

MINE SIGHT®

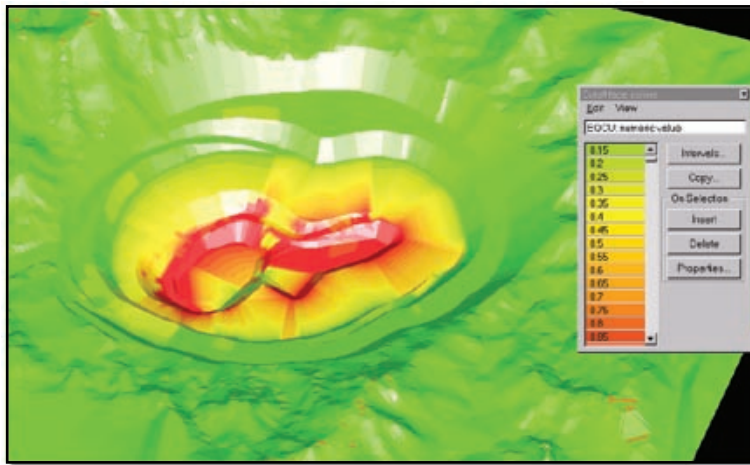
in the **Foreground**

a newsletter for MineSight® users

MineSight® Strategic Planner: A New Generation in Long-range Scheduling

Long-range mine scheduling is critical to project evaluations and strategic planning for a majority of mining operations. MINTEC, inc. is committed to developing, maintaining, and supporting its optimum long-range open pit scheduler. A new generation of the long-range scheduling program, MineSight® Strategic Planner is now available. Extended capabilities, improved logic, and a revamped interface are part of this new release. MINTEC believes that MineSight® Strategic Planner provides the best solutions to the practical scheduling challenges encountered by mines around the world.

We are all aware of the complexities involved with scheduling. Net Present Value (NPV) has been adopted by the mining industry as the basis for schedule evaluation. Optimizing NPV is not trivial; waste pre-strip must be delayed, product tonnage and quality must be maintained, and capital expenditure must be deferred. MineSight® Strategic Planner addresses all of these issues.



combinations of mining patterns for feasible mining layouts which meet current period targets and satisfy current period operating constraints. When a feasible mining layout is found, the use of material destinations (crushers, plants, or dumps) and the use of trucks and shovels are simulated. If the removal of the “mined” materials is successful, e.g., the capacities of destinations and the available hours of trucks and shovels did

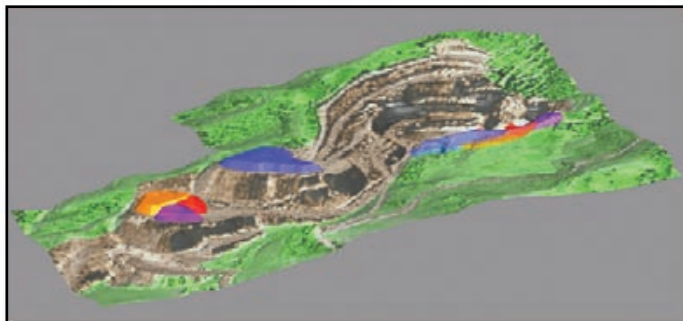
not run out, this feasible mining layout becomes a feasible solution. The costs and revenues associated with this feasible solution are computed and recorded.

At the end of a period, there is an examination of all feasible solutions. An optimum solution is chosen based on the period objective. The mining is then carried out based on the optimum solution. The status of reserves, the capacities of material destinations, and the available hours of trucks and shovels are updated.

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MineSight® Strategic Planner takes in pushback reserves data, explicitly examines, one period at a time, all

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A multi-period schedule is developed one period at a time by repeating the above sequence until all of the reserves are depleted. Project NPV is obtained by accumulating the discounted net values of all periods.

Advantages of using MineSight® Strategic Planner

- ❖ Optimized schedule - MineSight® Strategic Planner is based on the mixed integer programming principle. The period bottom benches are mined based on linear programming and the non-period bottom benches are mined by explicit enumeration. The optimum solution is based on comprehensive schedule criteria which consider not only the tons and grades, but also schedule economics, the use of material destinations, and truck and shovel hours.
- ❖ Project net present value (NPV) is readily available for comparing different schedule scenarios.
- ❖ MineSight® Strategic Planner sorts the phases of each period based on updated phase NPV. The phases with higher NPV values have higher priorities (to be mined first). This ordering of phases according to higher phase NPV values ensures the general mining sequence is optimizing project NPV. Together with the defined number of phases working in a period, MineSight® Strategic Planner will mine “ore” from phases with the highest NPV and strip waste in subsequent phases with next higher NPV values, thus reducing the risk of stripping from far-away phases.
- ❖ If maximum net value is the schedule objective, stripping will be minimized unless the user specifies waste mining requirements by period which exceeds the minimum determined by the program. Therefore, the program will delay waste mining as long as possible unless the user forces the program to mine extra waste during specified periods.
- ❖ MineSight® Strategic Planner is capable of blending up to 3 quality items and reporting up to 20 grade items.
- ❖ Definition of cutoff grades is by period or by phase-by-period, making cutoff grade optimization possible for practical schedules.

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Mintec Directory

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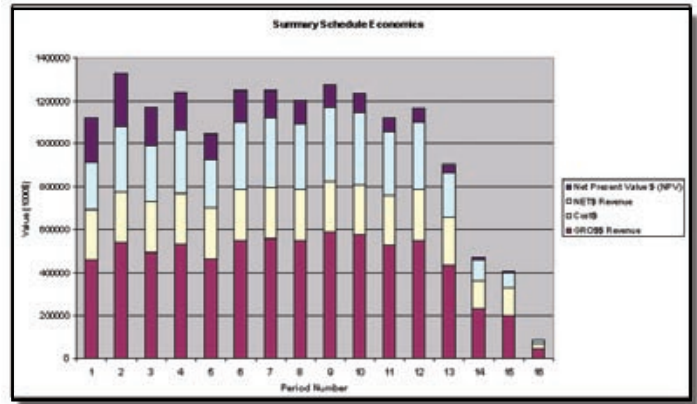
Staffed Tech Support Hours
Mon - Fri: 6:00am - 6:00pm (MST)
Sat: 8:00am - 5:00pm

*Staff is always on-call via pager
during hours not listed.*

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- ❖ Up to 2,000 precedence constraints provide engineers with plenty of control in considering operating constraints or scheduling according to engineers' judgment.
- ❖ MineSight® Strategic Planner provides the ability to schedule the use of destinations, the use of truck and shovel hours, and the capability to control the vertical advances of benches within a phase. The ability to determine the mining rate of phases and the dumping rate of material destinations makes MineSight® Strategic Planner a unique tool in the market.
- ❖ MineSight® Strategic Planner is amazingly fast. This provides engineers plenty of opportunity to examine alternative scenarios and carry out sensitivity analyses.
- ❖ The program interface allows export of schedule results into Microsoft® Excel spreadsheets or a Microsoft® Access database. Interface-produced schedule charts from within Microsoft® Excel can be easily printed or incorporated into project reports. Customized reports can be generated, with the schedule outputs stored in database files. End of period pit shells and contours can be generated automatically by using the new Period Map option in MineSight® 3-D.



Because of its built-in capabilities for the calculation of schedule economics, material destination usages, and truck and shovel usages, MineSight® Strategic Planner provides not only an optimized tons-grades mining schedule with year-end maps but also a schedule for the usage of material destinations and truck and shovel hours.

MineSight® Strategic Planner gives you the power to maximize your profitability for the life of the mine, in a realistic time frame. It's not just another algorithm! Real mining constraints are an integral part of the scheduling solution. MineSight® Strategic Planner was developed with your needs in mind.

CONTINUING EDUCATION

educación continua



MineSight® for Engineers – Surface – Level 1 (4 days; 2.8 CEUs)

MineSight® for Engineers – Surface – Level 1 is designed as the introductory course to MineSight® tools through the MineSight® 3-D and MineSight® Compass™ interfaces for surface mining engineers. Students will begin with an overview of MineSight® project setup, followed by a review of the tools within MineSight® 3-D. The course will then cover the tools used to optimize a pit, followed by pit design, long-range scheduling, and short-range planning. The new MineSight® Interactive Planner functions will be used exclusively for short-range planning.

MineSight® for Engineers – Surface – Level 2 (4 days; 2.8 CEUs)

This course will move through the same functions as the Level 1 course, but in more detail. The course is designed for students who are already familiar with MineSight® projects and the MineSight® 3-D interfaces, as those concepts will not be reviewed. Students will focus in detail on optimizing a pit, pit design, long-range scheduling, and short-range planning. The new MineSight® Interactive Planner functions will also be used exclusively for short-range planning.

(For schedules for this and other classes, see page 11.)