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LOW COAL

CARRYING ON A PROUD TRADITION

International Resource Partners extracts high quality met coal safely despite challenging geology

BY LEE BUCHSBAUM



Several of the men working at International Resource's Rockhouse No. 3A Mine pause for a safety briefing. Left to right: Nick Christian, mine foreman of 3A; Brandon Hatfield, roofbolter; Jamey New, mine superintendent; Neil St. Clair, section foreman; Jasher Norman, roofbolter; Adam Toler, outby foreman; Greg Ward, electrical foreman; Charlie Anderson, miner operator; and Bill Brown, assistant mine manager.

Mining in low coal is a different ballgame. Operating conditions are less forgiving. Yields are lower and costs per ton are higher. Margins for error don't generally exist. Despite this, thousands of Appalachian miners maintain what has become something of a family tradition in parts of southern West Virginia and eastern Kentucky, regularly squeezing underground in small mantrips through portals less than 40-inches high to access seams slightly more than 2-ft thick.

Located near Gilbert, W.Va.—deep in the heart of one of the most valuable and productive coalfields in the U.S.—Hampden Coal Co. and its sister company Rockhouse Creek Development Co. operate four active underground mines and five mining sections that produce an increasingly valuable metallurgical coal from a 50 million ton reserve block. In addition, metallurgical and steam coal is produced by another sister company, Chafin Branch Coal Co. at its Pete's Branch surface mine.

Hampden Coal, Rockhouse Creek Development, Chafin Branch Coal, and Logan & Kanawha Coal Co. (one of the oldest coking coal sales and brokering companies in the nation), are subsidiaries of International Resource Partners (IRP). Gary White, president and CEO manages IRP, which is owned by Lightfoot Capital Partners,

a private equity firm based in New York City. "All of our underground mining operations are high quality, high-vol met coal. Our product is among the best high-vol met coal being produced today. As an accident of geology, some of the chemical characteristics are a little bit more advantageous and we're very fortunate for that," said White.

Rockhouse and Hampden have long standing relationships with a variety of domestic and export coal companies. Established in Cincinnati in 1912, the brokerage firm of Logan & Kanawha "is the oldest continuously chartered coal sales company in the industry," said White. Acquired by International Industries in the mid-1980s, Logan & Kanawha is known worldwide as a marketer of metallurgical and steam coal. In total, IRP produces approximately 2 million tons of metallurgical and steam coal from its surface and underground mines in southern West Virginia and sells approximately 5 million tons coal to domestic and international customers.

Hampden Coal's reserves include high-vol met coal from the Upper Cedar Grove, Lower Cedar Grove, Alma and No. 2 Gas seams. Since Hampden Coal began production in 1987, more than 20 million clean tons have been mined, leaving 30 million tons of clean recoverable coal remaining. The

reserve block and the region where the company operates is currently being drilled to prove up additional reserve areas within IRP's control.

The Rockhouse Creek property was acquired by International Industries in 1995 to compliment the Hampden reserve base and offers current and potential customers a higher strength lower ash high-vol coal. Presently, the Rockhouse Creek coal mined within the Lower Cedar Grove and No. 2 Gas reserve is processed at the Hampden prep plant. This Lower Cedar Grove product is kept separate from the regular Hampden product and is loaded for specific customers.

Though most of Rockhouse and Hampden customers are located domestically, increasingly more of its met coal is going overseas to both Europe and Asia.

Once the coal is brought to the surface, Hampden transports it from the mine via truck or conveyor to the preparation plant. The plant has a raw feed capacity of 700 tons per hour (tph) and is equipped with a heavy-media vessel, heavy-media cyclones and froth flotation. Clean coal is dewatered by centrifugal dryers and stockpiled at the prep plant prior to transport to the load-out facility.

Up to four grades of coal can be stored at the plant without co-mingling. From the prep plant, coal is transported by truck to one of two clean coal load-out and storage areas for coal to be shipped on the Norfolk Southern or CSX railroads. At the NS load-out, coal is stacked via one of three 2,500-tph stacking tubes and stacked into one of three storage areas, with a total capacity of 15,000 tons. Alternatively, coal is transported by truck to a load-out on the CSXT system where 10,000 tons can be stored prior to loading into railcars. IRP also has approximately 20,000 tons of storage capacity at its Snap Creek CSX loadout. Both Hampden (NS) and Snap Creek (CSX) are unit-train loading facilities.

Relativity Theories: Working in Low Coal

Low coal is a relative term. Many seasoned Logan County miners would have little sympathy for an Illinois miner frustrated with the "tight" conditions found in his 50-inch mine. "Most of the employees around here do not

consider 40 inches low coal. Low is 30 inches or less. It's more or less the mid-seam mining," said Bill Brown, assistant mine manager, Rockhouse Coal. Most of the coal Rockhouse mines is in a 42- to 44-inch working height, but in places, particularly within the No. 2 mine, seams are lower.

While mining conditions are tough, cost management in low coal is equally challenging because a low coal mine uses virtually as many supplies as a high seam mine to advance the same distance but in low coal, an operator might only yield half as much tonnage. The lowest seam Rockhouse mines is the 24- to 26-inch Lower Cedar Grove. A very high quality met coal, it's a key product that Rockhouse produces and Logan & Kanawha markets. This premium coal is prized by users worldwide.

"What makes the difference is the price you get for a ton of that coal. We can mine less tons of Cedar Grove, but we'll get more for it, which equals out the costs over time," said Scott Mills, underground mine manag-

er, Rockhouse Coal. Mills is a fifth generation coal miner with almost 40 years of experience.

Commissioned in the mid-1990s, the No. 2 mine is Rockhouse Coal's oldest operation. In that period of time, it has also had two main portals. "In very low coal, travel time is an issue. You design the mine so you minimize the amount of time it takes to get men in and out," said White. "What makes a difference is getting from point A to point B. While standing, you can walk 1,000 ft in a matter of minutes. On your hands and knees it's a lot different, and by the time you get there you don't feel like doing much."

"But when we get the low 36-inch seams, we have to haul it out with the scoop," said Nick Christian, mine foreman, Rockhouse Coal, No. 3A mine and fourth generation miner.

Low coal takes a different toll on the body too. As one miner related, when miners work continually on their knees, they really only use the muscles from the waist up. "Your

arms and back muscles get a lot stronger. Then when you move up to the higher coal, you can really feel it in your knees, legs and the bottom of your feet," said Christian.

While Rockhouse uses low slung man trips to get its miners as close to the face as possible, there's still a scramble from the last entry to the face. And bolt men rarely get any relief. "One of the biggest differences from high coal is that if you have 4 inches of standing water, would walk through it in your boots. In low coal, you go crawling around on your hands and knees. It takes a different breed of coal miner to go there," said Christian.

With such tight margins, in low coal, staying focused and "on point" at all times is crucial. "You've just got to make good, smart decisions. You can't be in a hurry. You have to take your time and mine the coal efficiently making every move count," said Brown.

"Getting from place to place requires often between 70 ft to 100 ft of crawling from one entry to the next. You can't just

Built by a Working Legend: Buck Harless



Though part of a larger organization, Rockhouse and Hampden Coal very much reflect the character of the founder, Buck Harless. A legendary figure in southern West Virginia and throughout Appalachia, now in his 90s, Harless still lives in Gilbert and stops by the mines regularly to chat with his men.

As a young man, Harless first became involved in the coal industry while he worked on an engineering crew for a local lumber company that had coal holdings in the area. While working on the engineering crew, he became part owner of a sawmill. Over the next three decades, Harless created a prosperous lumber company that was eventually sold to Georgia Pacific. A U.S. restricted non-compete covenant led him to import wood from South

America. Over time, he built a series of sawmills that made him the largest importer of mahogany and later one of the largest Appalachian wood products producers.

In the mid-1970s with the coal business booming, Harless was approached by several businessmen from the Logan-Mingo area. Together they formed the Dash Coal Co. and began mining in the Gilbert area. After a series of labor disputes, Harless temporarily exited the industry, but a decade later he returned and formed the Hampden Coal Co. in 1984. Beginning in 2002, Harless began elimi-

nating contract mining on his properties and created a management team. His first hire was Scott Mills, underground mine manager, Rockhouse.

Harless, who will turn 91 this October, has spent the past 70 years not only developing industries but creating opportunities. Growing up an orphan, Harless is keenly aware of the stigma of poverty and the horror of "doing without." After seeing his community plagued by the booms and busts of the coal industry, Harless has long been determined to bring stable jobs to the area and give back to the region he loves. He remains committed to developing and maintaining local industries that provide good jobs with competitive wages.

Harless has also generously donated funds to colleges and universities throughout the U.S., though primarily in West Virginia. Beyond giving to WVU and Marshall, Harless has been very supportive of various local community colleges and the Louisville Seminary. "Though Mr. Harless has been very fortunate to accumulate lots of wealth, he has given most of that wealth away. Legions of kids who would never have had the opportunity to further their education can today attend school because Mr. Harless either paid for their tuition or they won a scholarship that he created," said White.

In Harless' hometown of Gilbert he has also built a large community center that includes a movie theater and a hospital clinic. "We already have a program where WVU and Marshall students travel there to treat patients. Now we're going to develop an emergency room clinic as well since the whole area remains very underserved from a medical point of view," said White.

Driving up in his truck with his German Shepherd companion co-piloting, "Mr. Harless still comes by and checks on the mines twice a day," said Mills. When he arrives on property he chats freely with the employees, many of whom he knows personally as well as professionally. But if production has slowed and the mine has stopped loading, "he'll immediately stop and ask what's going on. He may be almost 91 years old, but he's very sharp, very intelligent and very aware," said Mills.

Last November, during Thanksgiving, Harless drove down to his mines, waited for the shift to end and "had his dinner down here with the men who had to work. He shared Thanksgiving with his employees and thanked every one of us for the jobs we do. That's just the type of person he is. He personally sets an example of hard work and humanity for all us of to follow," said Mills.

LOW COAL CONTINUED



John Kennedy, an eight-year veteran with the company, operates a low slung shuttle car at the Rockhouse No. 3 Mine.

reach out as it's not a matter of arm strength," said Mills.

"In high coal if I need more belt structure it's not a problem," said Mills. "I've got several choices. Just about any piece of equipment can haul it in there. In low coal I can't run down and grab anything. I have to crawl up and over to physically load into a scoop. Everything takes longer, tramming, moving or transporting. In the low coal at No. 2 mine, just getting off a ride is hard. You don't flop off your mantrip. You roll off the side. But even though the best height is between 30 and 33 inches, most of the men that work there haven't been anywhere else. We have a supervisor who's worked his whole career in those low seams. They'll all tell you they're used to those mining conditions and most of those men don't want to work anywhere else."

When mining under these conditions, visibility is even more limited. "Everyone has their reflective stripes on, but it doesn't ensure the person driving that piece of equipment can see them," said Christian.

Beyond that, small entries mean narrow mining conditions. "A miner down there doesn't generally have that much clearance over the top of his machine. If he goes over a little bump, its possible that he might get the head of the machine stuck in the top or the bottom. When that happens you have to go get a crab or retriever or mine your way out," said Brown.

Rockhouse Coal's other mines produce more coal in terms of tonnage and volume, but the No. 2 runs cleaner. In 30- to 40-inch coal, Rockhouse Coal will load more rock, "but we're not taking much top or bottom over at No. 2. We're running about 70% clean or more," said Mills.

Special Situations, Special Equipment

Over the years Hampden has experimented with various mining methods to maximize safety and production in low and thin seam applications. Organizing the mining strategy around seam characteristics, each face is different. "Our No. 2 mine may be as low as 27-inches up to 36 inches or so. The problem with that particular coal seam is it typically has a very hard sandstone bottom and top. So you don't have the option of putting a Joy 14CM10AA miner in there that will mine 36 inches. When you get down to 27-inches, you can't just mine your way through the rock because they don't make a miner that can effectively mine through hard sandstone. So in that mine you're restricted to the type of miner and haulage system that seam conditions will allow you to use," said White.

Rockhouse uses modified scoops and skid cars to load belts. "It's basically a flat piece of metal, 3/4 inches thick, that we use to draw belting, structures or cables ahead.



Donal Smith, a five-year employee, maintains and inspects the belts in Rockhouse's No. 3 Mine.

Conditions are so tight that you have to unwind the cable outside because there's no room to set up your cable when underground," said Mills.

As they advance, about every three to five breaks Rockhouse shoots the top out so they can bring the equipment into a higher area to work on whatever adjustments and maintenance is required. "Without doing that, there's no way of getting into your equipment. As it is, because the seam heights, we go and custom spec most of the equipment we purchase," said Mills.

Rockhouse uses spilt air on its low coal sections. "We have two miner operators. When one is through cutting, the other one moves that continuous miner while operating the machine on the other side of the section. You continually have one set up, and one waiting for its turn," said Brown. Altogether, in a low coal section, Rockhouse employs four scoop operators, two roof bolter operators, an electrician and a foreman in addition to the two miner operators. Crews work nine hour shifts changing at the face. With lower conditions, the No. 2 mine has two miners and five scoops hauling and dumping onto a belt feeder. "As it is, because of the seam heights, we go and custom spec most of the equipment we purchase," said Mills.

Though in the past Rockhouse No. 2 mine used continuous haulage, over time the system became unreliable and current seam conditions do not lend themselves to its use. "We eventually started using battery haulage—just regular scoops in a continuous process. We work together—hourly and salary employees in a process of continuous improvement—and everyone comes together to find a solution. In this mine, we started replacing the buckets on the scoop to what we call a coal-haulage bucket," said White.

A scoop is primarily designed to be used as a construction and utility vehicle. But many manufacturers make a bucket designed specifically to handle a coal cut. A typical 20-foot cut with a regular scoop bucket takes 12 buckets to remove the coal. "With a coal bucket it takes us only eight. So you have a nearly 50% increase in efficiency," said White.

For its thinner 24- to 30-inch coal, Rockhouse prefers to use the Bucyrus, Dash Zero low-profile continuous miner. "That's what we have found can fit in the seam and still perform. The Bucyrus Dash 0 low-profile continuous miner performs well and will hold up in the thinner seams," said Christian.

"The total height is often only 27 inches. If the coal seam goes down to 15 to 16 inches,

either you stop that entry right there or mine the rock with it. But when the seam goes up to 33-34 inches, well then its no problem," said Mills.

Roofbolting is also quite different in those conditions. "Miners bend a standard No. 5 bolt at an angle, into an L-shape to insert them into the hole. We always use Fletcher roofbolting machines because they make roofbolt machines that can fit so many different seam heights. We always buy the lowest they can make for us," said Christian.

Most of Rockhouse's other mines typically have low 30- to 40-inch coal which allows them more flexibility. In those mines they either have a top or bottom or both that's softer and more cuttable, allowing the use of more conventional equipment. "In those situations, we primarily use Joy continuous miners and shuttle cars and take enough of the bottom or top or both to get the space we need. We're kind of going for quality over quantity—understanding that we're going to have a higher reject, but the productivity that we can get outweighs the cost of processing," said White.

Rockhouse's newest mine, No. 3A, employs a different materials handling system. "Not only does the beltline operate underground, it was engineered for direct transportation into the prep plant. Our equipment configuration in No. 3A began with the configuration that we had proven over three years at the other mines. We had the advantage of knowing and understanding how best to use the low pedestal Joy 14/15 continuous miner and the best type of shuttle cars. We use four instead of three and a variety of other lessons learned," said White.

In 40-inch coal seams Rockhouse uses a Joy 14/15s, and mid-seam Fletcher roofbolters. "As a personal opinion, they're the best in the business. That's coming from an ex-bolt man," said Jamey New, superintendent, Mine No. 3A. Rockhouse also uses Fairchild scoops, 21 North American Rebuild Co. (Narco) shuttle cars and a Cogar Equipment feeder breaker.

Carrying on a Tradition of Safety

Low coal isn't for everyone. Working in these conditions requires dedicated training and a lot of patience. "We train our own and make a lot of good, young coal miners from Red Hats here. To a large degree, we've created a homegrown workforce. We hold our own foreman and electrical classes here to prepare our men for the conditions they'll face," said Mills. It helps there is such a tradition of low coal mining throughout the southern



Left to right: Jasher Norman and Brandon Hatfield perform roofbolting work at Rockhouse's No. 3A Mine. Like so many in the industry, both are multi-generational miners.

West Virginia region. Though most of Rockhouse's employees are from Man, Gilbert, Logan or Chapmansville, each day three employees, a father and his two sons drive in from eastern Kentucky to work in Rockhouse's lowest mine. "They have been doing this since it opened five years ago. In all that time, they've never missed a day of work," said Mills.

White is very proud of the employees. "These guys are really very talented, skilled and intelligent. They choose to work in our industry because they're third, fourth or fifth generation coal miners and our industry is located in their hometowns. Our guys have done a phenomenal job in our little company. We have an NFDL rate this year that is among the best in the industry as indicated by a Workers Compensation insurance rate that is within the top 3% of all West Virginia mines and we work hard to maintain that," said White.

"One thing we do every morning is talk about safety and everyday we try to impress on our employees how important it is to prevent accidents before they happen," said Brown. Safety is taught by example, good practices are passed down from generation to generation, often father to son. "If you see someone doing something incorrectly, you don't lambast them, you don't holler at them. You just take them aside and say 'here's what you need to do, take two seconds for safety I tell them,'" said Eddie Paynter, safety coordinator, Rockhouse.

Each week ends with a conference call and the first topic is always safety. "All of us at this company know that no one's life is worth as much as a lump of coal. Production is and will always be secondary to making sure that everyone of our

employees comes out every day. We're a family here. That's just the way we do business. Safety is the most important aspect of what we do," said Brown.

Following the nearby Upper Big Branch tragedy, Rockhouse conducted its own blitz of its operations and Mills implemented the "rib-to-rib" program, concentrating attention, first on their belt lines, which were already a source of pride. "We have had more than one federal inspector bring their immediate supervisor or higher into our coal mines and show them what can be done. That makes you very proud of your people," said White.

Recently, Rockhouse created a new company policy to have at least five people on a compliance team, consisting of a certified foreman, an electrician, and three general laborers to try and get ahead of MSHA. "We want to find our violations and fix them before they find them and cite us for those violations. Our goal is to conduct inspections of the mines and if we see violations or conditions that need to be corrected, we do so immediately. That way, when an inspector comes, we should be pretty well on an even keel. I was an inspector for 20 years. Basically we want to be proactive instead of reactive. We want to find these conditions and get them fixed. That way when MSHA comes in they will find less problems and come across nothing that will force them to temporarily shut us down. They won't find any hazards because there won't be any to find," said Paynter.

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