

Preliminary Report of Block Field (Felsenmeer) in the Gohara Area of Hiroshima Prefecture, Western Japan

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広島県呉市郷原のブロックフィールドに関する予察的研究

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In this paper is given the description of boulders of block field and block stream newly discovered from the northwestern slope of diminishing gradient of the Mt. Noro in the Gohara area in the Northern part of Kure City, Hiroshima Prefecture. The boulders of the block field (Felsenmeer) may have been formed in the present site and partly transported from the higher horizon. The sediments consisting of numerous boulders carried away from the upper to the lower horizon can be regarded as mud flow or debris flow deposits.

Key Words (キーワード)

Block field (ブロックフィールド), Felsenmeer (岩海), Block stream (岩塊流), Mud flow or debris flow (土石流), Gohara (郷原).

The well known slope of diminishing gradient of the Mt. Noro is developed in the Gohara area located in the northern part of Kure City, Hiroshima Prefecture, western Japan. The slope of this mountain has been studied by some workers such as Akagi (1961¹⁾, 1962²⁾, Imamura (1963³⁾, Higashimoto et al. (1985⁴⁾) and Fujiwara et al. (1986⁵⁾). Akagi (1961, 1962) called the northern slope of the mountain a pediment. In 1963 Imamura found out the block field (Felsenmeer) and block stream (Blockstrom) in the southern foothill of the mountain and stated the numerous boulders of Felsenmeer were produced in the Pleistocene time by the frost shattering (Frostspregung) of rhyolites forming the Mt. Noro. Higashimoto et al. (1985⁴⁾) and Fujiwara et al. (1986⁵⁾) reported the deposits in the slope of diminishing gradient of the northern foothill were composed of talus produced mainly in the Pleistocene time.

Recently we discovered the block field and the block stream in the northwestern slope of the Mt. Noro in the Gohara area. They are lying on rhyolites and partly on granites in the late Cretaceous time. The block field is situated near the Greenhill Gohara (N.L. 34°17'5", E.L.132°39'46") in 250 to 300 m and the block stream 200 to 250 m in sea level.

The boulders of the block field are rhyolites, generally gigantic, angular, and rarely rounded and spheroidal in shape. The largest spheroidal boulder illustrated as Figure 3

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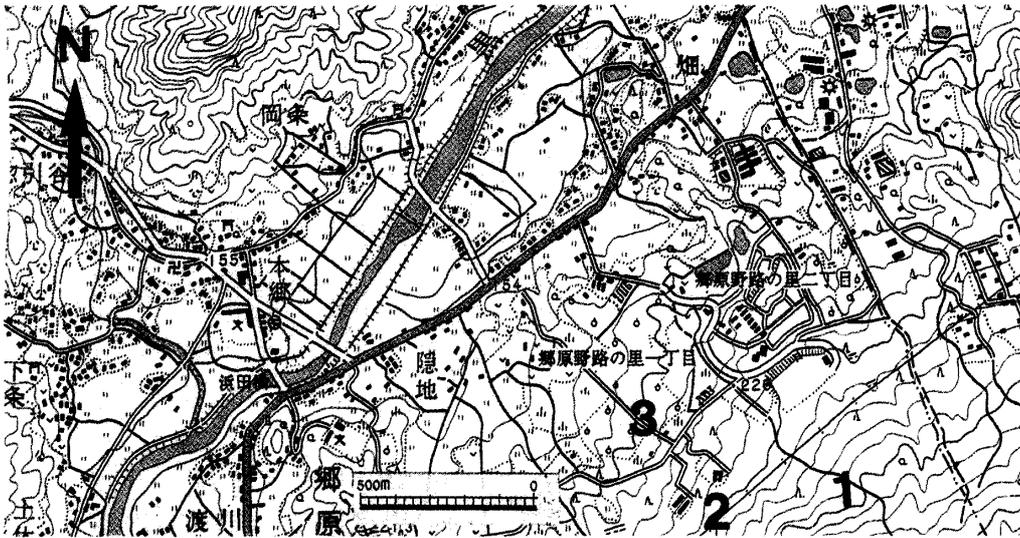


Figure 1. Map showing the studied area of Gohara in the Northern part of Kure City, Hiroshima Prefecture. Localities plotted on Geographical Survey Institute of Japan to topographical map "Akiutsumi" of Scale 1: 25000.

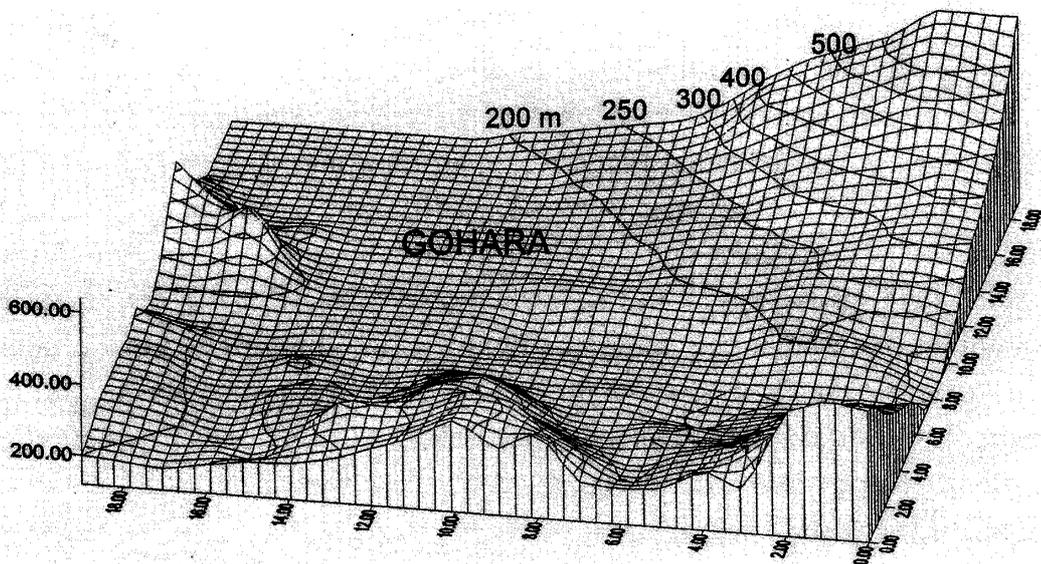


Figure 2. Map showing the topography of the numerical value in the Gohara area. The block field is distributed in 250 to 300 m and block stream in 200 to 250 m in sea level. The general extension of the slope of diminishing gradient developed in 200 to 300 m toward NE.



Figure 3. Photograph showing the large boulder called Zenigami-Iwa in the block field of Gohara. Loc. 1.



Figure 4. Photograph showing the boulders in block field near Asuraya-Home of Gohara (250 m in sea level). Loc. 2.



Figure 5. Photograph showing the boulders in block field near Asuraya-Home of Gohara (250 m in sea level). Loc. 2.

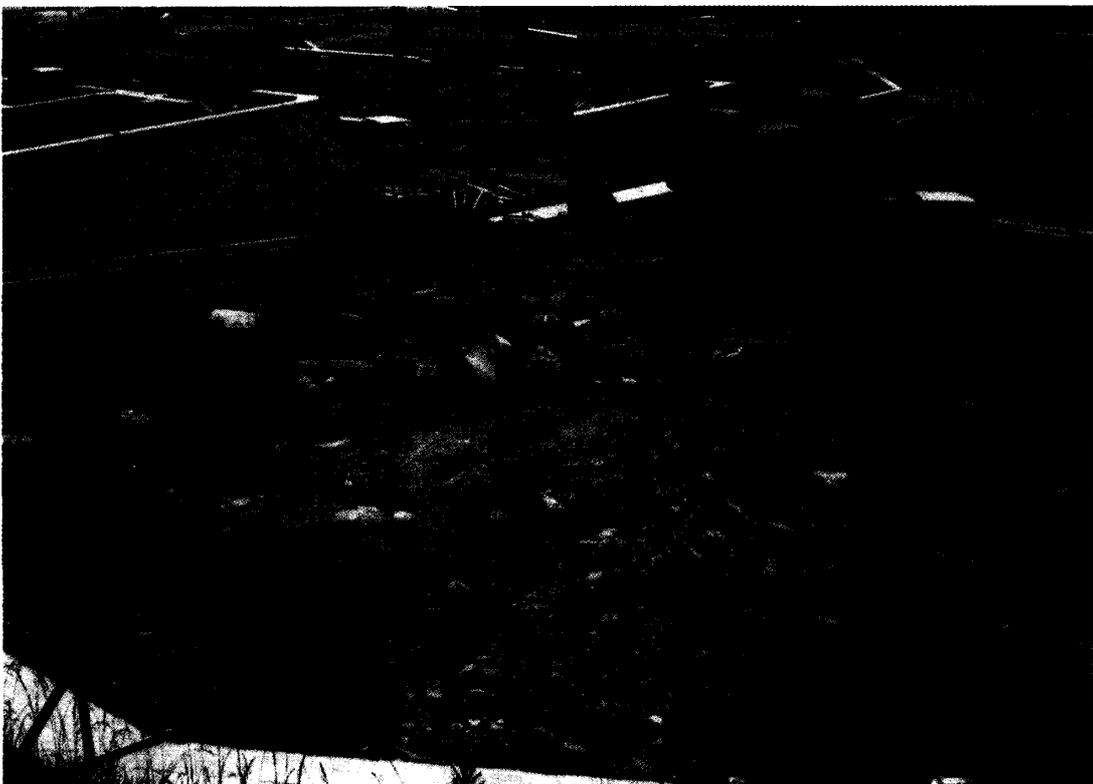


Figure 6. Photograph showing the boulders in block stream formed by mud flow or debris flow in the residential areas (240 m in sea level) called Gohara Green Town now under construction. Loc. 3.

measures 560 cm in diameter and angular boulders are 60 to 120 cm in length and 50 to 100 cm in width. On the other hand, the boulders of the block stream composed of rhyolites, are generally angular, large to small and 60 to 100 cm long and 40 to 70 cm wide. The boulders can be originally regarded as talus.

We think that the boulders in this block field were mainly formed in the present site but a part of them came from a head of the small stream and were formed by the frost shattering in the Pleistocene time. The boulders of the block stream were transported from the upper to the lower horizon in the Gohara area by heavy rain in the late Pleistocene to the Holocene. The sediments on the basement rocks of rhyolites consist of the boulders stated above and can be considered to be mud flow deposits (debris flow deposits) equivalent to those of Kui Town in Hiroshima Prefecture.^{6,7)}

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