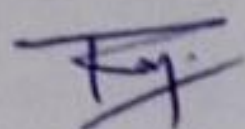


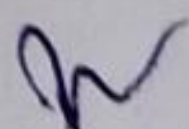
परियोजना का नाम:-

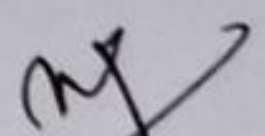
जनपद चमोली के विधानसभा क्षेत्र कर्णप्रयाग के अन्तर्गत राज्य योजना में डिम्बर-सुमल्टा मोटर मार्ग के कि०मी० 6 से ग्राम कोलाडुंग्री तक मोटर मार्ग के नवनिर्माण हेतु 0.805 है० सिविल भूमि एवं मक डिस्पोजल हेतु 0.056 है० कुल 0.861 है० सिविल भूमि का लो०नि०वि० को हस्तान्तरण।

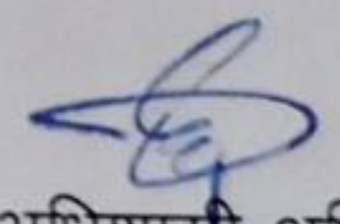
भू-वैज्ञानिक की आख्या

भू-वैज्ञानिक की आख्या संलग्न है।

  
अमीन

  
कनिष्ठ अभियन्ता  
निर्माण खण्ड लो०नि०वि०  
गौचर

  
सहायक अभियन्ता  
निर्माण खण्ड लो०नि०वि०  
गौचर

  
अधिशिष्ट अभियन्ता  
निर्माण खण्ड लो०नि०वि०  
गौचर



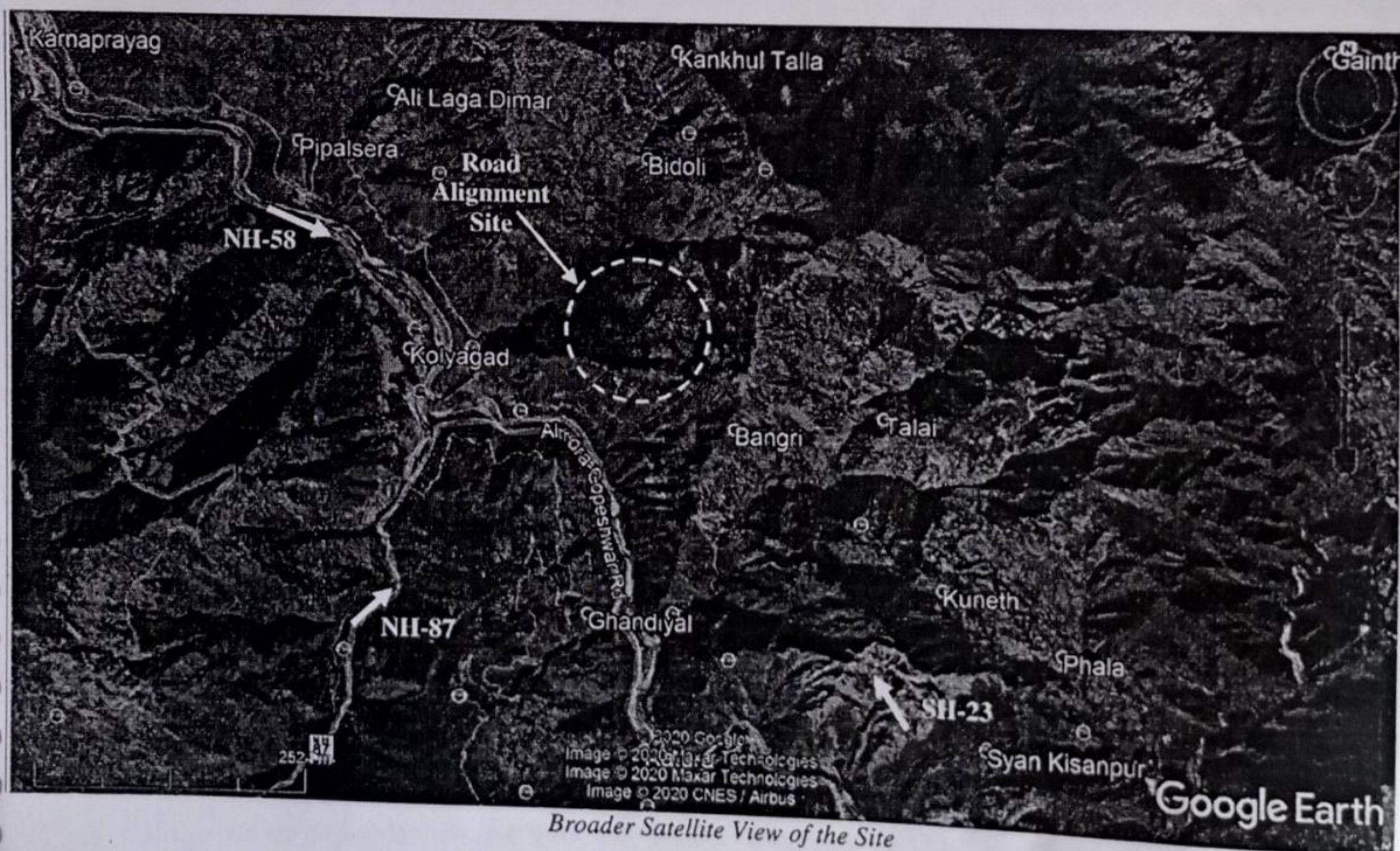
**Geological Assessment of 2.50 Km long Dimmar-Sumalta Motor Road to Koladungri**  
**Motor Road Alignment corridor between CH 0.0 to 2.50 Km,**  
**Gauchar Division, District Chamoli (Garhwal)**

**Tushar Sharma**  
**19/01/2020**

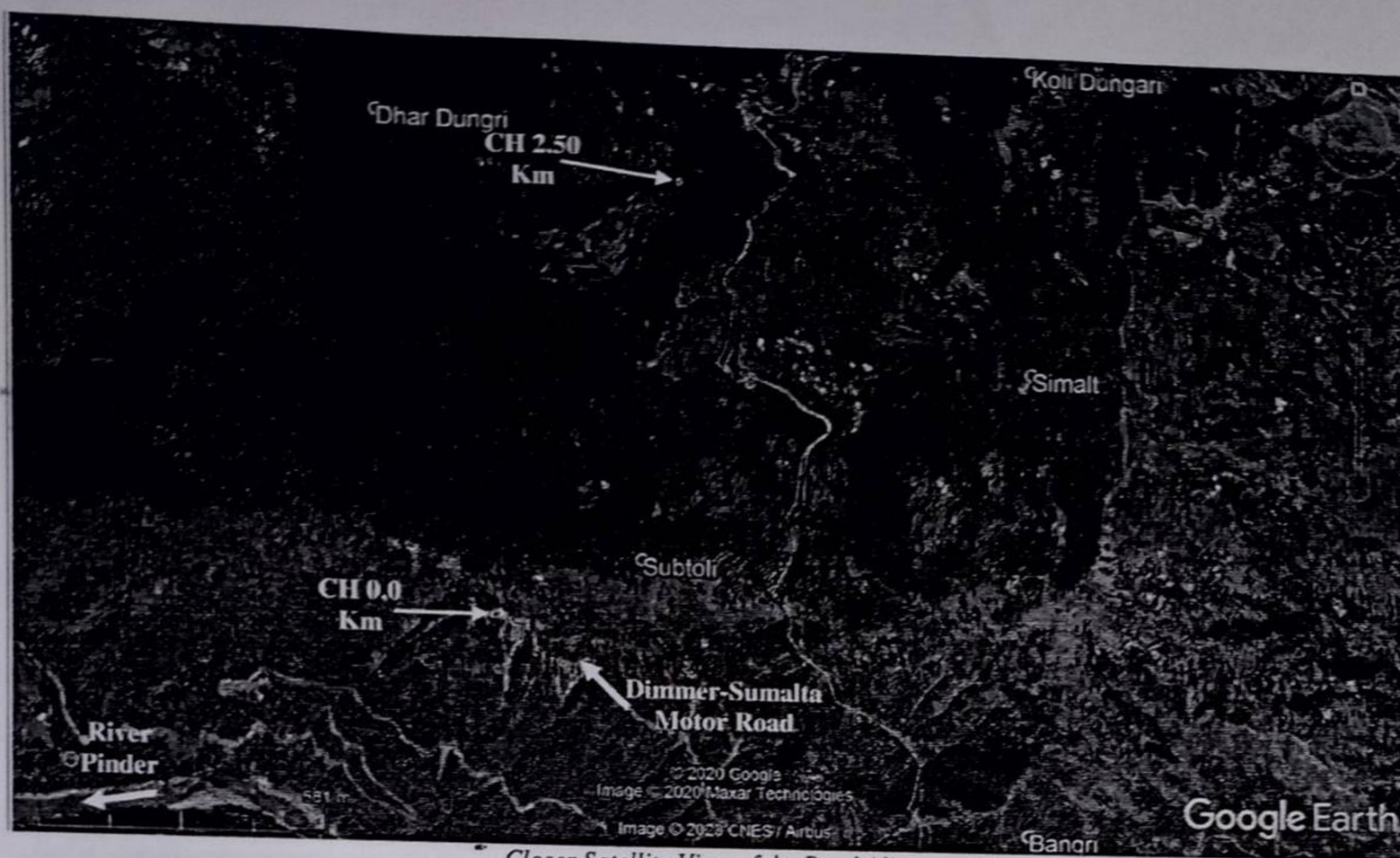
**1- Introduction:** The Temporary Division, Gauchar, has been entrusted for the construction of 2.50 Km long Dimmar-Sumalta motor road to Koladungri motor road between CH 0.0 to 2.50 Km. In order to assess the geological conditions of the road alignment site for its feasibility, Er. M.S. Rawat (Executive Engineer) Construction Division, PWD, Pokhri asked for a geologist to make a site visit. Consequent to his request a visits to the proposed road alignment site were made on 19/07/2020 and 18/01/2020; Er. Prateek Aggarwal (Junior Engineer) PWD, Gauchar was present during the site visit.

**2- Topographical Information/Location:** The above mentioned road alignment diverts from CH 6.0 Km of Dimmar-Sumalta motor road and terminates at village Koladungri in Gauchar Division, district Chamoli (Garhwal). The co-ordinates along with elevation, masl of the site at CH 0.0 Km are as follows-

Latitude : 30° 13' 52.30"  
Longitude : 79° 16' 27.90"  
Approximate Elevation : M







*Closer Satellite View of the Road Alignment Site*

**3- Geological Assessment:** Geologically, the road alignment site area falls under the Meta-Sedimentaries of Lesser Himalaya in the vicinity of thrust junction between Berinag & Rautgara Formations of Jaunsar & Damtha Group. The rocks exposed around the site area consist of highly weathered and fractured dark mica schist with quartzitic bands possessing boudinage structures. The hill slope of the site area is moderately steep to steep which declines at  $\sim 30^{\circ}$ - $50^{\circ}$ . The road alignment passes through cultivation land (Naap Khet and Civil Land) along with patches of jointed schistose bed rock. The approximate strength of exposed rock mass is around  $\sim 50$ - $100$  MPa and has undergone  $W_0$  to  $W_3$  weathering grade. There are no hairpin bends on the road alignment. The road alignment overall has level to 1:20-1:40 of rising and 1:24 of falling gradient.

**4- Seismicity of the area:** According to Indian Standard code the site falls in seismic zone V of seismic zoning Map of India (IS 1893, part 1, 2002) which corresponds to intensity IX and above on MM scale.

On the basis of the geological inspection of the site studies carried and the facts given above, the following recommendations are being made for the construction of the proposed road failing to these recommendations this report will be automatically treated as cancelled.

### **5- Recommendations:**

1. Blasting by explosives for the road construction is to be avoided as far as it is possible. Use of explosives will render the slope highly unstable as the slope consists of jointed/fractured rock mass and overburden/slope wash material.



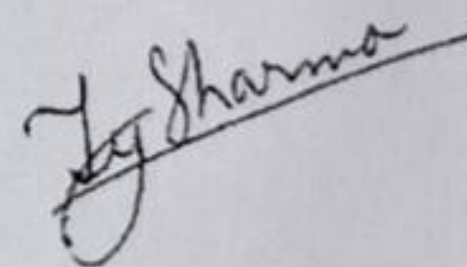
2. Excavation work must be carried out by skilled manual workers as the rock slopes are prone to slide down in case of rapid disturbance.
3. The slopes on either sides of the road must be protected by the construction of suitably designed retaining wall/ breast wall with proper weep holes, this work shall be carried out simultaneously with the advancement of the road cutting.
4. Construction of large U-shaped longitudinal concrete lined drain all along the hill side of the road with adequate provision of cross drains is necessary.
5. Construct the road by half cut and half fill techniques and compact the fill material properly by dynamic compaction.
6. Disposal of muck and excavated waste on the lower slopes of this road is to be strictly avoided; failing to which will increase the weight of the lower slope resulting in the increase in driving forces. It is advised to dispose the muck on the identified site for muck disposal.
7. All the construction activities ought to be carried out as per the standard codes of practice laid by the BIS and MORTH.

**6- Conclusion:** On the basis of the geological/geotechnical studies carried at the site and with the above recommendations, the site proposed for 2.50 Km long Dimmar-Sumalta motor road to KolaDungri motor road alignment between CH 0.0 to 2.50 Km was found geologically suitable for construction.

**Note:** On the basis of the geological studies carried at the site with limited accessibility to the hill slopes this is a generalized report. The conditions of the site are likely to change during/after the construction work, in case any opinion is required during or post construction then the geologist should be separately communicated.

**Place:** Temporary Division PWD Gauchar

**Date:** 19/01/2020



(Tushar Sharma)  
Assistant Geologist  
Office of Chief Engineer  
PWD (Pauri Zone)