PINCOCK Perspectives

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C A L E N D A R

- ***XXIX Cenvencion Minera Extemin 2009***
  September 14 – 18, 2009
  Tecsup
  Arequipa, Peru
  Email: msovro@iimp.org.pe

- ***Exposibram 2009***
  September 21– 24, 2009
  Expominas
  Belo Horizonte, Brazil
  Email: ibram@ibram.org.br

- ***Latin Exploration 2009 - 1st International Conference on Exploration in Latin America***
  September 29, 2009
  Panamericano Hotel
  Buenos Aires, Argentina
  Email: info@argentinamining.com

- ***Mining Indonesia 2009 - 14th International Mining and Minerals Recovery Exhibition and Conference***
  October 14 – 17, 2009
  Jakarta international Expo Kemayoran
  Jakarta, Indonesia
  Email: mwaters@oesallworld.com

- ***China Mining Congress and Expo 2009***
  October 20 – 22, 2009
  Tianjin Binhai International Convention and Exhibition Center
  Tianjin, China
  Email: conference@mining-expo.com

Choosing Mining Software – A Guide

Since the invention of computers, mining operations around the world have used computers and specialized software in all aspects of their business. Whether it is a spreadsheet program or 3D mine design and planning package, computer software has become an integral part of the design, permitting, and operation of mines. Today, mines use software for many tasks including; exploration programs, geologic resource modeling, mine optimizations, mine design, reserve calculations, mine scheduling, planning, operational efficiencies, equipment analysis, project management and financial modeling. Now, I am not aware of any software package that is designed to do all of the above, but there are many packages that do what they are designed to do very well.

As a consultant to the mining industry, I am often asked what software is best for a particular project. The answer is: "It depends on the project." For instance, the best scheduling software for a surface nickel mine in Brazil is not necessarily the best for an underground gold mine in South Africa. As a result of working on many different projects and using various software packages, I have learned that not all software is created equal.

Software can be a major cost and a proper cost-benefit analysis is an important step to take when choosing mining software. Some software packages can cost a few thousand dollars while others can get into the hundreds of thousands. One must keep in mind that cheaper is not necessarily better. Each software package has its own unique features, abilities, advantages, and shortcomings. The best software to use may be a combination of several software tools. Ultimately, the best choice is the collection of software that returns the highest net value to the project. An expensive software tool that results in several times its original cost in additional profit by fully and optimally yielding a superior mine plan, may be a better choice than an inexpensive alternative that yields substandard or incomplete results. The purpose of this guide is to help you choose the best software package to meet the specific needs of the mine, the user, and the budget, keeping in mind today's needs and the future of the mine.

However, before we jump into questions that you could ask software companies;

let's consider a few questions that should be answered beforehand.

1. **What do you want it to do?** The first step in choosing software is to know exactly what you want from the software. What features or abilities do you need from the software? For example, if you are looking for a 3D mine planning package, a few questions to consider would be:

   - What features do you need? Do you need block modeling? Open pit or underground design features?
   - Does it need to be compatible with software already in use at the mine, or are you looking for a replacement for a substandard or out of date product that you currently own?
   - What output do you want and need from this software?

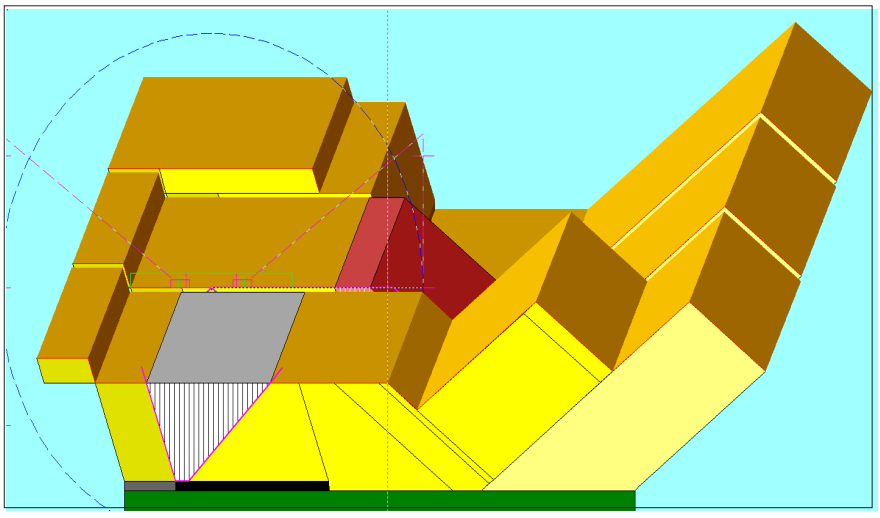
2. **Will this software be used in conjunction with other software?** Are the different programs compatible? If you use a certain brand of accounting software, it will, most likely, be beneficial to have the output from your budgeting software in a format that is acceptable to that accounting software. Some programs are created to be as flexible as the user's imagination; others are set with specific output formats.

Now that you know exactly what you want the software to do, here are a few questions to ask before you buy.

1. **How is the software licensed?** Is it per site, per seat, or per specific user? Can it be set up to work away from a network? Can it be used remotely from where it was originally licensed? If you work for a global company, can the software be shared with your office on the other side of the world, or perhaps for all sites on a specific continent? (Asking this question has saved our company quite a bit of money.) Can the software be licensed under an annual subscription, rather than a perpetual license? If you have periods of peak demand for the software, can your base license be supplemented with short term additional capacity?

2. **How much does it cost and how much value does it bring?** Cheap software doesn't necessarily indicate an inferior product nor does expensive software indicate a superior product. It is important to know how much the license will cost upfront and in the future, but remember that cost is not necessarily the decisive factor in choosing between packages. It's the NET benefit that you will receive from the software that is important. Often the user buys the initial license and pays a larger sum of money upfront, but is also required to pay an annual maintenance fee each year for support. Some software companies require you to pay separately for major version updates. Also, some features are sold ala carte. Ask about implementation costs and setup fees. If you decide later to upgrade to an enhanced capability, will the supplier give you a credit on the previous investment that you made with them? Make sure you know all of the true costs. In other words, read the fine print.

3. **What is involved in converting existing data into the new software?** This can be a major cost and can require a great deal of time and effort to convert existing data or bring existing data into a format that is usable. It is important to know how much data is involved and how much time and money it will take to convert all of the necessary data to the required format.



4. **What hardware, software or other technology is required?** Do I need a workstation or will my regular desktop have enough memory and CPU speed? Do I need other software or a different operating system?

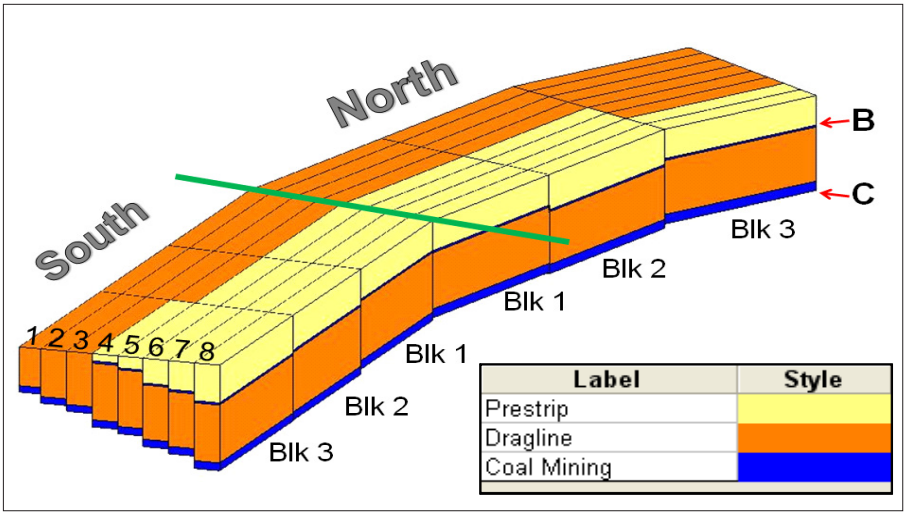
5. **How much training is necessary?** Many mining software packages are powerful and have enormous capabilities; however, to utilize those capabilities it is necessary to understand how it works and how to make it work. This requires training for individuals who will be expected to produce the desired outcome/product with the software. From my personal experience, the more powerful and more flexible the software, the more training is required, while less flexible and less robust software requires less training. Keep in mind that just because you take a training course in the software, it does not make you an instant expert. It takes time and experience using most software packages to become proficient. This is where the assistance of expert (internal or external) can make the difference in getting the expected return on your software investment. Also, examine the user interface and ask yourself if it seems efficient and logical. If your software investment is substantial, you can expect that users that succeed you will need to be able to use it. Also, new users are going to resist long learning curves and will find many reasons to dump the software for another that they are comfortable with, if it is going to take too long to become proficient.

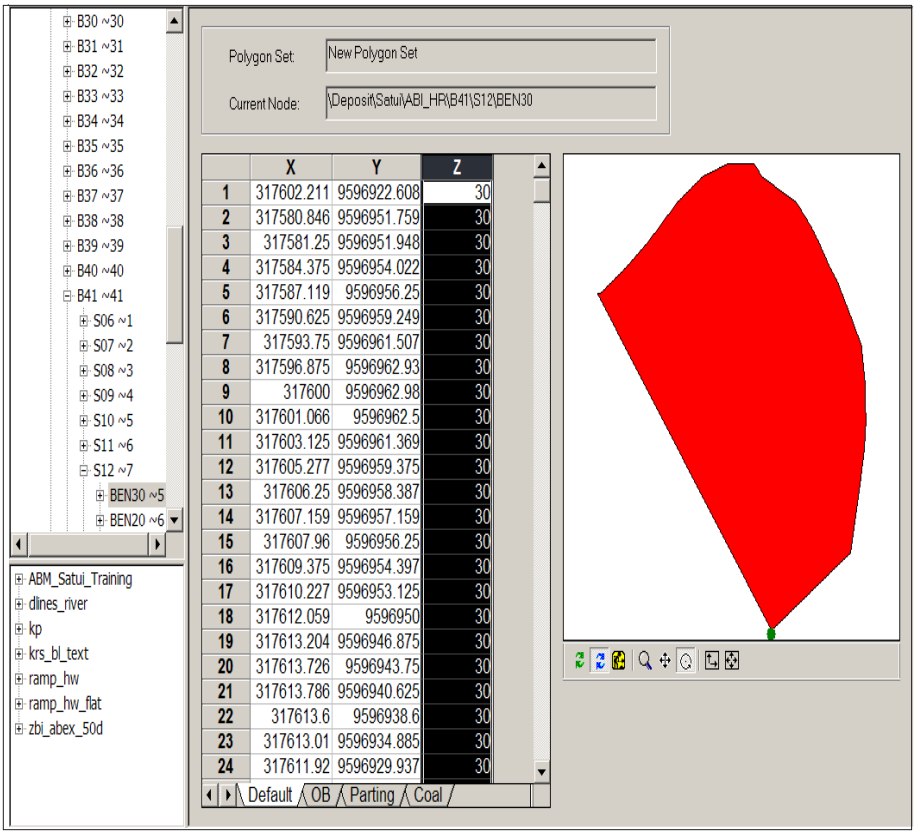
6. **Will I get (and do I need) support at 2 am?** Support can be a life saver…..if it's good and available when you need it. What are the support hours? Do they have other offices in different time zones that you can call? How many people do they have dedicated to support? What kind of issues will be covered by support? If they are not covered by support, what is the charge rate to fix custom issues? Is there a good user forum to reference to get advice from users in different companies?

7. **How stable is the provider?** Is this a fly-by-night company or is it well established and in good financial standing? If it is a one or two person company, what happens if they dissolve? How long have they been in business? What is their reputation within the industry? What other companies use this software? Does the software company have references? If so, go visit a site or two that uses it to see if they achieve the results you expect to achieve.

8. **Can I get a demo or use the software on a trial basis?** You wouldn't buy a car without taking it for a test drive; there is no reason to buy software without seeing what it can actually do. Ask for a demo and ask to test it with actual data from your mine, if possible. Even if this requires retaining the company to do a proof of concept mini project, it's better to find out up front if the software can do what you expect it to. Ask if the company will provide a money back guarantee within a reasonable time frame. Companies that don't have enough confidence to provide this may have a good reason not to.

9. **Does the software solution fit your specific business processes, or will you have to alter your business processes to make them fit the software?** If it is not a good fit and you are going to have to compromise in order to use it to its full potential, you really need to think about whether it is the correct choice.





10. Specifically, how will it create value for the mine? This is the most important question of them all and I touched on it earlier; however, it bears repeating. The main driver in the decision to buy one program over another or to buy one to begin with, is ultimately to add value. Make some reasonable assumptions regarding what gains should be expected, request firm quotes, and evaluate labor requirements and calculate the return on investment.

So there they are, some of the major questions that should be asked prior to making a significant software purchase. Buying the right software can have huge impacts on efficiency, accuracy, and profitability for your operation. Pincock, Allen & Holt (PAH) can help you in choosing the best software for your specific needs as well as provide assistance with integrating your existing software tools with valuable additions from Runge's full line of software. In addition to a full range of consulting services, Runge provides integrated software solutions that are compatible with nearly all the major geologic modeling systems for almost all aspects of the mining industry. From short-term planning through to financial modeling and data integration with Enterprise Resource Planning (ERP) systems, Runge and PAH can assist you in becoming more efficient and profitable by selecting and implementing the best software for your needs and ensuring that it is implemented to maximize your return on investment.

This month's issue was written by Andrea Brickey, P.E., Principal Mining Engineer with PAH. Andrea has utilized numerous mining software packages in a variety of mining industry applications throughout her career. Please contact Andrea for more information concerning Runge software packages or consulting services at 303-986-6950 or andrea.brickey@pincock.com. Special thanks to Paul Shattuck, P.E., Business Development Manager, North America, for his contributions to the article.

Pincock, Allen & Holt is a consulting and engineering firm serving the international mineral resource industry. Your comments and suggestions are always welcome. Contact Pincock, Allen & Holt • 165 S. Union Blvd., Suite 950, Lakewood, Colorado 80228 • TEL 303.986.6950 • FAX 303.987.8907 • www.pincock.com. Pincock Perspectives is published as a free information service for friends and clients.

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