

## ABSTRAK

Daerah Irigasi Sei Belutu berada di Kecamatan Sei Baman Kabupaten Serdang Bedagai Luas potensial daerah irigasi Sei Belutu  $\pm$  5082 Ha yang tersebar di 7 desa yaitu Desa Sei Belutu, Desa Bakaran Batu, Desa Baman, Desa Sukadamai, Desa Gempolan, Desa pengalangan dan Desa Kampung Pon. Irigasi ini sangat berpengaruh terhadap perekonomian daerah di desa tersebut. Untuk mengairi areal tersebut maka perlu dibangun sebuah bendung yang aman.

Skripsi ini menganalisis stabilitas bendung terhadap Guling dan Geser. Kombinasi yang dianalisis terhadap banjir normal, maksimum dan terhadap lumpur.

Langkah awal dalam penulisan skripsi ini adalah analisis hidrologi curah hujan dari stasiun sampai dengan Jumlah data maksimum 10 Tahun dari tahun 2004-2013, dari perhitungan debit banjir rencana Q100 sebesar  $175,4215 \text{ m}^3/\text{dtk}$ . Berdasarkan dari hasil analisis dan perhitungan stabilitas bendung D.I Belutu aman terhadap Guling dan Geser.

Kata Kunci: Debit banjir, Stabilitas Guling, Stabilitas Geser.

## **ABSTRACT**

*The irrigation area of Sei Belutu is located in Sei Bamban sub-district Serdang Bedagai regency. The potential area of Sei Belutu irrigation area is  $\pm$  5082 Ha which is distributed in 7 villages such as Sei Belutu, Bakaran Batu, Bamban, Sukadamai, Gempolan, Pengalangan village and Kampung Pon village. The irrigation has the potential impact for the economy of the people in surrounding area. To suffice the needs of water in the areal, safe and good weir should be built in the area.*

*The thesis is intended to analyze the stability of weir to rolling and overturning force. The combination of force is analyzed to normal flood, maximum and also mud.*

*The first step to do in this thesis is the analysis of rain fall hidrology from Sampali station with the maximum data for 10 years from 2004-20013, from calculation of flood rate prediction for 175,4215 m<sup>3</sup>/second. Based on the analysis and weir stability calculation in irrigation area of Belutu, it is considered safe to rolling and overturning force.*

**Key words:** *Flood rate, Rolling and Overtuning force.*