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College of Engineering

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To Whom It May Concern

2022-10-20

Vladimir Buelvas Hernandez is enrolled as a visiting Ph.D. student in Civil Engineering under my supervision here at the U of S. His Ph.D. supervisor at his home university is Prof. Claudio Mahler at the Federal University of Rio de Janeiro, whom I have known for a long time. He has been working as part of a larger team of graduate students since July 2019. He has been involved in the project; "Assessment of the in-situ energy recovery potential from medium-sized landfills in Canada," funded by Loraas Disposal Ltd together with the University of Saskatchewan. As a result of his research, three papers will be published, one of which is under my supervision. It is; "evaluation of thermal parameters with geothermal energy recovery from a cold climate municipal solid waste landfill".

Vladimir has developed a series of activities within the project, which include carrying out large-scale field-testing at the Saskatoon waste landfill in the first phase. He has also conducted thermo-hydro-mechanical finite element modeling of the physical and chemical processes that occur in this type of project as the second part of the project. These considerations make a huge difference to the progress of his research and Vladimir in turn contributes to the success of the entire team.

Sincerely,

A handwritten signature in black ink, appearing to read "I.R. Fleming".

I.R. Fleming, Ph.D., P.Eng.

Professor of Geotechnical Engineering