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Release Notes

D-Geo Flow

enabling delta life

Release Notes

D-Geo Flow

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Summary

This document contains the release notes for D-Geo Flow.

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1 Purpose and scope of this document

This document lists all new features released in each version of D-Geo Flow. It helps the user to find new functionality or see when old functionality was implemented.

This software replaces the predecessor, the prototype of D-Geo Flow.

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2 Version history

2.1 Version 2023.01

Improvements in calculations:
- Fixed a bug to account for the head difference in sloping pipes.

NOTE The water pressures in non-horizontal pipes are now correctly calculated. This results in a more realistic groundwater flow pattern. However, the model for pipe growth along a slope does not account for certain relevant aspects such as the additional gravitational force. Therefore, it is strongly advised to only use horizontal pipes, as the behavior of sloping pipes has not been validated.

- Reduced the minimum mesh size for layers from 0.05m to 0.005m.

General improvements:
- Added hints and feedback related to non-horizontal pipe trajectory.
- Updated the ribbon to include the correct button for boundary condition.
- Implemented automatic application of new material when it is added to a layer.
- Made the (open source) licenses of the application and its components more visible.

Improvements in scenarios and stages view:
- Added a feature to copy/paste geometry.
- Enabled moving scenarios up and down.
- Enabled moving calculations up and down.
- Improved the order of context menu items.

2.2 Version 2022.01

This is the first release of D-Geo Flow after its prototype. It is part of the Embankment Suite, and therefore shares many of its components. Furthermore, it contains the following features:

Geometry:
- Contains the shared geometry editor from the Suite.
- Allows for several scenario's with one stage and multiple calculations.
- Steady stage analysis only.

Materials:
- A default material set, to be optimized based on local investigations.

Boundary conditions:
- Boundaries are closed by default.
- Fixed head boundaries can be applied.

Analysis models (calculation):
- Groundwater flow analysis.
- Calculate pipe length.
- Calculate the critical head.

Note that the groundwater flow analysis only allows for constrained aquifers. No

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phreatic level will be determined.

Note that a pipe can be schematized under an angle. The constitutive model assumes the top of the pipe is horizontal. The influence of the rotation of gravity on the growth of the pipe is not taken into account as this process is not verified.

Output (results):
• Hydraulic head.
• Pore pressures.
• Discharge at the boundaries.

A console is installed along with the software for batch calculations and a prototype for the GEOLIB is available

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