

Mine scheduling's quantum leap forward

With the release of MineSight Schedule Optimizer (MSSO) version 4.0 and MineSight Haulage (MSHaulage) version 3.5, scheduling while taking into account equipment considerations is now available in MSSO. This new functionality allows you to schedule on and report true truck and shovel hours for schedules produced in MSSO based on cycle times calculated in MSHaulage. Consideration of equipment parameters allows more realistic schedules to be generated in MSSO. This also allows you to consider real destinations with limited capacities, and how these destinations are filled throughout the schedule.

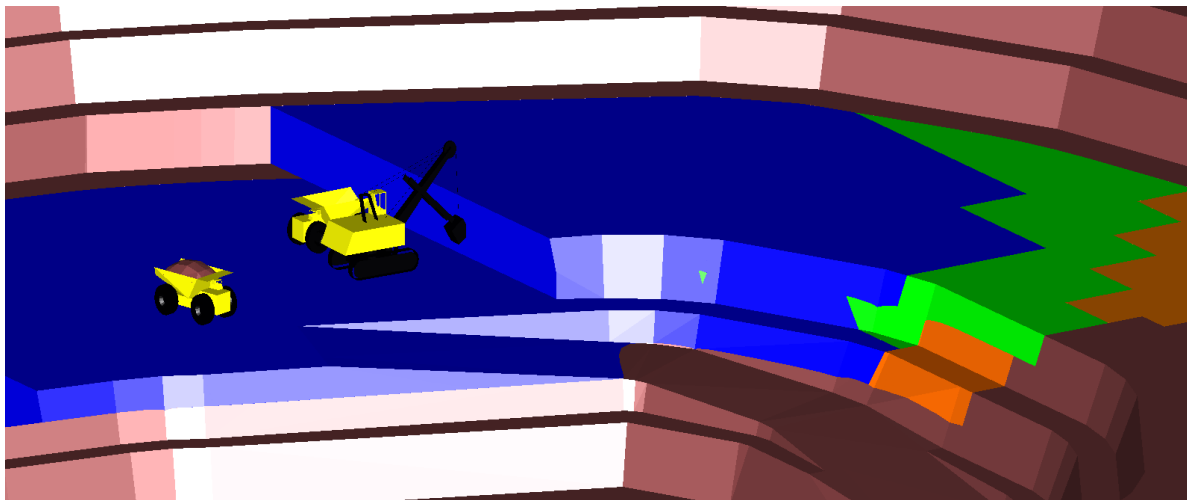


Figure 1: Integration between the MSSO and MSHaulage products allows for scheduling with equipment considerations in MSSO.

In this new release, the MineSight Planning Database (MSPD) will now include cycle time tables. Once an MSHaulage plan has been produced, you can calculate and save cycle times to the cycle time tables. Cycle times will be computed from each cut to each possible destination. MSSO will read the cycle times stored in the MSPD, and will compute truck and shovel hours depending upon truck and shovel parameters entered in MSSO.

To exploit equipment scheduling in MSSO, first ensure that your version of MSPD includes the cycle time tables. New MSPDs will all be created to include the cycle time tables. However, any MSPDs produced prior to this release will not include these tables. To add these tables to your MSPD, use the **MineSight Planning Database à Update** option in the MineSight Database Manager.

Once the cycle time tables have been added to the MSPD, the creation of cuts in MSIP and the creation of the haulage plan in MSHaulage will continue as normal. Prior to computing cycle times, cuts must be loaded to an IP set in the MSPD. Then, MSHaulage can be configured.

When generating cycle times for MSSO, it's not necessary to configure the Material Routing panels in MSHaulage. Once the entire haulage network has been loaded, simply navigate to the **Global Settings** panel in MSHaulage, choose the IP Set containing your cuts for MSSO and the equipment set to use for computing cycle times, then click the **Save** icon to store cycle times to the MSPD.

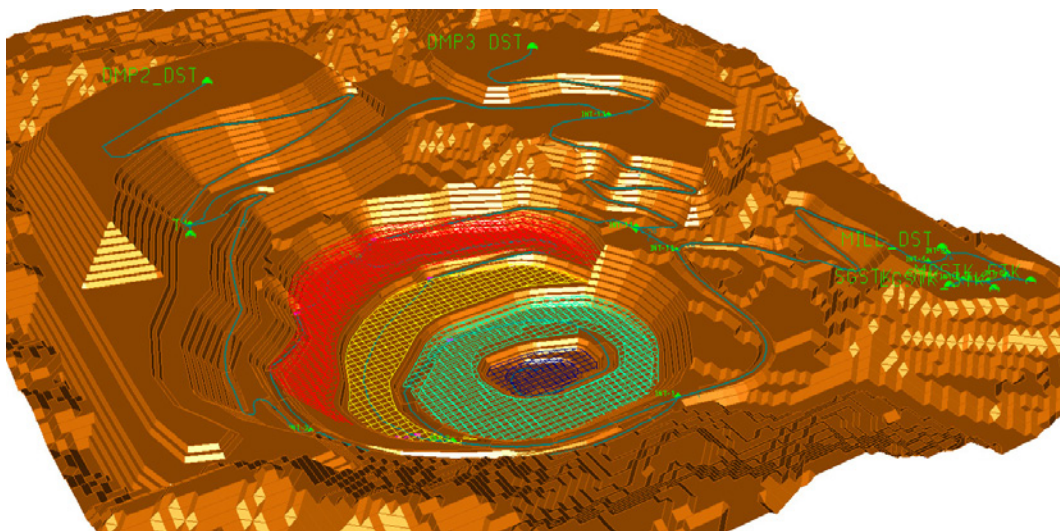


Figure 2: MSIP Cuts and the MSHaulage Network are still produced the same way as before.

Note: Phase names in MSHaulage must match the phase names for cuts that have already been imported into the IP set to be used with MSSO.

Once cycle time information has been stored to the MSPD, the MSSO schedule can be created. When creating destinations on MSSO's **Project Setup** panel, use the Load Destinations from a Haulage Network option to import destinations from your Haulage Plan. Then, upon completion of Project Setup, both cut reserve and cycle time information will be loaded to the MSSO plan.

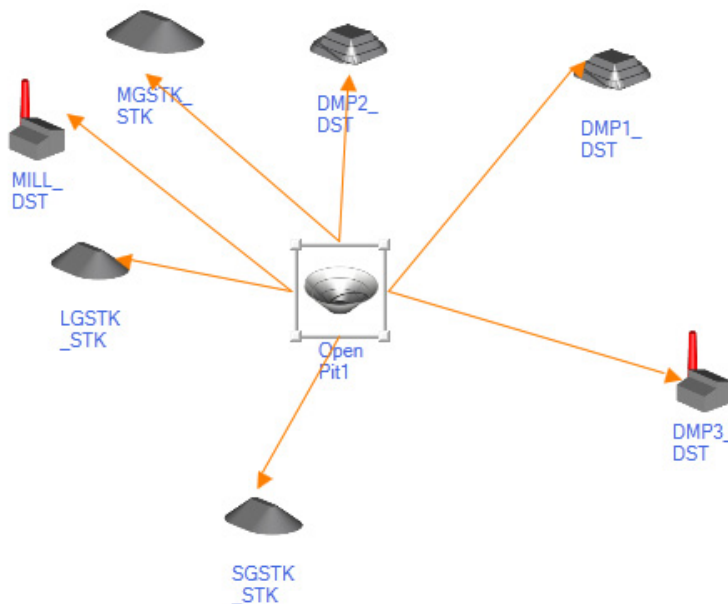


Figure 3: Destinations in MSSO should be imported directly from your Haulage Plan.

On the Haulage panel in MSSO, choose the equipment set to use for Truck and Shovel hour calculations. If desired, you can change several equipment parameters for this equipment set at this time. In addition, you also have the option to choose the **_DEFAULT** equipment set, which will allow you to manually specify equipment parameters and will use cycle times specified in the Default Cycle Time table. If cycle times have already been determined without using MSHaulage, the Default Cycle Time table can also be used to input and use these cycle times for scheduling in MSSO.

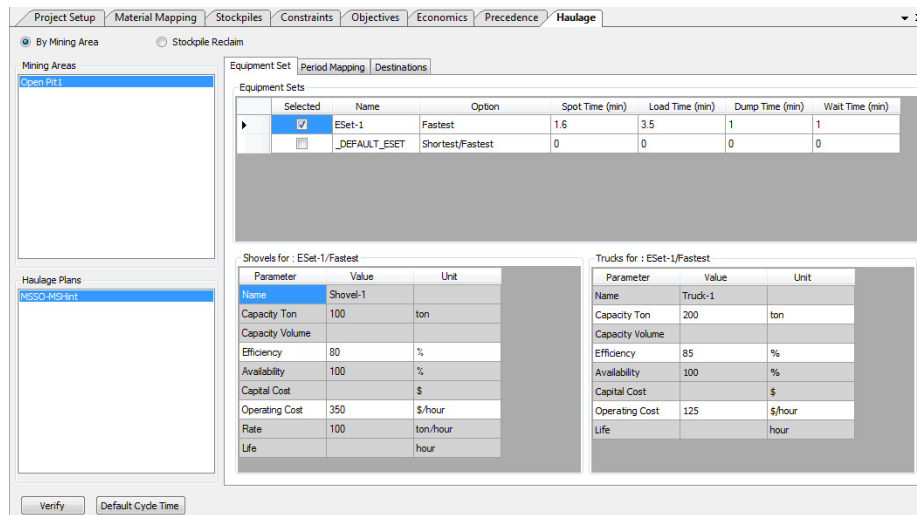


Figure 4: Equipment parameters are configured on the Haulage panel in MSSO.

The remainder of MSSO is configured almost identically to previous versions. One key difference is that constraints for Truck and Shovel hours now reflect Truck and Shovel Hours as computed from material routing in MSSO and cycle times computed by MSHaulage. This is rather than simply being Truck and Shovel hours computed based on routing in MSHaulage and stored in the MSPD.

When preparing to perform schedule calculations, you will have several new options on the Equipment Options tab in the Schedule Calculations window. Here, you can either ignore equipment parameters (Scheduling without equipment), ignore truck and shovel hour requirements while still calculating and reporting them (“Scheduling then assign equipment”), or calculate and respect truck and shovel hours (“Scheduling with equipment”).

The integration of MSSO and MSHaulage provides a quantum leap forward in the capability of MSSO to produce realistic mining schedules. For more information on this enhancement, or to request training, contact Mintec Technical Services or your local MineSight Applications branch office.