

Background

El Canada is a 47 MW hydropower plant located in Retalhuleu, Guatemala. It takes water from the Samalá river, which has a high sediment yield. An average of 50,000 m³ of sediment are deposited annually in the regulation pond. The sediment is highly cohesive and contains garbage, debris and organic material.

During the last years, the sediment income in the regulation pond has been handled by continuous dredging. Three different dredges have been used: Conventional diesel dredge, electric powered dredge and hydrosuction dredge. The information of the daily dredging



Diesel and hydrosuction dredges in the pond.

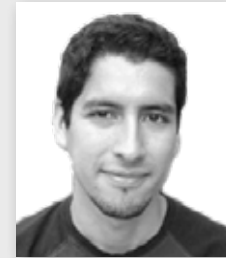
has been recollected during at least five years (since 2012), but it has not been thoroughly analyzed.

The main objective of the thesis is to assess the sediment handling strategies in the regulation pond of El Canada HPP. For this matter, the sediment yield and its potential damage to the power plant will be estimated. Besides, the current sediment handling strategies will be evaluated. A field trip will be done to recollect all the required information of the catchment, the hydropower plant and the current sediment handling strategies.



Sediment samples from a dredge discharge.

Javier Zamora



Department of Civil
and Environmental
Engineering

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**Assessment of
sediment handling
strategies in the
regulation pond
of El Canada HPP,
Guatemala**

Supervisor: Nils R  ther
Co-supervisor: Tom Jacobsen
In cooperation with: SediCon
AS and ENEL Greenpower

