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**Keterdapatan Sensitive Clay Pada Lokasi Longsorlahan di DAS Bompon, Kabupaten Magelang, Jawa Tengah**

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Universitas Gadjah Mada, 2016 | Diunduh dari <http://etd.repository.ugm.ac.id/>

## **KETERDAPATAN *SENSITIVE CLAY* PADA LOKASI LONGSORLAHAN DI DAS BOMPON, KABUPATEN MAGELANG, JAWA TENGAH**

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### **INTISARI**

Kajian mendalam mengenai faktor-faktor pemicu bencana longsorlahan sangat penting dilakukan. Salah satu faktor pemicu bencana longsorlahan adalah kandungan klei sensitif di dalam tanah. Kandungan klei sensitif menyebabkan kejadian longsorlahan di DAS Bompon, Kabupaten Magelang, Jawa Tengah. Tujuan penelitian adalah: (1) Mengidentifikasi keterdapatan lapisan klei di DAS Bompon; (2) Mengetahui karakteristik lapisan klei di DAS Bompon; (3) Mengklasifikasi sensitivitas klei dan stabilitas tanah di DAS Bompon.

Investigasi keterdapatan lapisan klei dan identifikasi stabilitas tanah ditinjau dari karakteristik morfologi dan fisik tanah. Karakteristik morfologi tanah yang diaplikasikan dalam penelitian adalah kedalaman dan ketebalan lapisan klei. Karakteristik fisik tanah yang digunakan untuk penentuan stabilitas tanah adalah tekstur, berat volume, berat jenis, kandungan air, konsistensi, dan kuat geser. Penentuan sensitivitas klei didasarkan pada nilai batas cair, kandungan air alami, dan indeks likuiditas.

Kejadian longsorlahan di DAS Bompon yang memiliki hubungan dengan keterdapatan lapisan klei sensitif ditentukan oleh stabilitas tanah. Ada sepuluh lapisan klei yang memiliki tingkat sensitivitas tinggi di tiga longsorlahan DAS Bompon. Ketebalan lapisan klei sensitif di longsorlahan pertama adalah 13 meter, longsorlahan kedua setebal 16,08 meter, dan longsorlahan ketiga setebal 8,4 meter. Lapisan klei sensitif telah menyebabkan tanah di tiga longsorlahan menjadi lunak saat mengalami peningkatan kadar air. Peningkatan kadar air di dalam lapisan klei disebabkan proses alami dan pengolahan lahan oleh masyarakat sehingga memicu longsorlahan di DAS Bompon.

**Kata kunci : Klei, Longsorlahan, Sensitivitas, Stabilitas, Tanah**

**THE AVAILABILITY OF SENSITIVE CLAY IN LANDSLIDE AT BOMPON  
WATERSHED, MAGELANG DISTRICT, CENTRAL JAVA**

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**ABSTRACT**

*In-depth study of the triggering factors in landslide are very important for risk reduction. One of the triggering factors of landslide is the occurrence of sensitive clay in the soil. The occurrence of sensitive clay might cause the landslide in Bompon Watershed, Magelang District, Central Java. The aim of research are: (1) to identify the occurrence of clay layers, (2) to characterize the clay materials, (3) to classify the sensitivity of clay and the stability of soils.*

*We investigated the occurrence of clay layers and characterized their stability based on morphology and physical characteristics. The morphological characteristics applied in the research were mainly the depth and the thickness of clay layers. The physical characteristics used for soil stability assessment were texture, bulk density, specific density, moisture content, consistency, and shear strength. Those clay sensitivity assessment were based on the value of liquid limit, natural water content, and liquidity index.*

*The landslides in the Bompon Watershed is positively related to the occurrence of sensitive clay layers that determine the soil stability. There were ten clay layers within the soil profile having high sensitivity level at the three landslides. The thickness of clay sensitive layer at first landslide is 13 meters, the second landslide is 16,08 meters, and the third landslide is 8,4 meters. Those sensitive clay layers had made the soils at the three landslide being investigated become softer due to the increase of moisture content. The alternating of moisture content both due to natural and artificial wetting might trigger landslide in the area being studied.*

**Keywords: Clay, Landslide, Sensitive, Soil, Stability**