AGGREGATES MANAGER Your guide to profitable production
PULL-OUT GUIDE
by Mary Foster, Contributing Editor

OPERATIONS ILLUSTRATED

Going for Greenfield

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Going for Greenfield

Each company has its own defined criteria for what makes a desirable greenfield site, with different strategies and different risk tolerances, but there are universal criteria that just about every company will seek to fulfill, says Greg Gould, president and COO of North American Limestone Corp. These include good geology, good location, market demand, good probability of success with zoning and permitting, and a forecast of competitive reaction.

"We try to start with customers and the market," he says. "What is the capacity of the market? Is the market anxious for other options? What are the transportation alternatives in getting the product to market? What can differentiate us from the competition in terms of quality, service, and location?"

It's important to find a good balance between deposit and location, according to Brian Duncan, area manager for Irving Materials, Inc. (IMI). "There are great deposits in poor locations, as well as poor deposits in great locations," he says, adding, "IMI has a geological team that is always on the trail to find new reserves, no matter where they may be. They work closely with our sales and marketing division to determine if the site has potential to grow the company."

Duncan says once IMI strikes the desired balance, it starts the course of proving the location. The basic steps that lead to opening a greenfield site follow a course of drilling in sand and gravel and boring in limestone to prove the location has the desired aggregate, determining viability of utilities and power for the site, and beginning the process of zoning and permitting. It is usually beneficial to conduct these steps simultaneously.

"Permit considerations start at the beginning when sites are being selected," agrees Julie Hewlett, senior geologist for Bowser-Morner, Inc. "Zoning, wetlands, conditional land uses, NPDES (National Pollutant Discharge Elimination System), and water extraction all factor in. The local political climate could make the permitting process lengthy and difficult. It is very important to work with the local officials and get them to view you as an asset to the community," she adds.

Duncan says current operations can also set the tone for ultimate success in zoning a greenfield location. "Be a good neighbor, keep your sites clean, because when you go to open a new site, the word will already be out about what type of neighbor you are," he says. "If you have a safe, clean, well-kept operation, however, you can really bank on that when opening a new operation."

"You really have to figure out your appetite and resilience for pursuing greenfield opportunities," Gould says. "It's expensive, and there are no guarantees of success. You must be patient and thick-skinned, and reasonable in your expectations. You can spend enormous sums of money on development, and then, after that, the hard work of winning customers and taking market share really begins."

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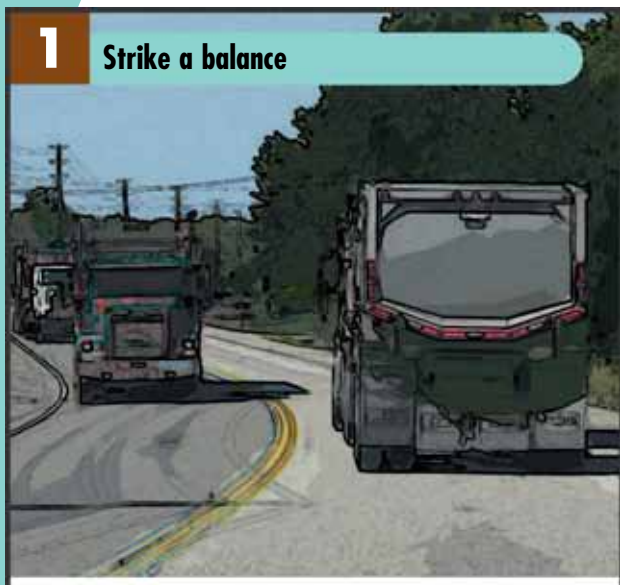
1 Strike a balance



Each producer may have a different set of criteria for opening a new greenfield operation. In general, however, the site must have a balance of geology and market. A good deposit without a market or a strong market demand without good stone does no one any good. Drilling can confirm or refute predicted geology. Other criteria to consider include availability of transportation, power and utility considerations, as well as the probability of competitive reaction.

4 Mine planning 101

The mine plan should go from start to finish without leaving good reserves in the ground or bankrupting the company with reclamation costs. A formal reclamation plan is essential to maximizing the value extracted from the property, and the post-mine plan can certainly add value to the project after the reserves are depleted. A post-mine development plan must be formulated, addressed, and developed before the first day of mining activity.

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mize the Development of Your Deposit

2 Buy or lease the land?

There are risks involved with either option, but if capital is available, it is typically better to buy land than to lease it. Purchased land can be retained for the option of additional mining at a later date. Or if the area is prime for development, the producer may sell the land at a profit. A land lease usually involves royalties for the landowner during the lease period (whether or not the deposit produces as hoped). Smaller deposits are better suited for lease, however.

3 Zoning and permitting

Understand permitting regulations and the zoning picture at the front end of the process, before a lot of money is spent. Zoning can be harder to obtain than permits because it relies on approval from committees — and people are harder to control than gaining compliance for a specific parameter such as noise. It's helpful to conduct third-party studies that verify claims of biological, environmental, and archaeological friendliness.

5 Roll of the dice

Any time a company looks at opening a greenfield site, it's a roll of the dice. The producer can invest hundreds of thousands of dollars taking drillings for analysis of a potential site, only to find the reserves of desirable material are not there. There may be issues that shut down the process during zoning and permitting. But if the company rolls the dice and is successful, permitted reserves greatly increase the value of the company.

6 Always look ahead

Mine plans must be fluid to address surprises with the deposit and any intention to expand the permitted reserves. Zoning is so difficult to obtain that once it's zoned, the company will want to keep the mine open as long as possible. Depending on region and geology, a sand and gravel deposit might last only about 10 to 15 years versus 25 to 50 years for a quarry. In this case, a company will want to stay about 10 years ahead in finding new sites to zone and permit for mining.

OUR EXPERTS

Julie K. Hewlett, CPG, a geologist with Dayton, Ohio-based Bowser-Morner, Inc. She is a certified professional geologist with the American Institute of Professional Geologists (AIPG) and a certified professional with the Ohio EPA Voluntary Action Program (Ohio VAP). Bowser performs stratigraphic and hydrogeologic analysis for aggregate investigations.

Brian Duncan, has been an area manager for Greenfield, Ind.-based Irving Materials, Inc. (IMI), since 1995. Prior to joining IMI, he was a superintendent for Great Lakes Dredge and Dock for almost eight years. Duncan holds a bachelor's degree in construction technology from Purdue University.

Greg Gould is president, COO, and director of North American Limestone Corp. (NALC), based in Louisville, Ky., and has more than 30 years of experience in aggregate and asphalt construction. He joined NALC four years ago when he took an equity stake in the startup company.

Voices of Experience

Julie Hewlett

According to Julie Hewlett, senior geologist with Dayton, Ohio-based Bowser-Morner, Inc., the first step in creating an effective mining plan is to develop a picture of the reserves, including aggregate type and the deposit's total volumetrics. The plan must include factors such as grain size, chemistry, quality, and the ability to meet state and federal material specifications.

The second step is to decide what will be done with the site when the reserves are depleted. "Your mine plan should get you from start to finish without leaving good reserves in the ground that are unavailable because of something you did, or bankrupting you with reclamation costs," she says. A formal reclamation plan is essential to maximizing the value and can add property value to the project after the reserves are depleted. This plan should be implemented concurrently and reviewed regularly.

In creating an efficient plan, "There is a 'dance' performed between areas of extraction, areas of production, and areas of waste placement. Strata that are unusable, but are blocking access to good reserves, are always a challenge to remove economically," Hewlett says. "Planning how you move these areas around will minimize double handling and making reserves uneconomical to access."

As a final step, recommends Hewlett, reach outside the company to get review your drilling program, material testing, geological interpretation, mine plans, storm water, EPA, and permitting requirements. "This final step can be the difference between a financially successful mining operation lasting many years or a mining operation facing many unforeseen problems and issues down the road," she says.

Brian Duncan

A sand and gravel reserve might only last 10 to 15 years, where a quarry will produce material for at least 25 years or more. Regardless, producers often spend a great deal of time looking to open new reserves, says Brian Duncan, area manager for Greenfield, Ind.-based Irving Materials, Inc.

"Zoning and permitting can take years, so you want to stay 10 years ahead and always have something in your hopper," he says, adding that zoning is tougher to achieve than permits. Why? Because permits usually revolve around a set number of parameters that the producer can, such as noise, dust, and storm water runoff. Zoning involves gaining approval from committees of people. "Noise, you can control," Duncan notes. "With people, you can find the answers and lay the groundwork, but, ultimately, you can't control what they decide."

Duncan says that once a site is zoned and permitted, it is preferable to own the land, rather than leasing it. Leasing usually involves a contract with set amounts of royalties due to the landowner, whether the mine produces aggregate or not. If the producer owns the land, "Then the land is yours, and the only restrictions that are on it are from the federal, state, and local authorities," Duncan says.

He explains that once the property is zoned, a producer will want to keep it open as long as possible because the company might want to expand the site later, or there may be pockets of aggregate on site that newer technology allows the company to mine, when the stone couldn't be reached before. If land is selling at a high dollar amount for development, however, it may be more valuable for the company to sell the property versus keeping it open in hopes of future mining, Duncan adds.

Greg Gould

"We like greenfields," says Greg Gould, president and COO of Louisville, Ky.-based North American Limestone Corp. "We have successfully launched two greenfield locations in the past 36 months, and we have a couple others that we are working hard on right now. Any time you look at greenfield development, it's a roll of the dice. You might do all of the work and find the reserves are less favorable than originally expected. You might not get your zoning and permitting. The profit won't come overnight, but if you do roll the dice and you're smart, if you're successful, zoned and permitted reserves can raise the value of your company."

Gould says his company prefers to start the search for a greenfield location by looking at market demand and the best way to supply the customers. While it may sound counter-intuitive, rural areas may be preferable rather than those closer to town. This is because new development is often located in suburban areas. "We feel, if our site is located farther out now, we can better supply the growth," he says. "Haul costs can often be cheaper from a rural area than from the middle of a city when you're trying to reach the growth area."

Geology is a given, and Gould says his company spends time evaluating the entire perimeter of a property. But you must take every variable into consideration, including neighbors, planned developments, schools, cemeteries, historic use, archeological interest, ground water, wells, typical wind direction, and more. "There is a lot of deskwork involved as we move forward on a site," he notes. "And we try to look at the site through the eyes of anyone who might have interest or influence in our progress — such as neighbors, government, and planning committees."

It is imperative to understand zoning and permitting challenges early in the process with any site. In fact, Gould says most research must be done in parallel. "But in the end, if you can start a brand new site, versus trying to expand an existing site, it can be very efficient and profitable," he says.