

# Post-Disaster Activity of Controlled Blasting of a Massive Rock at Gagribal Detached from the Takht-I-Sulaiman Hill, Srinagar

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**Abstract:** *The District Magistrate Srinagar granted permission for carrying out blasting of a massive rock which had skidded as a result of a rock fall into the house of Mr. Muhammad Ashraf Lone of Gagribal (Srinagar). The massive rock has a size of an apartment building which had fallen off the famous Takht-i-Sulaiman hill. Many perched boulders, massive rock cliffs are critically balanced on the slope with repose angle more than 70°. The controlled blasting operation was carried out under the prescribed norms and rules. All precautionary measures were taken into considerations to ensure that no damage is caused to the adjacent houses in the neighborhoods. This paper discusses the management issues involved as a post disaster management activity for relieving the public grievance and discomfort as a result of the said rock fall.*

**Keywords:** Rock fall, Takht-i-Sulaiman hill, Controlled Blasting

## 1. Introduction

The District Magistrate Srinagar has granted the permission of Blasting of a Big Rock Boulder lying in the house of Mr. Muhammad Ashraf Lone resident of Gagribal Srinagar in favour of M/S Quarry Association Authwajan Srinagar. The Big Rock Boulder embedded in the backyard house as a result of rock fall. The Controlled Blasting Operation took place in the presence of the authorized officer of Geology and Mining Department Srinagar, Tehsildar Khanyar and Sub-Divisional Police Officer Nehru Park under the prescribed norms and rules. All precautionary measures were taken into considerations to ensure that no damage is caused to the adjacent houses in the neighborhoods.

## 2. Field Observations

The Takht-i-Sulaiman hill (Picture-01) is located in the heart of the famous Srinagar city. The Hill spreads over an area of approx. 1.6 Square kilometers that extends from Sonwar Bagh South to Gagribal North. Geologically, the Takht-i-Sulaiman hill is composed of Panjal Volcanic Group of Early Permian age with unconsolidated terrigenous clay and boulders. It is pertinent to mention here that many perched boulders and massive rocks cliffs are critically balanced on the slope with repose angle more than Seventy degrees ( $> 70^\circ$ ). The Big Rock Boulder (Picture 02) "the size of an apartment building" has fallen off the famous Takht-i-Sulaiman hill on the north western side detached from the source caused the triggering mechanism. It has been observed that a combination of meteorological and attitude of rock has generated the rock fall during the intervening night of April 6, 2017 that has caused permanent damage to the house.

## 3. Drilling and Charging of Big Rock Boulder

In the presence of Tehsildar Khanyar and Sub-Divisional Police Officer Nehru Park four (4) drilled holes were charged out of five (5). One drilled hole was kept free of charge for controlling the large number of shooting stones and fly rocks due to the impact of blasting. The four holes were loaded with the seven (7) Special Gelatine 9-inch size (weight SG 125gms/cartridge) with four hole detonators and safety fuse at 3:15 P.M. the blasting took place at 4:05 P.M.

## 4. Precautionary Measures

Before blasting announcement was made on loudspeakers for the safety of the people. The holes were drilled, charged and stemmed in such a manner so that damages to the thickly populated area with respect to human and materials could be avoided. The people of the adjacent houses were kept (more than 500 meters away from the blasting spot and were shifted to the nearest Taxi Parking Ground) out of the range of the shooting stones and fly rocks. The movement of the traffic on both sides of Chinar Bagh and Gagribal road as well as link lanes to the blasting spot was stopped by the police during blasting. The holes were charged proportionately and systematically as per the norms and regulations Mines Act 1952 and Metalliferous Mines Regulation Act 1961.

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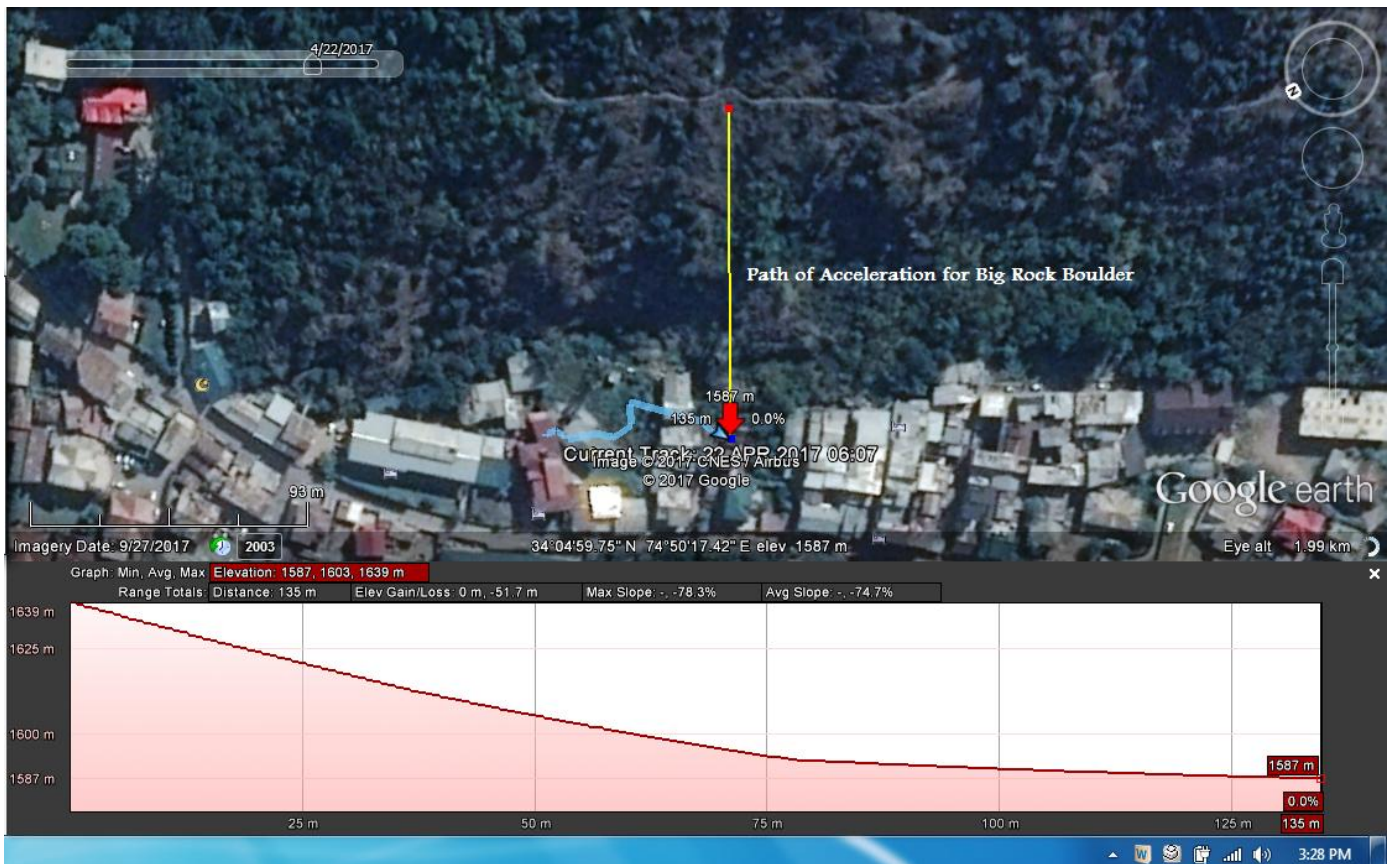
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Location Map of the Gagribal Blasting Area



Longitudinal profile/Run out of Big Rock Boulder (Picture-01)



View of damaged house of Muhammad Ashraf Lone at Dal Lake Gagribal, Big Rock boulder is not visible as the roof has coved it



Charging of drilled holes at Gagribal Dal Lake Srinagar (Picture 02)