

Webinar - February 18th, 2021

A SUMMARY OF THE TECHNICAL CAUSES OF FEIJÃO DAM I FAILURE

by:

Lucas de Melo, Ph.D., P.E. – Geosyntec Consultants, Inc.

1.0 PDH available



To determine what triggered the failure of Feijão's Dam I and why the failure occurred when it did. A panel that included Lucas de Melo of Geosyntec, carried out an investigation into the technical causes of the failure. The investigation into the causes of the failure included: (i) evaluating the nature of the materials in the dam and their properties; (ii) assessing the dam construction and operation methods and their impact on the dam and tailings material properties; (iii) assessing the condition of the dam before and during the failure using analyses of available images, such as video, ground-based radar, laser (LiDAR), satellite (InSAR and photographs), drone videos; and (iv) numerically modeling the conditions just prior to failure.

The assessment of material properties included sampling and laboratory analysis of materials from the site to allow critical state deformation and stability analyses of the tailings dam structure. Numerical analyses of water flow through the tailings and dam were performed to assess the impact of pore water pressures on the stability of the structure. The panel's evaluation was informed by detailed assessments of the history of construction, historical geotechnical data, historical instrumentation data, and seismic evaluations of the region around and at the site.

Lucas de Melo has over 25 years of experience in mining and dam-related projects, geotechnical design and field studies, and hazardous materials remediation, and solid waste management facilities. His portfolio of clients includes public-c and private entities. He currently manages a branch of more than 120 scientists, engineers, and designers at Geosyntec's Columbia, Maryland office. In addition, Mr. de Melo is responsible for the geotechnical curriculum at the Johns Hopkins University (his alma mater), where he acts as a Lecturer.

WHERE

Zoom – Webinar

Link to Registration: [Here](#)

TIME

12:00 PM – 1:00 PM EST