Whittle

Release Notes

Last Modified: Monday, June 12, 2017

Whittle 4.7.1

Enhancements

Simultaneous Optimisation

- **CAPEX Optimisation section added to the SIMO Optimization tab**

    The following options are now available on the **Simultaneous Optimization > Optimization** tab:

    - With the CAPEX Optimization process, you can purchase additional mining and processing capacity if it improves the overall NPV of the scenario.

    - You can use the **Enable CAPEX Optimization** check box to enable or disable the process.

    - In a multi-mine scenario, you can purchase additional capacity for each individual mine limit, as well as the global mining limit.

    - You can define Period Validations to control when additional limits can be purchased.

Miscellaneous

- **New CAPEX reporting options available in Simultaneous Optimization Reporting nodes**

    When you define a **Simultaneous Reporting** node, you can now report CAPEX Limits and CAPEX Costs. A range of reporting items are available under each of the headings. These items provide detailed analyses of when additional capacity was purchased during the Simultaneous Optimization process, how much additional capacity was purchased during the Simultaneous Optimization process, and the associated costs.

- **New Optimization Control options added to the Pit Shells node**

    In the **Pit Shells** node, you can now control which algorithm, Pseudoflow or Lerchs-Grossman, is used to generate optimized pit shells. When you select the Pseudoflow option, the **Optimization Control** section appears grey and cannot be edited. This section is not required for the Pseudoflow algorithm to function.

    The Pseudoflow option is available only in the 64-bit version of Whittle 4.7.1.

    Note: Because of the amount memory required to run Pseudoflow, it is recommended that you have a minimum of 32 GB of installed RAM available.

Issues Fixed

Scenario Analysis

- **Setting PCAF and MCAF values to None now works**

    Previously, when you set PCAF or MCAF values to **None**, the behaviour was similar to the **Model** option and used the PCAF/MCAF values from the block model file. This issue has been resolved and PCAF/MCAF values are no longer applied to the process. Setting the PCAF or MCAF values to **None** is now a valid selection.

- **Long expressions sometimes caused a node to fail**

    Previously, in some projects, long expressions sometimes caused the Whittle engines to fail during evaluation. This issue has been resolved.

Miscellaneous

- **Spider graph reported incorrect values when trying to vary a parameter with expressions**

  Instead of giving blank data, the **Spider Graph** node now prompts you to change the data when one of the values it needs to vary is based on an expression.

- **SIMO reporting spreadsheet did not work with 64-bit Microsoft Office software**

  The SIMO reporting spreadsheet now supports Microsoft Office 64-bit.

- **MSQ File export**

  When Whittle exports individual MSQ files for each mine in a multi-mine project, it now generates one parameter (**PAR**) file for each mine that is exported. The **PAR** file is a single mine type **PAR** file with the origin correctly set so that the MSQ can be imported into Surpac.

- **SIMO now validates mine limits for multi-mine models**

  You can no longer run SIMO if, in your multi-mine model, all the mine limits are set to 0. This scenario produces no results and is not valid.

- **SIMO Reporting**

  The SIMO reporting template file name has been rationalised, and is now called **SimoReporting.xlsb** instead of **SimoReporting_<version number>.xlsb**. Version information is contained within the spreadsheet itself. In addition, the template overwrites any existing template (of the same name) within the working directory, ensuring that the SIMO report generated is always the latest one.

- **Removed SPCO licence requirement for adding blend bins**

  The **Cut-off Optimization** (SPCO) licence is no longer required to add blend bins in the **Simultaneous Optimisation** node.

Pit Shell Generation

- **Warning message clarification for expressions when using ore selection by cut-off**

  When expressions are present within a **Pit Shells** or **Analysis** node that uses ore selection by cut-off, the warning message that appears now provides clearer information.

- **Block Value node gave a different value for MCAF expression than the Pit Shells node**

  When Whittle retrieves the element grade of a block as part of a user-defined expression, it now includes undefined waste as part of the block in the grade calculation. As a result, if a block model does not explicitly define waste in a block, and a user expression tries to use the grade of an element in this block, the 'undefined' waste is now included in the block's grade calculation.

- **Processing tab on Pit Shells node could not be used with different recoveries per rock type**

  Previously, when you edited any field in the **Processing Details** tab in the **Pit Shells** node, all changes were propagated to other defined processing methods. This behaviour has been modified and changes are now applied to only the processing method that is edited.

- **Expressions with rock type quantity variables gave wrong results**

  Previously, when you use **<RockType>.Q** variable (quantity of a rock type) as part of an expression to calculate the MCAF of a block, an incorrect result was given. This issue has been resolved.

Data Export

- **DXF export function produced invalid surfaces**

  Exporting pit shells with topography as a DXF file no longer produces holes in the 3D model. The DXF files produced are now valid surfaces in Surpac.

- **DXF pit shells export failed for certain block models**

  The **Export DXF files** from the Pit Shells function has been fixed and now successfully exports pit shells in specific cases where it previously failed.

Data Import

- **Report for import block model tab incorrectly reported negative WASTE tonnes as 0**

   When you try to import a block model containing blocks whose parcel tonnage exceeds the block tonnage, Whittle now generates a warning message. The message provides the coordinates of the problematic block.
   Note: Whittle will still accept blocks where the parcel tonnage only slightly exceeds the block tonnage (up to 110% of the block tonnage) to account for rounding errors when generating the model file.

- **The Import Surface function did not work when a multi-mine model had a mine 0**

   You can now use the **Import Surfaces** node for block models where the mine number starts from 0.

- **Whittle imported a block model with negative tonnes without a warning message**

   When you try to import a block model containing blocks with negative tonnage, Whittle now generates an error message. The error message provides the coordinates of the block that contains the negative tonnage.

- **Issues importing .csv multi-mine block models**

   When you import **.csv** block models, Whittle now correctly recognises if the block model is a multi-mine project and treats it as such.

- **Import Surfaces node became invalid after changing project folder location**

   The **Import Surfaces** node now functions correctly when you move the working directory for a project to a different location on the same computer or a different computer.

- **Running the Import Surfaces node produced a Java error message**

   Previously, when you ran the **Import Surfaces** node, a Java error message appeared, even if the node ran successfully and no error actually occurred. This issue has been fixed and the error message no longer appears.

Blending

- **Blend Bin Chooser no longer generates invalid large blend bin limits**

   Previously, the **Blend Bin Chooser** formatted large numbers using comma separators for thousands, which caused errors during scheduling. Blend limits now work for values over 999.

- **Blend Scenarios no longer accept a period variation for blend min and max grade**

   In the **Blend** tab of the **Extractive Blending Scenario** or **Bulk Blending Scenario** nodes, the option to define a period variation expression for the MinGrade or the MaxGrade for a blend method have been removed. A Knowledge Base article has been created to explain how to reach the same outcome without using period expressions.

Simultaneous Optimisation

- **Axis scaling factor was not correctly applied on thumbnail in Graph tab**

   The thumbnail and pop-up graphs on the **Graph** tab now match when the scaling factor, min/max values, and increment are varied.

- **Tonnage of waste did not include rejected waste**

   When you run a SIMO Schedule report, the outputs for **Tonnage of waste rock**, **Tonnage of pushback <n> as waste rock**, and **Tonnage of waste from <mine>** now include rejected waste.

- **Imported pit shells did not work with some SIMO projects**

   Previously, there was an issue that prevented the **Simultaneous Optimization** node from working with certain imported pit shell projects. This issue has been resolved.

- **SIMO summary showed pit 101**

   When you run the SIMO and SIMO Schedule report with multiple mines, or with the **Use largest pit** schedule option in a single mine project, the report summary screens no longer include a **Summary for pit 101**. For a single mine project, these summaries now display the correct maximum pit. For a multi-mine project, no pit number is displayed as each mine may have a different maximum pit.

- **Spreadsheet code: Grade of <element> mined input to <method>**

   You can now use the **SIMO Schedule report** to report the **Grade of <element> mined input to <method>**.

- **Spreadsheet code: Grade of <element> Input to processing from mining and stockpile combined**

   You can now use the **SIMO Schedule report** to report the **Grade of element input to processing from mining and stockpile combined**.

- **Spreadsheet code: Tonnage of <mine> input to processing**

   You can now use the **SIMO Schedule report** to report the **Tonnage of <mine> input to processing**.

- **Spreadsheet code: Tonnage rejected**

   You can now use the **SIMO Schedule report** to report the **Tonnage rejected**, **Tonnage rejected by pushback**, and **Tonnage rejected by mine**.

- **Spreadsheet code: Open pit value**

   You can now use the **SIMO Schedule report** to report the **Open pit value** and **Discounted open pit value**.

- **Spreadsheet code: Discounted open pit value**

   You can now use the **SIMO Schedule report** to report the **Discounted open pit value**.

- **SIMO sometimes failed when run under Import Surfaces node**

   Previously, in certain scenarios generated in Whittle 4.6, the Simultaneous Optimization process would fail to run in projects when it was under a valid **Import Surfaces** node. This issue has been resolved.

- **Projects with many elements caused the Simultaneous Optimization node to fail**

   The **Simultaneous Optimization** node no longer fails to run with projects that contain a large number of elements.

- **Simultaneous Optimisation node was incorrectly using block PCAF values**

   In the **Operational Scenario** node, if you select a Block Processing Cost Adjustment Factor (PCAF) of **None**, the **Simultaneous Optimisation** node will not apply a PCAF value.

Deployment

- **Single mine SIMO failed to run when reading binary files generated from the Pit Shells node**

   You can now use SIMO with binary files generated by the **Pit Shells** node. Binary files generated by previous versions of Whittle do not work; you must regenerate those files to use them with SIMO.

Other Area

- **Block Value node retrieved blocks at wrong coordinates**

   The **Block Value** node now retrieves blocks from the defined coordinates.

Block Model and Results Files

- **Multiple Surface imported under a reblock node failed to run**

   The **Import Surfaces** node no longer fails if it is a child node to a **Reblock Block Model** node.

Licensing

- **Revalidating licenses deleted project data**

  Previously, if an invalid license was revalidated, all project data was deleted. This issue has been resolved, and if a license becomes invalid, when the license is re-established, the progress in the Whittle project is retained.

User Interface

- **3D Viewer displayed inaccurate block grade data**

  When Whittle calculates the grade of a block to display on the canvas, the **3D Viewer** now includes undefined block tonnage (which is considered waste).