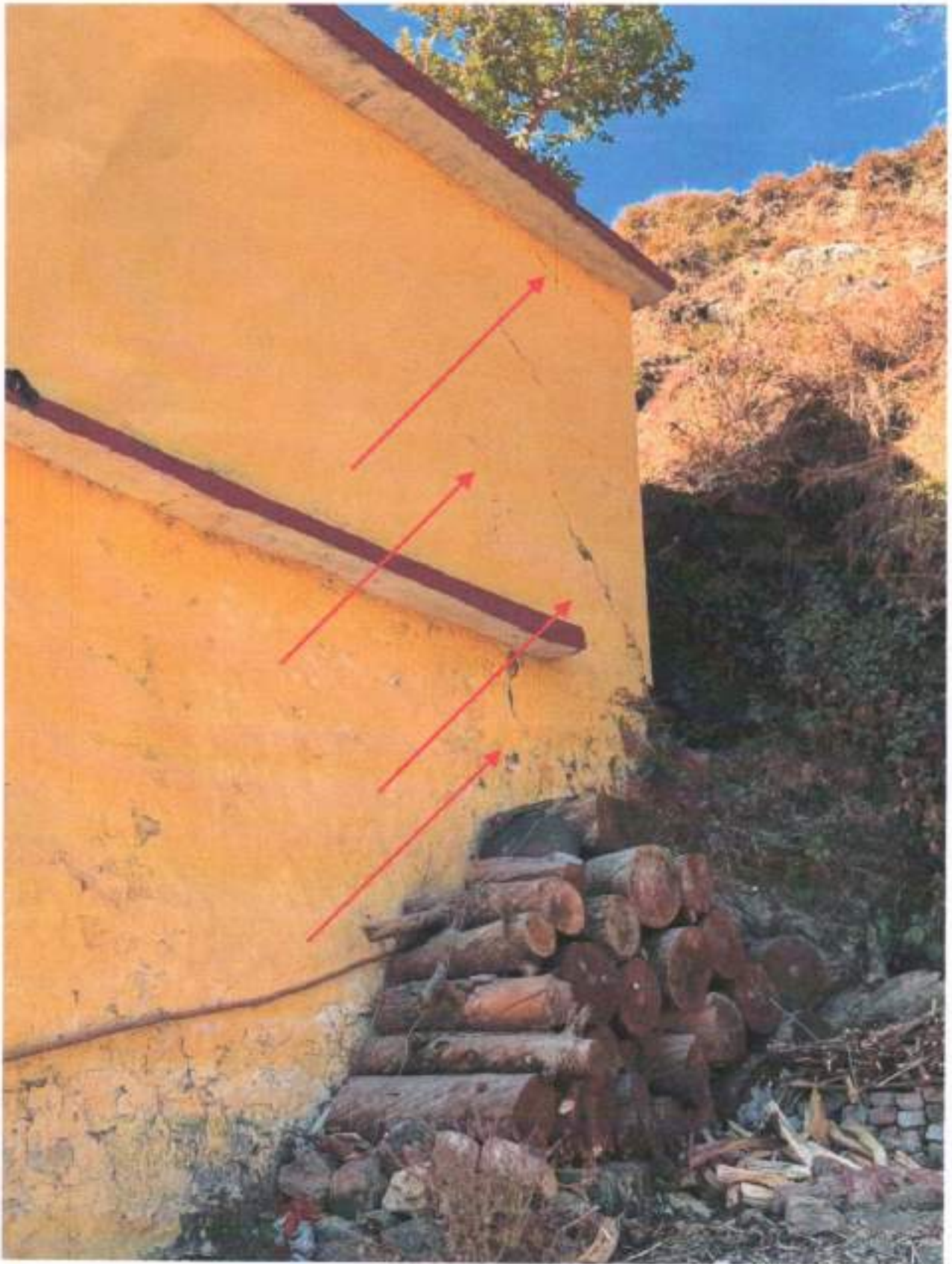
Collapsed footpath in Village Kande Kanyal



Cracked Floor in front of House in Village Kande Kanyal (UP)
Cracked Staircase from Lintel Slab of House in Village Kande Kanyal (DOWN)



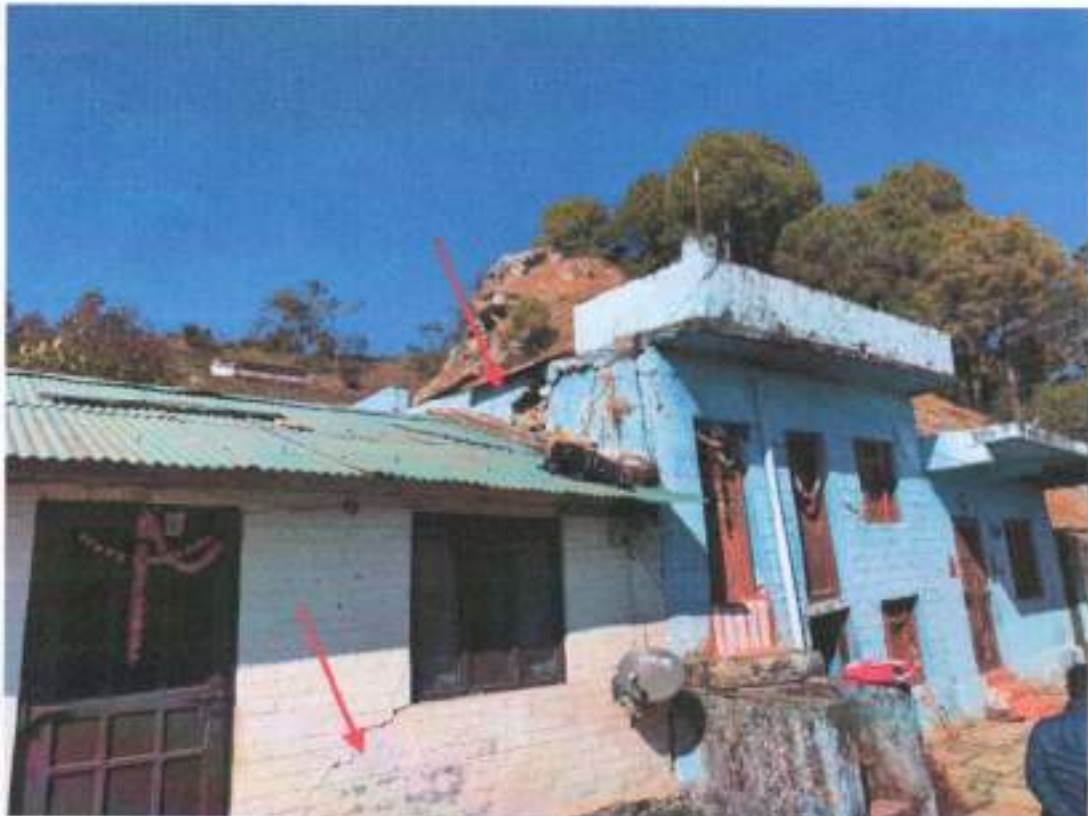
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Lateral Cracks appearing in a House in Village Kande Kanyal
These Houses are tilting towards front due to land subsidence due to the mining activities carried out on the downward slope of the hill.

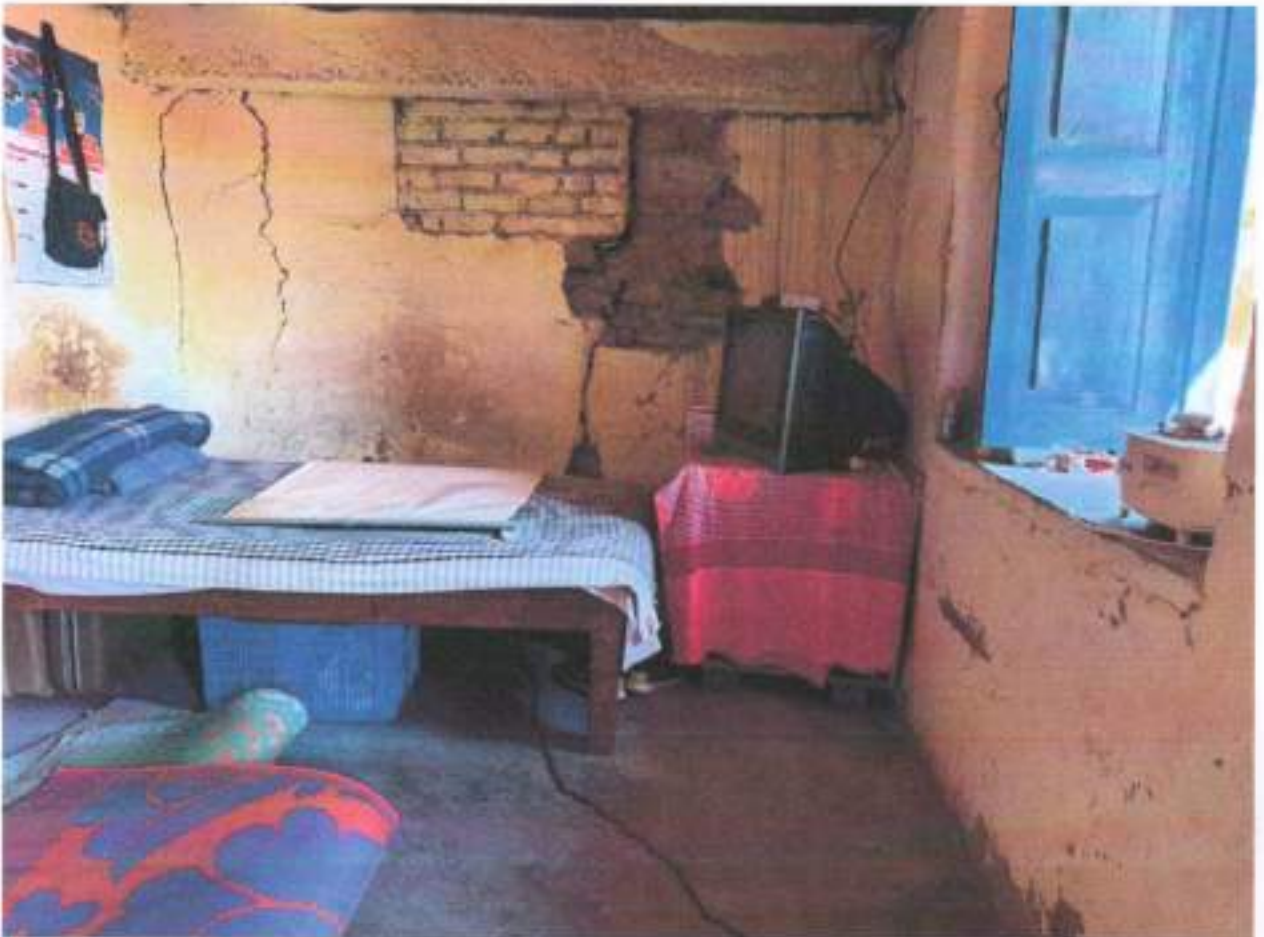


Lateral Cracks appearing in a House in Village Kande Kanyal
 These Houses are tilting towards front due to land subsidence due to the
 mining activities carried out on the downward slope of the hill.





**Cracked and Exposed roof of Bakhli
Cracked Walled and Floor of the Bakhli**



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**Settling of Front Porch of the Bakhli of Sri. Kandpal
Failure of Beam/Lintel**



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ANNEXURE CCR-3 (COLLY)

Still images of various mining sites with non-existent Green Belts and Retaining Walls



Mine operated by N.S. Corporation (Surkali, Reema)



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Absence of Retaining wall & green belts
Mine in front of Nandita Tiwari's Mine (UP)
Abandoned Mine in Village Kande Kanyal (DOWN)



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ANNEXURE CCR-4 (COLLY)

still images of various mining sites with visually vertical pit slopes and non-adherence to the norms.



Mine at Village Bang Dungariya Across the Bageshwar Dofar Dharamghar Road
Clicked from

29° 51' 58.428" N 79° 49' 4.83" E



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Mine at Village Kunara Across the Bageshwar Dofar Dharamghar Road

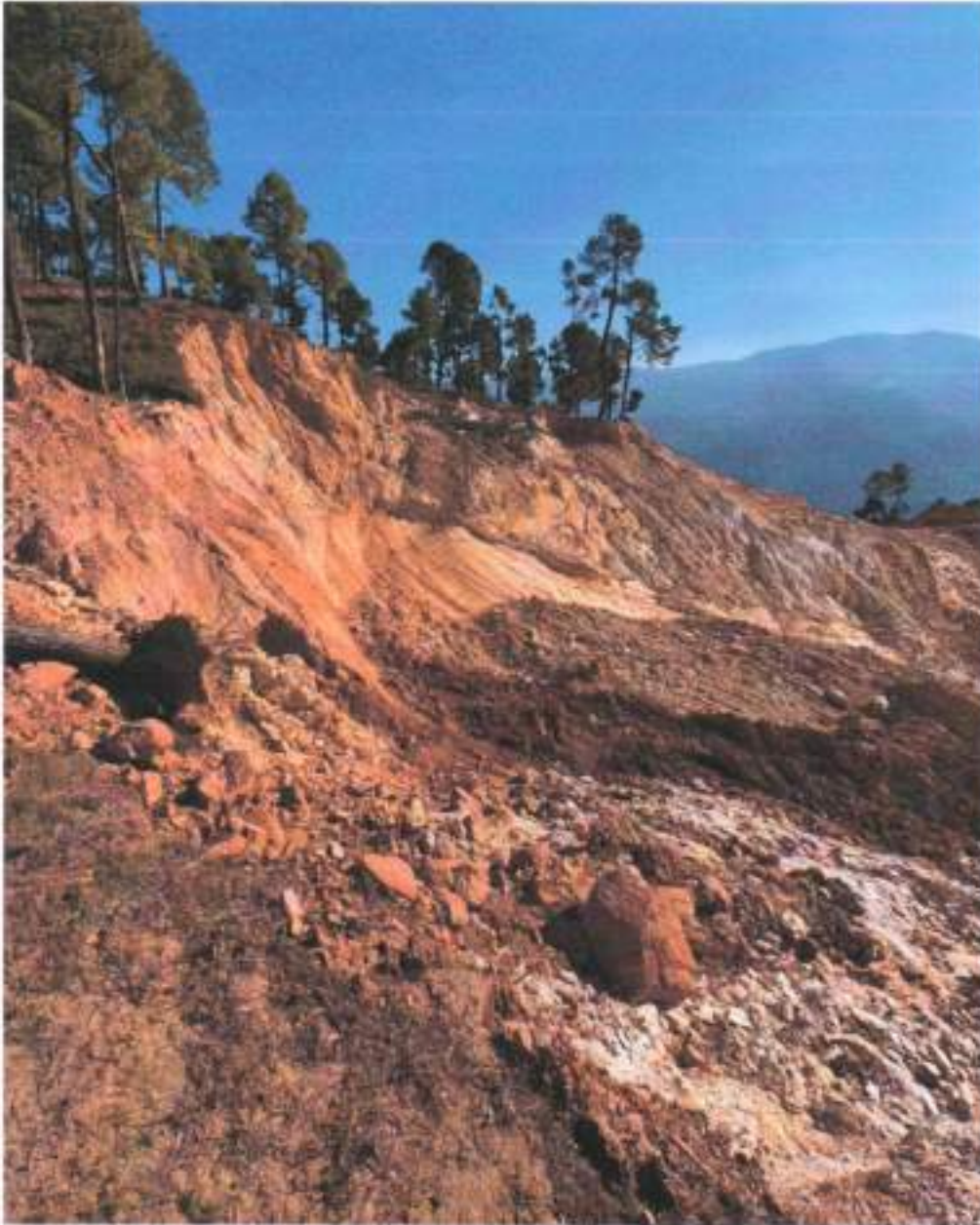
Clicked from

29° 52' 7.842" N 79° 47' 51.36" E



Mine at Village Surkali Owned by Thakur Singh Gariya
Clicked from
29° 54' 45.642" N 79° 57' 15.672" E

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Mine at Village Maholi Owned by Surendra Singh Bhoriyal
Clicked from
29° 53' 44.91" N 79° 58' 26.862" E

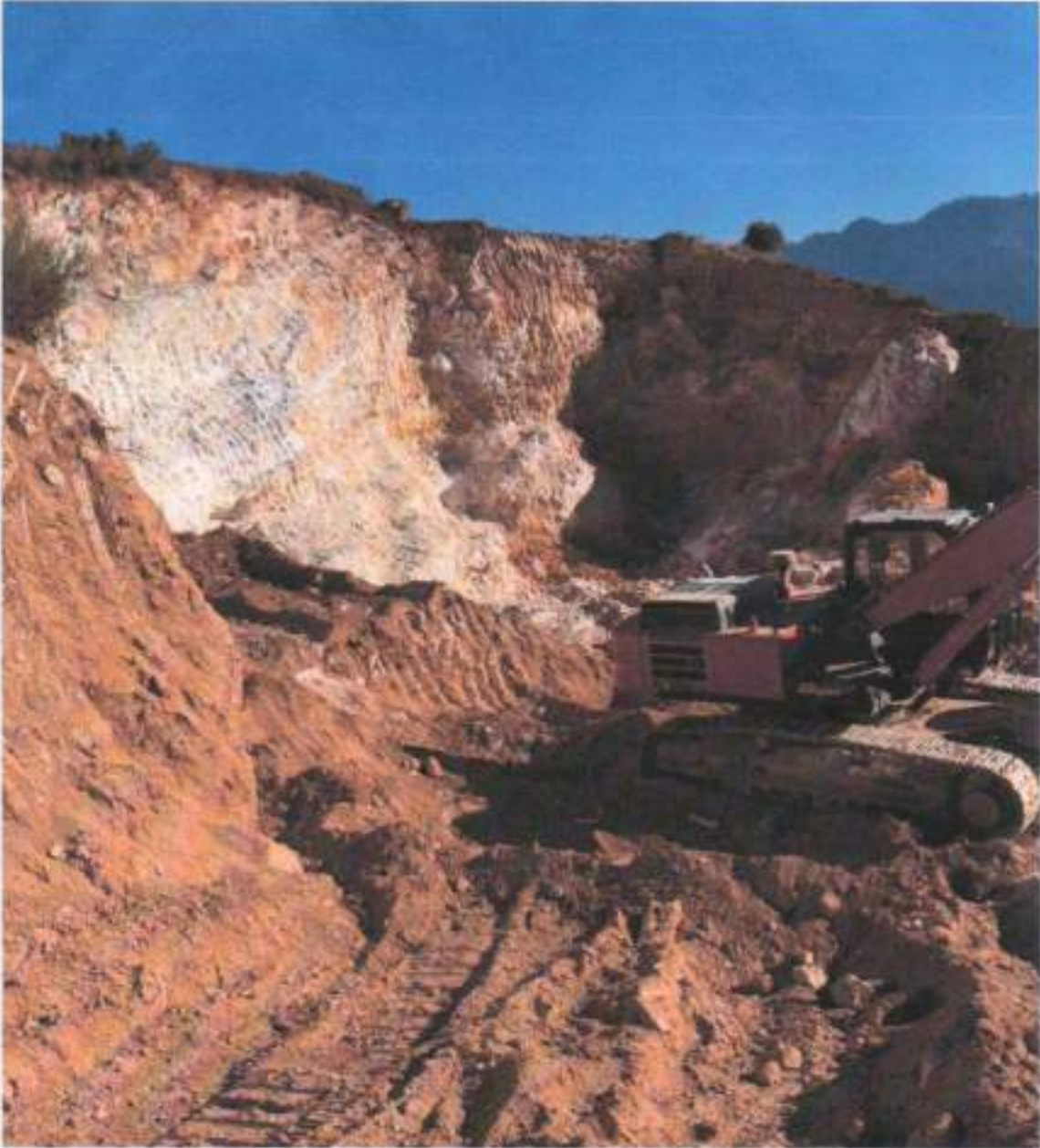
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Nandita Tiwari's Mine at Village Kanda Tharp

Clicked From

29° 49' 15.45" N 79° 52' 49.2" E



Nandita Tiwari's Mine at Village Kanda Tharp

Clicked From

29° 49' 7.038" N 79° 52' 47.628" E

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ANNEXURE CCR-5 (COLLY)

still images of various mining sites where non-adherence to the norms is leading to slope failure.

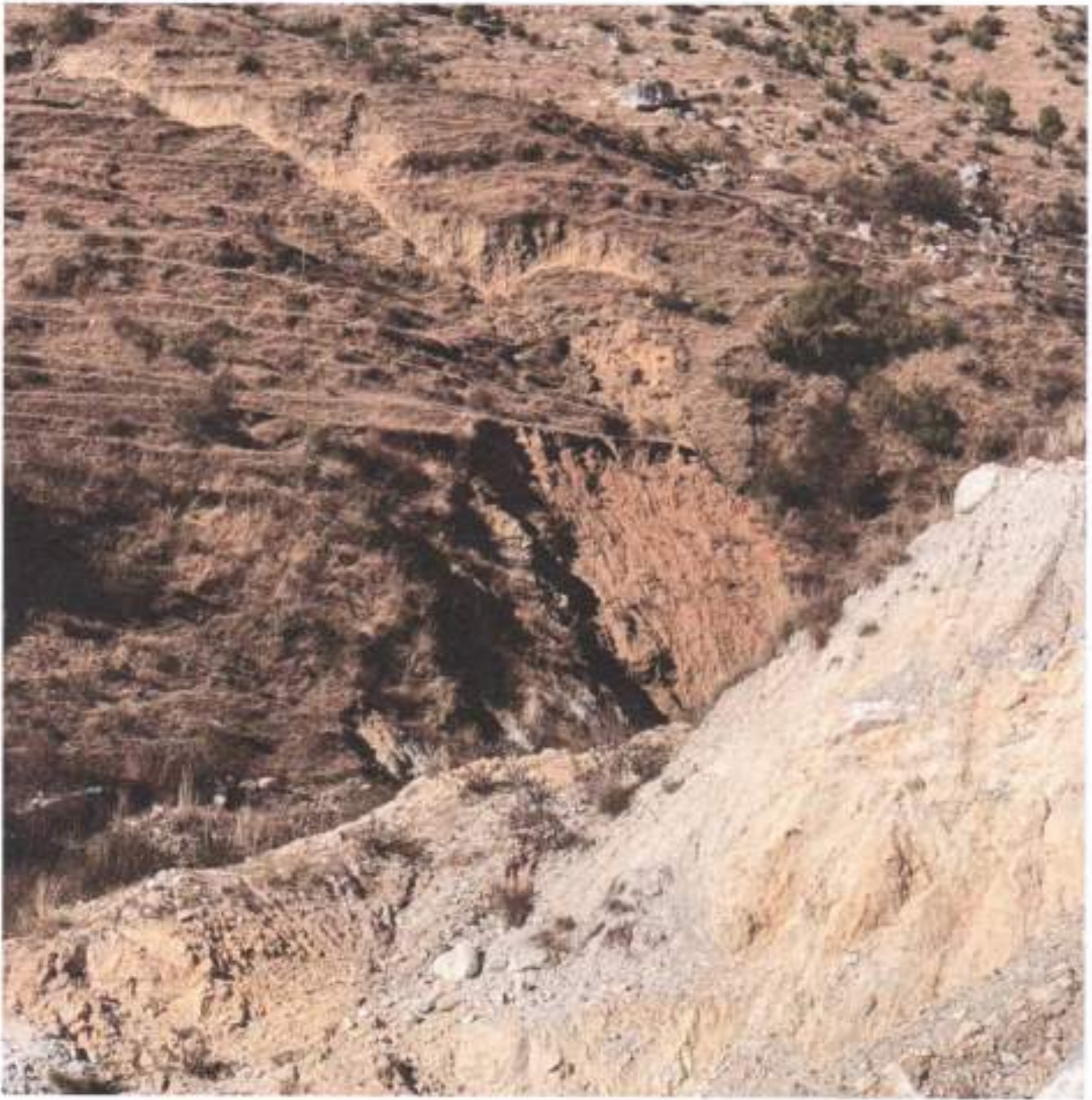


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Mine in front of Nandita Tiwari's Mine

Clicked from

29° 49' 7.578" N 79° 52' 45.63" E



Nandita Tiwari's Mine at Village Kanda Tharp

Clicked From
29° 49' 17.682" N 79° 52' 48.732" E

M. J. Tiwari
[Signature]

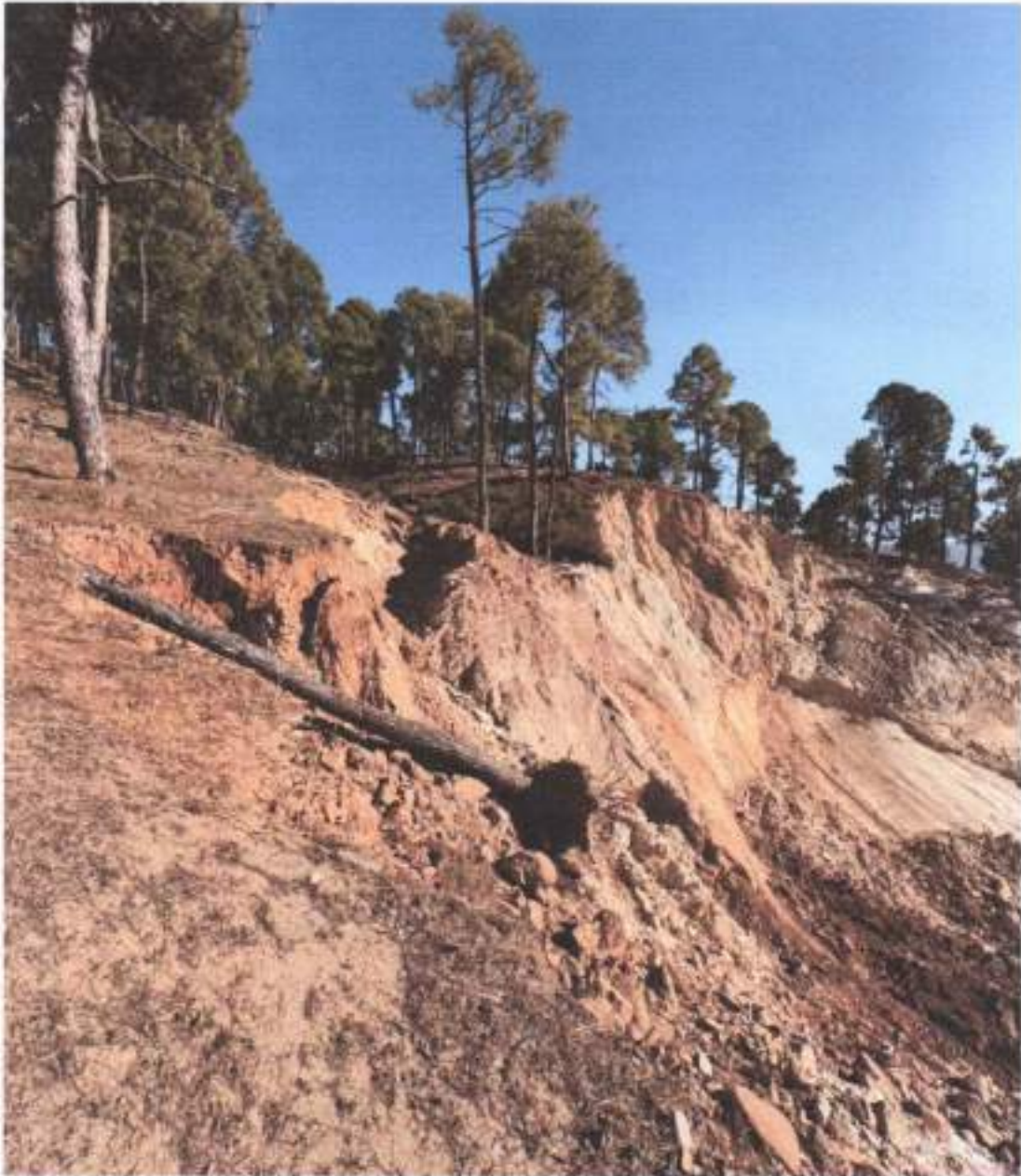


Nandita Tiwari's Mine at Village Kanda Tharp

Clicked From

79° 52' 48.648" E 29° 49' 17.49" N

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Mine at Village Maholi Owned by Surendra Singh Bhoriyal
Clicked from
29° 53' 44.91" N 79° 58' 26.862" E

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ANNEXURE CCR-6 (COLLY)

still images of various mining sites with visual non-adherence to the norms relating to the dumps of burden.



Mine in front of Nandita Tiwari's Mine

Clicked from

29° 49' 7.578" N 79° 52' 45.63" E

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Nandita Tiwari's Mine at Village Kanda Tharp

Clicked From
29° 49' 25.188" N 79° 52' 40.242" E

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Nandita Tiwari's Mine at Village Kanda Tharp

Clicked From

79° 52' 48.648" E 29° 49' 17.49" N

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Mine at Village Surkali Owned by Thakur Singh Gariya
Clicked from
 $29^{\circ} 54' 46.59''$ N $79^{\circ} 57' 14.328''$ E

A handwritten signature in blue ink, consisting of stylized, cursive letters, located in the bottom left corner of the page.

ANNEXURE CCR-7 (COLLY)

still images of various mining sites with visual non-adherence to the norms relating to the preservation of topsoil.



Mine in front of Nandita Tiwari's Mine
Clicked from
 $29^{\circ} 49' 7.578''$ N $79^{\circ} 52' 45.63''$ E

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[Handwritten mark]



Nandita Tiwari's Mine at Village Kanda Tharp

Clicked From
29° 49' 25.188" N 79° 52' 40.242" E

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[Handwritten mark]



Nandita Tiwari's Mine at Village Kanda Tharp

Clicked From

79° 52' 48.648" E 29° 49' 17.49" N

[Handwritten signature]



Mine at Village Surkali Owned by Thakur Singh Gariya
Clicked from
29° 54' 46.59" N 79° 57' 14.328" E



Mine at Village Maholi Owned by Surendra Singh Bhauriyal
Clicked from

$29^{\circ} 53' 44.91''$ N $79^{\circ} 58' 26.922''$ E

Surendra Singh
SK

ANNEXURE CCR-8 (COLLY)

still images and Google Earth Images of various mining sites with visual non-adherence to the norms relating to drainage and water management, forest land usage, cutting of trees for firewood, and damage to forest land.



Large Water Holes with no drainage
In the Mine at Village Surkali Owned by Thakur Singh Gariya
Clicked from
29° 54' 45.672" N 79° 57' 14.898" E

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A large pine tree was found in the
Mine at Village Maholi Owned by Surendra Singh Bhauriyal
Clicked from
29° 53' 47.172" N 79° 58' 28.59" E



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Stump of another pine tree was found in the
Mine at Village Maholi Owned by Surendra Singh Bhauriyal
Clicked from
29° 53' 47.172" N 79° 58' 28.61" E

M. Singh
2011



Stump of another pine tree was found in the
Mine at Village Maholi Owned by Surendra Singh Bhauriyal
Clicked from
29° 53' 46.89" N 79° 58' 32.19" E

[Handwritten signature]
[Handwritten initials]



Stump of another pine tree was found in the
Mine at Village Maholi Owned by Surendra Singh Bhauriyal
Clicked from
29° 53' 46.89" N 79° 58' 32.19" E

Handwritten signature



Stump of another pine tree was found in the
Mine at Village Maholi Owned by Surendra Singh Bhauriyal
Clicked from
29° 53' 45.072" N 79° 58' 26.148" E

M. Singh
[Signature]

Mine of Surendra Singh Bhauriyal

Image of the year 1/1/2023

Latitude 29°53'43.53"N

Longitude 79°58'26.92"E

Village Maholi



Legend



Google Earth

1 km



Mine of Surendra Singh Bhauriyal

Image of the year 10/2022

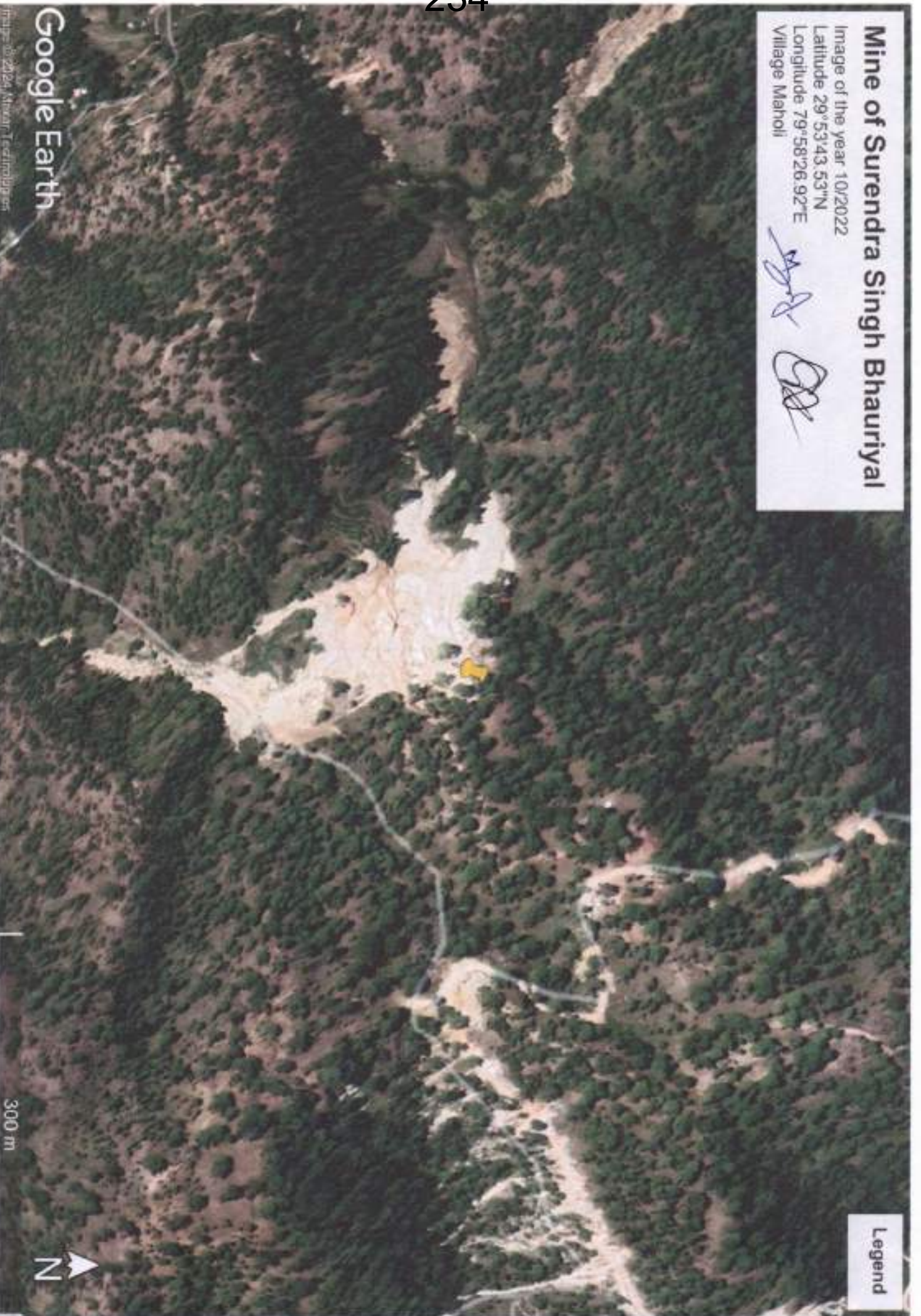
Latitude 29°53'43.53"N

Longitude 79°58'26.92"E

Village Maholi



Legend



Google Earth

https://www.google.com/maps/@29.895278,79.971944,15z

Mine of Surendra Singh Bhauriyal

Image of the year 02/2021

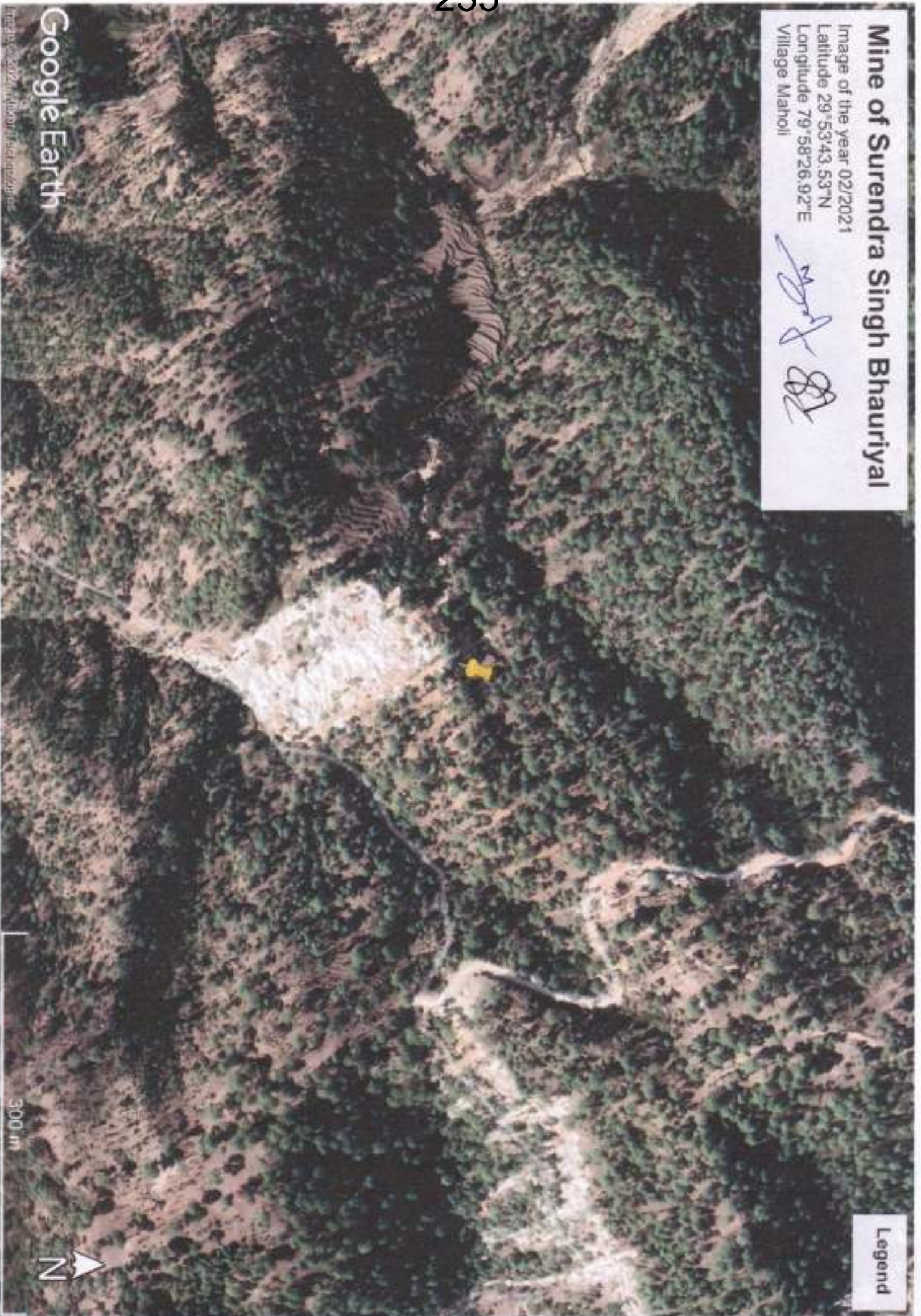
Latitude 29°53'43.53"N

Longitude 79°58'26.92"E

Village Maholi



Legend



Google Earth

300 m



Mine of Surendra Singh Bhauriyal

Image of the year 04/2019

Latitude 29°53'43.53"N

Longitude 79°58'26.92"E

Village Maholi

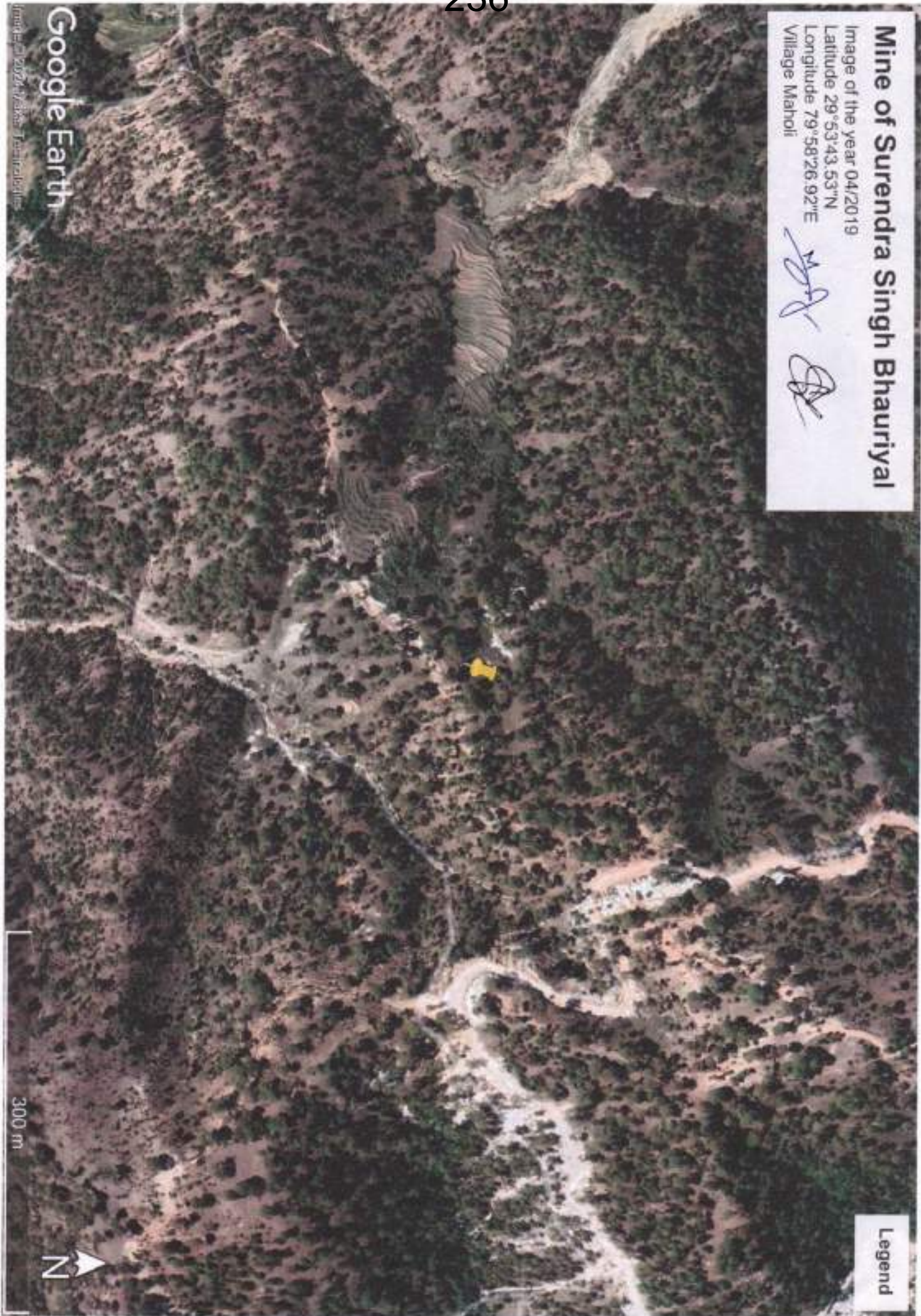


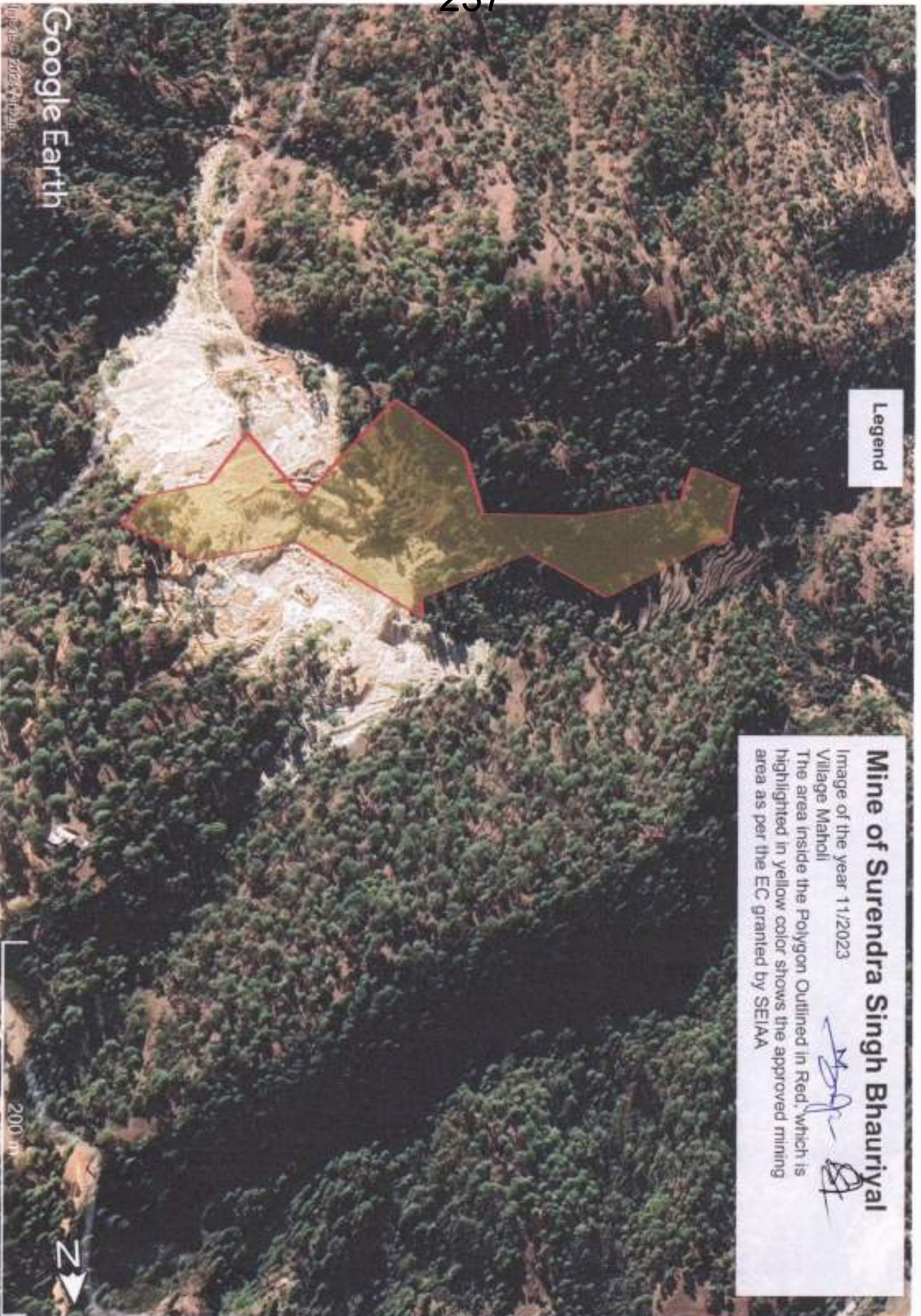
Legend

Google Earth

Image © 2024 Google, TerraMetrics

300 m





Legend

Mine of Surendra Singh Bhauriyal
 Image of the year 11/2023
 Village Maholi
 The area inside the Polygon Outlined in Red, which is highlighted in yellow color shows the approved mining area as per the EC granted by SEIAA

[Signature]

Google Earth

Image © 2023, AeroMap

200 m



Environment, India

Legend

Mine of Surendra Singh Bhauriyal

Image of the year 11/2023

Village Maholi

M.S. Bhauriyal *S.B.*

The area inside the Polygon Outlined in Red, which is highlighted in yellow color shows the approved mining area as per the EC granted by SEIAA



Google Earth

Image © 2024, Airbus

200 m



Mine of Thakur Singh Gariya

Image of the Year 10/2018
Latitude 29°54'50.87"N
Longitude 79°57'16.93"E



Kirrol

Untitled Placemark

Legend

Google Earth

300 m



Mine of Thakur Singh Gariya

Image of the year 1/1/2018
Latitude 29°54'50.87"N
Longitude 79°57'16.93"E

[Handwritten signatures]

Legend

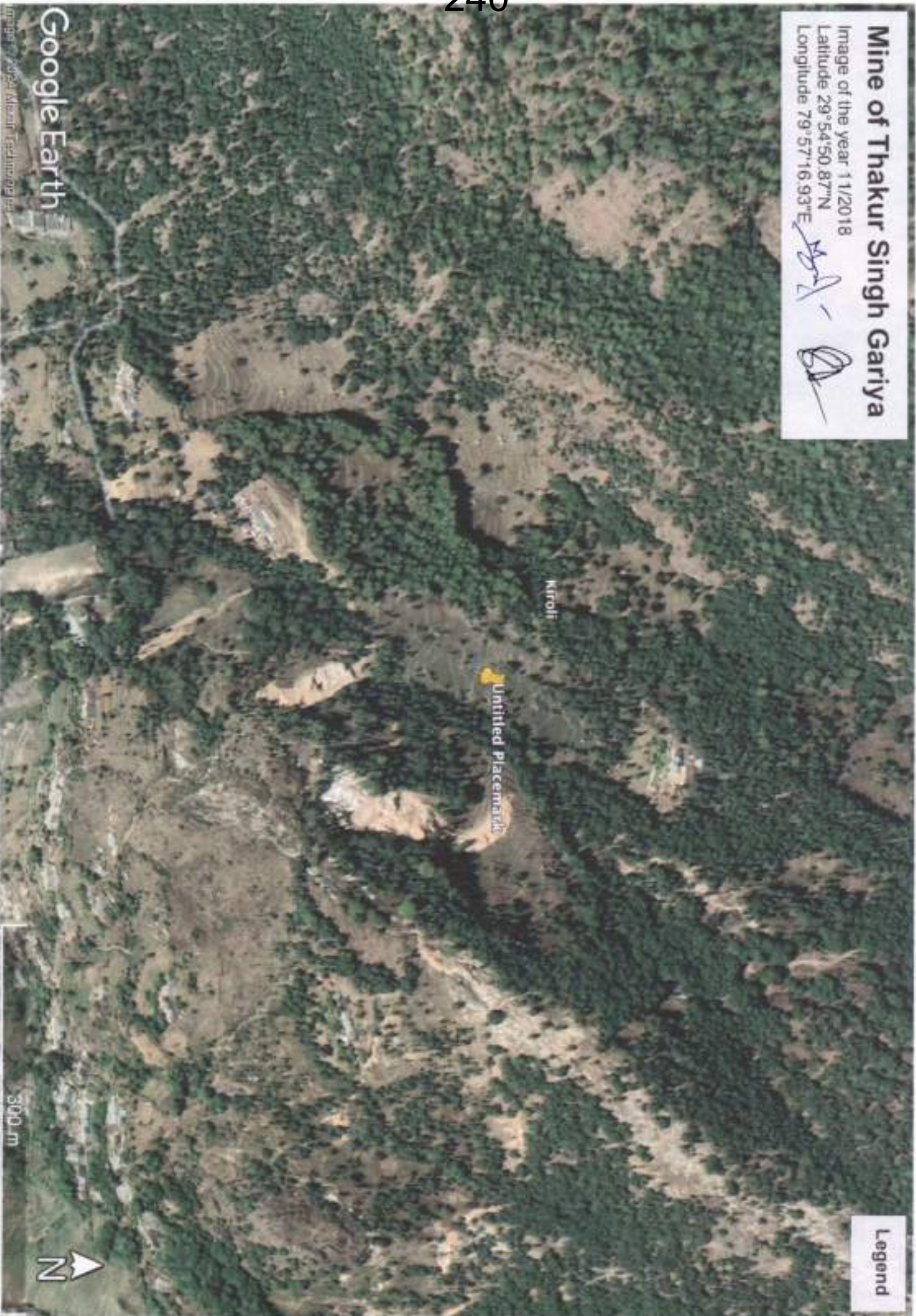
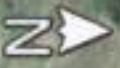
Kirrol

Untitled Placemark

Google Earth

Image © 2018 Microsoft Corporation

300 m



Mine of Thakur Singh Gariya

Image of the year 04/2019

Latitude 29°54'50.87"N

Longitude 79°57'16.93"E



Legend

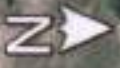
Kiroli

Untitled Place00012

Google Earth

Image © 2022, Maxar, Terra, and others

300 m



Mine of Thakur Singh Gariya

Image of the year 02/2021

Latitude 29°54'50.87"N

Longitude 79°57'16.93"E



Legend

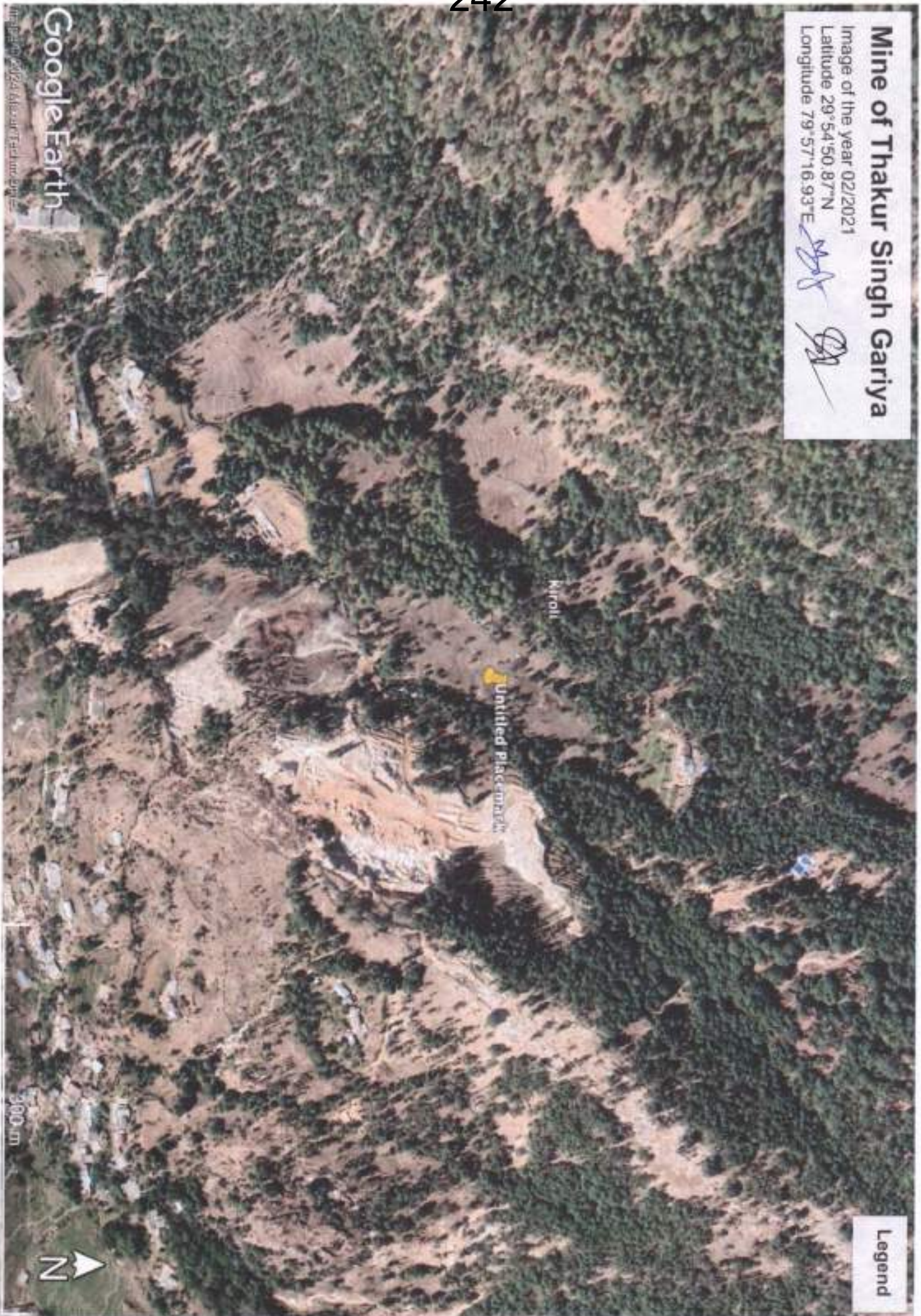
Kirrol

Untitled Placement

Google Earth

Image of the year 02/2021

300 m

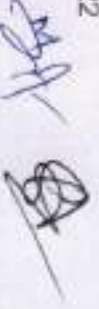


Mine of Thakur Singh Gariya

Image of the year 10/2022

Latitude 29°54'50.87"N

Longitude 79°57'16.93"E



Legend

Kirroll

Untitled Placement

Google Earth

Image © 2024 Airbus, TerraMetrics

300m



Mine of Thakur Singh Gariya

Image of the year 11/2023

Latitude 29°54'50.87"N

Longitude 79°57'16.93"E

MSA
SA

Legend

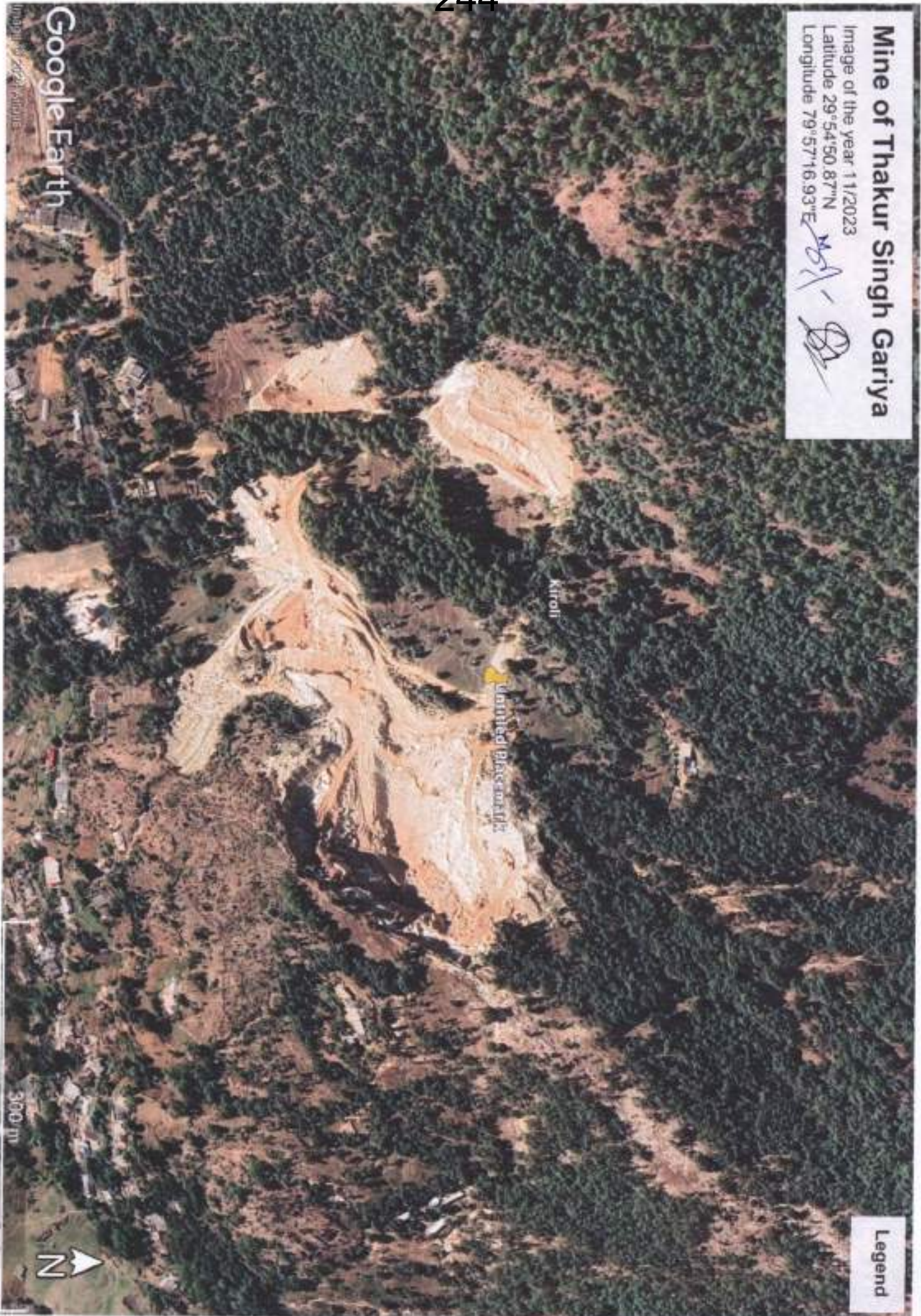
Kirrol

United Phosphates


Google Earth

Image © 2023 Google

300 m



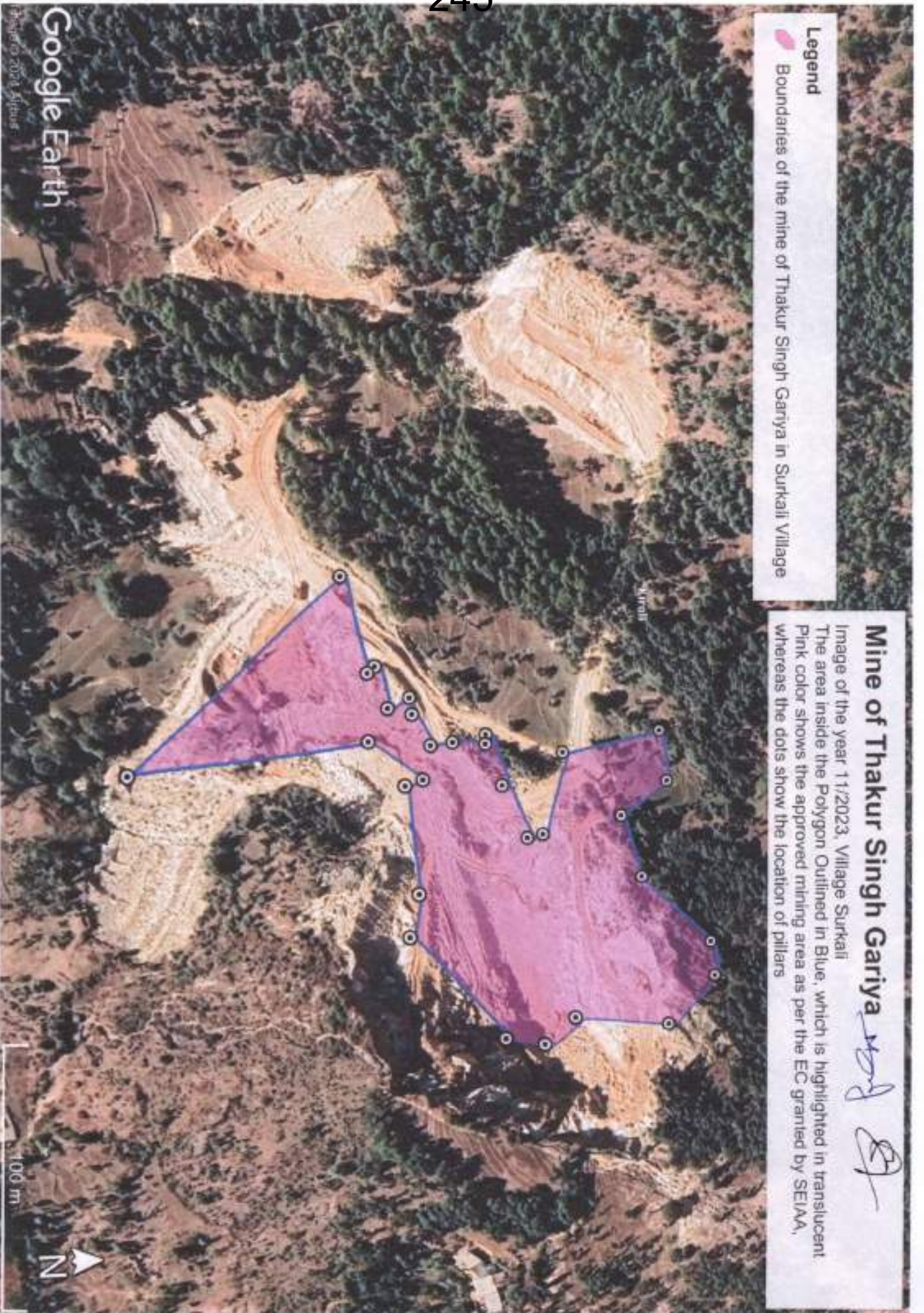
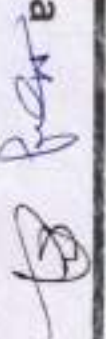
Legend

 Boundaries of the mine of Thakur Singh Gariya in Surkaili Village

Mine of Thakur Singh Gariya

Image of the year 11/2023, Village Surkaili

The area inside the Polygon Outlined in Blue, which is highlighted in translucent Pink color shows the approved mining area as per the EC granted by SEIAA, whereas the dots show the location of pillars



Krauli

Google Earth

Imagery © 2024, Airbus

100 m



ANNEXURE CCR-9 (COLLY)

Usage of Heavy Earth Moving Machinery



At Mrs. Nandita Tiwari's Mine in Kanda Tharp

[Handwritten signature]
[Handwritten initials]

Excavator at a mine in front of Ms. Nandita Tiwari's Mine.



Handwritten signature

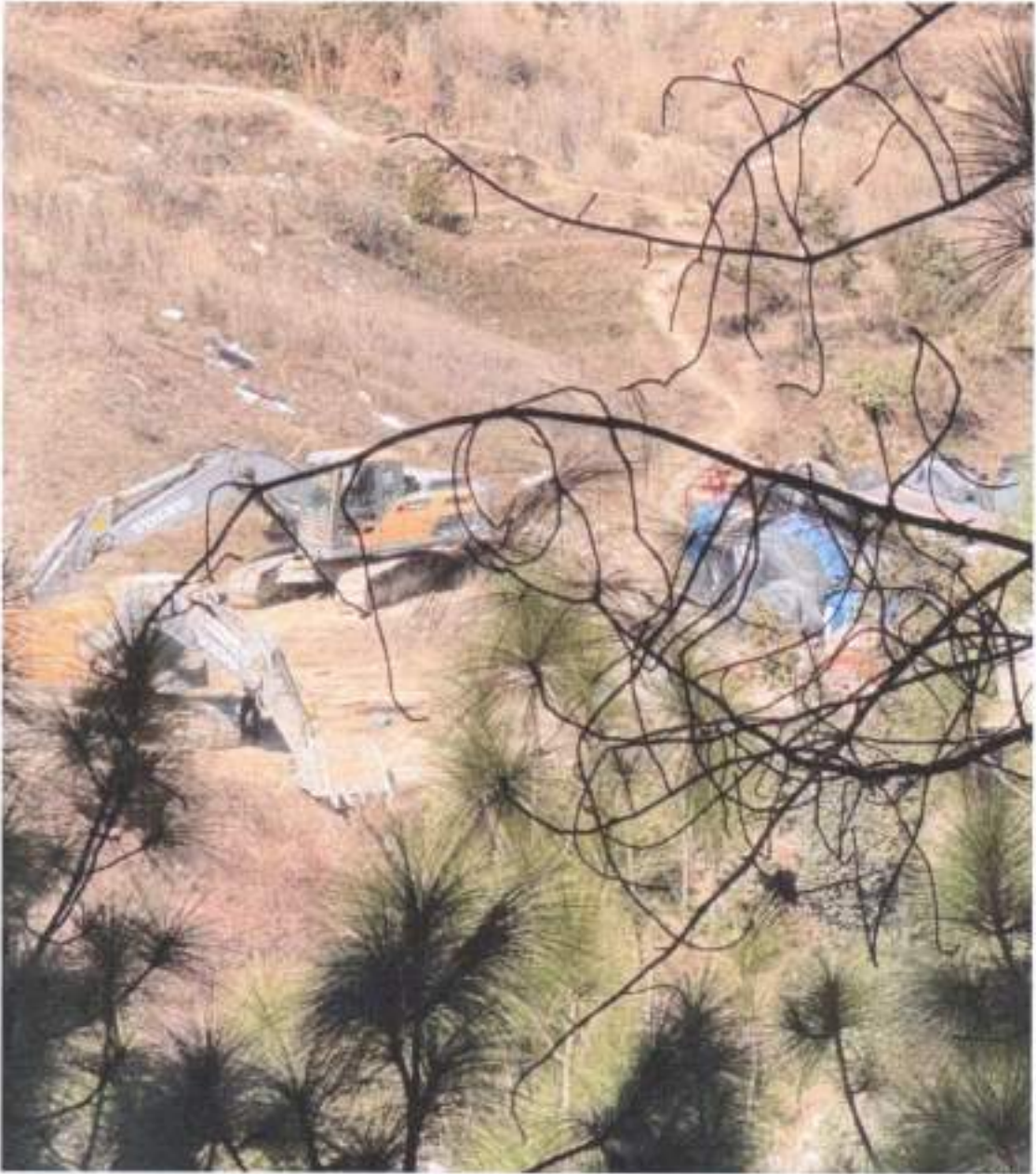
Handwritten signature



Earth Moving Equipment at Work in front of Road at GPS Coordinates
79° 47' 51.39" E
29° 52' 7.848" N

Mine probably at Village Kunara

[Handwritten signature]
[Handwritten mark]



Heavy Earth Moving equipment at Jagthali Bajeena Mines, Kanda

[Handwritten signature]
[Handwritten mark]

ANNEXURE CCR-10 (COLLY)

Living Conditions of Labourers



At Mrs. Nandita Tiwari's Mine in Kanda Tharp

[Handwritten signature]

[Handwritten signature]



Labourer Tents at a mine in front of Ms. Nandita Tiwari's Mine.

M. J. Tiwari
[Signature]



Surendra Singh Bhauriyal's Mine, Maholi, Reema
Living condition of Labourers



Handwritten signature

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LpqwjHLc

IN THE HIGH COURT OF UTTARAKHAND AT NAINITAL

WPPIL NO. 174 OF 2024

DISTRICT: BAGESHWAR

1 - SUO MOTU PIL

..... Petitioner

Versus.

- 1 - STATE OF UTTARAKHAND
- 2 - PRINCIPAL SECRETARY
- 3 - SECRETARY RURAL DEVELOPMENT
- 4 - UTTARAKHAND POLLUTION CONTROL BOARD
- 5 - DISTRICT MAGISTRATE
- 6 - state level environment impact assessment authority through its member secretary
- 7 - DFO BAGESHWAR
- 8 - DISTRICT MINERAL FOUNDATION TRUST BAGESHWAR THROUGH ITS MEMBER SECRETARY
- 9 - SECRETARY GEOLOGY AND MINING DEPTT

..... Respondent


Petitioner Advocate: DUSHYANT MAINALI
(AMICUS CURIAE)

Respondent Advocate: C.S.C.



13-01-2025

SL. No	Date	Office Notes, reports, orders or proceedings or directions and Registrar's order with Signatures	COURT'S OR JUDGES'S ORDERS
	06.01.2025		<p>WPIL No. 202 OF 2024</p> <p>With</p> <p>WPIL NO.174 OF 2024</p> <p><u>Hon'ble G. Narendar, C.J.</u></p> <p><u>Hon'ble Manoj Kumar Tiwari, J.</u></p> <p>Mr. Vinay Kumar, learned counsel for the petitioner in WPIL No.202 of 2024.</p> <p>2. Mr. Dushyant Mainali, learned <i>Amicus Curiae</i>.</p> <p>3. Mr. P.C. Bisht, learned Additional Chief Standing Counsel for the State.</p> <p>4. Mr. Aditya Pratap Singh, learned counsel for the Uttarakhand State Pollution Control Board.</p> <p>5. Dr. Aman Rab, learned counsel for the SEIAA.</p> <p>6. Heard learned counsel for the petitioner, learned <i>Amicus Curiae</i>, the Court Commissioners, namely, Mr. Mayank Rajan Joshi and Mr. Sharang Dhulia and learned State Counsel.</p> <p>7. In compliance with the order 09.12.2024, the Court Commissioners have submitted a report into the Court today.</p> <p>8. The report is not merely alarming, but is also shocking. The report and the photographs clearly demonstrate complete lawlessness by the miners, and are proofs of local administration turning a blind eye to</p>



the transgression. Further, the report and the photographs, *prima facie*, demonstrate that further mining operations, which have already damaged dwelling houses, are likely to result in landslides and definite loss of lives. The ironical part is that trained officers have permitted mining operations at the base of the hillock, when habitations in the revenue villages are found on the top of the hillock. The photographs also indicate huge crevasse indicating impending landslides which would definitely lead to huge loss of lives. Hence, pending further orders, all mining operations in Bageshwar district shall stand suspended with immediate effect.

9. A copy of this order be forwarded to the Director, Geology and Mining Department, Uttarakhand, who shall communicate the same to the miners and ensure implementation of this order. The Director, Geology and Mining Department is made personally responsible for implementation of this order.

10. The *Amicus Curiae* shall bring on record and implead all the lease holders and also array the officers of the concerned department as party- respondents to the PIL.

11. We wish to place on record our appreciation for the strenuous efforts put in by the Court Commissioner, namely, Mr. Mayank Rajan Joshi and Mr. Sharang Dhulia, despite dubious efforts on the part of vested interests.

12. For compliance, list along with Writ Petition (PIL) Nos.137 of 2022 and 35 of 2024, on 09.01.2025, on which date, the Director, Geology and Mining

Department, and the Secretary, Industrial Development, shall be physically present before this Court. The concerned District Magistrate shall also be present before this Court on the next date.

13. The Director, Geology and Mining Department shall immediately release to the Court Commissioners the remuneration fixed by this Court under order dated 09.12.2024.

14. The Registry is directed to communicate the order to the concerned Director, Secretary and District Magistrate by way of e-mail today itself.

(Manoj Kumar Tiwari, J)

06.01.2025

(G. Narendar, CJ)

06.01.2025

NISHANT