

Ancient Archaeological Sites



Bill Barrett Corp. is undertaking an extraordinary effort to work with government agencies and preservation groups to protect the local environment and preserve ancient Indian artifacts at the West Tavaputs Field in the Nine Mile Canyon in the Uinta Basin. Shown here is some of the 1,000-year-old “rock art” carved into the canyon’s sandstone walls.

Bill Barrett Corp.’s initiatives are significantly advancing the cause of protecting, maintaining and funding educational research into this archaeological treasure.

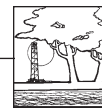
Lead To Cooperative Solutions For Developing West Tavaputs

By Danny Boyd
Special Correspondent

DENVER—The shining jewels in Denver-based Bill Barrett Corp.'s inventory of development opportunities for long-term, low-risk growth are oil properties in the Uinta Basin, liquids-rich natural gas formations in the Piceance Basin, oil and NGL-rich gas in the Denver-Julesburg Basin, and a treasure trove of gas from atop the West Tavaputs Field in the Uinta Basin in eastern Utah.

With 461 billion cubic feet equivalent of proved reserves and up to an estimated 1.5 trillion cubic feet equivalent of potential recoverable reserves, West Tavaputs obviously has huge long-term upside for future development. But what sets it apart from other assets in Bill Barrett Corp.'s portfolio is the extraordinary effort the company is making to protect the local environment and preserve historical sites in some of the most rugged and operationally challenging terrain in the continental United States.

In fact, the area's geography is so demanding that Bill Barrett Corp. has had to utilize helicopters extensively to transport 3-D surveying equipment during what the company dubs some of the "most extensive and difficult 3-D acquisition programs ever undertaken in the United States." But it is not only the imposing canyon walls and soaring elevations that make developing West Tavaputs unique; it is also the extensive and intriguing carvings along the sandstone cliffs of Nine Mile Canyon, the route to the plateau, made a millennia ago by native Americans that today comprise an ancient art gallery aligning the path to this vast deposit of natural gas reserves.



Bill Barrett Corp. is committed to investing upward of \$20 million in projects aimed at preserving Indian artifacts, improving wildlife habitat, restoring drilled lands and enhancing the guest experience for visitors to the scenic southern edge of the Uinta Basin.

The endeavor, among the first of its kind, is breaking new ground between the industry and preservationists concerned with how oil and gas operations could potentially impact local archaeological treasures and the environment. The initiative also is allowing industry to demonstrate its commitment to preserving natural treasures, says Jim Felton, BBC's communications manager.

Company funding includes \$5,000 for each approved downhole drilling location on federal lands for "preservation, promotion and educational projects" in the Nine Mile Canyon. That investment comes on top of \$200 million Bill Barrett Corp. planned to spend this year in the West Tavaputs Field, where Felton says the company was producing a net 104 million cubic feet of gas equivalent a day at the end of 2011 from 275 wells drilled to the Mesaverde and Wasatch formations 7,000-8,000 feet below the rocky surface.

BBC has identified 622 potential horizontal drilling locations on its leasehold, according to Felton. "That means we could be operating there for the next 10 to 20 years," he notes.

Development Challenges

Oil and gas were discovered at West Tavaputs in 1952 and multiple wells were drilled in the 1950s-60s, but Felton points out that the topographical challenges and a lack of infrastructure to transport production to markets combined to thwart development. A few months after Bill Barrett Corp. was launched in January 2002, the company spent \$8.1 million to purchase 47,000 acres in the West Tavaputs Field.

"It was our first big acquisition as a new company," Felton states. "We spent another \$5 million shooting 3-D seismic in the field after acquiring it. Modern 3-D seismic, drilling and completion techniques had never been applied at West Tavaputs."

Access to the field, located atop three mesas, is through Nine Mile Canyon, a misnomer for a 45-mile long canyon traversable by a narrow, Civil War-era sandstone road twisting through tight curves and subject to frequent washouts in heavy rains. "In some of those areas, given the elevations, topography, types of soil, heavy rains, and flash floods, our people have had to get some visitors out of some tough spots," Felton adds.

Increased truck traffic that accompanied the ramp up in drilling activity stirred up dust and led to opposition by archaeological preservationists, who began raising concerns about the impact of the airborne red talc on the Indian rock art that con-

tributes to the region's nickname as "the world's longest art gallery." Among the archaeological treasures is the Great Hunt Panel, which is thought to have been carved by the Fremont Indians 1,000 years ago.

So Bill Barrett Corp. began applying water and magnesium chloride to suppress the dust, but preservationists then contended the chloride was sticking to and potentially damaging the artwork, Felton says. "The studies we have seen were not very conclusive in terms of that contention, but we switched to lignin sulfonate, a benign dust suppressant that is basically tree sap," he explains. "That has worked quite well."

While compiling an environmental impact statement for the U.S. Bureau of Land Management to drill year-round instead of in six-month increments around seasonal stipulations, the company broached the idea with state officials and Carbon and Duchesne counties of installing a hard, roto-mill surface on the road, widening blind spots, and improving drainage. The price tag for the new corridor is \$20 million, with the company putting up \$10 million for the project on top of \$6 million spent on earlier dust remediation. Road construction is expected to be completed by this fall.

"The project gives comfort to a couple dozen entities who had raised concerns on various levels," Felton remarks. "By bringing a 19th century road up to 21st century standards, we are increasing safety, improving operations and enhancing the guest experience in the canyon."

Conservation Trust

On top of its investment in road construction, Bill Barrett Corp.'s \$5,000-per-well contribution is funding the West Tavaputs Archaeological Conservation Trust. More than \$500,000 was in the trust as of mid-February with \$3 million expected for preservation and promotion by the time drilling is completed in the field, Felton says. Grants from the trust will be made available to researchers, scholars, authors and others for artifact preservation, research, area promotion and educational projects.

The Utah archaeological community, although passionate about preservation, is relatively small, reducing the likelihood of redundant grant applications, Felton notes. "Projects could range from the Carbon County Chamber of Commerce



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promoting the area, to an author writing a book about the first settlers in the area, or researchers studying soil samples or spores to determine what the vegetation might have been like in the area 10,000 years ago," he says. "It could also fund additional research into why a vibrant Fremont Indian culture vanished well before any European settlers entered the area."

Kevin Jones, now a retired state archeologist who is helping BBC set up its grant program, points out that the company established the grant program on its own. "This is not something that was required by government agreements or clients," Jones says. "Bill Barrett Corp. did it to enrich the study and protection of the archaeological and historical resources in the region. It is a fantastic idea that is unprecedented, as far as I know. It is something that will greatly enhance the protection and care for resources in the area, and shows Bill Barrett Corp.'s responsibility to the community and to the heritage of the area, above and beyond any legal responsibilities."

Adds Felton, "When we are done, the area will be reclaimed, and the body of knowledge for the artifacts and archeology will be richer than ever, as will the guest experience. A driving value of our company is to have no negative impact on archaeological resources here, whatsoever."

During talks in 2010 with the BLM and the Southern Utah Wilderness Alliance (SUWA) as part of the EIS process, BBC took the highly unusual step of reducing its initial development plan to prove its commitment to mitigating the environmental impact. The company plans to drill 622 wells from 120 pads, reducing the initial proposal by 181 wells and 418 pads, Felton says.

"We have reduced the number of new pads by drilling as many as two dozen wells per pad and reoccupying old well pads," he says. "However, the critical factor in finding ways to minimize our footprint was to assure we were not going to be leaving recoverable resources in the ground. Technological advances and our own growing knowledge of the resource base got us comfortable with the footprint reductions."

Standard laterals lengths of about 2,000 feet could soon be doubled so the wells can extend into reserves beneath scenic areas of the plateau, Felton goes on. "The plan reduces the short-term surface disturbance by more than half, from 3,656

to 1,603 acres," he notes.

Landmark Agreement

The landmark agreement with BLM and the SUWA, which wanted more land set aside as wilderness, breaks new ground by providing a model that could be copied in other basins, says Bill Krompel, a retired Carbon County commissioner who helped bring the parties together.

"I believe energy companies will invest if they have the certainty they can move forward in a timely manner," Krompel comments.

Bill Barrett Corp.'s willingness to encourage talks and compromise likely averted a protracted legal dispute that would have ultimately cost the federal, state and local governments revenue, and Utah workers jobs, he says. "We need a new model for extracting resources on public lands and bringing interest groups and stakeholders together to get this done in a year or two instead of five or 10," Krompel says.

While some preservationists wanted the company to do even more, the agreement between BBC and SUWA speaks volumes about the company's commitment and willingness to accommodate other interests, says Jerry Spangler, executive director of Ogden-based Colorado Plateau Archaeological Alliance (CPAA), a group focused on preserving archaeological sites

on BLM lands.

"The simple fact that all the interested parties could agree on this plan speaks volumes for how good it is. CPAA does not litigate, but works to come up with solutions that allow energy companies to accomplish their goals while preserving cultural resources for future generations," relates Spangler. "We have worked with Bill Barrett Corp. for three years and find the company to be very cooperative. We have sat at the table with them many times and negotiated what we felt was in the best interest of archeology."

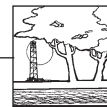
CPAA applied for consulting party status early in the EIS process, a move that Bill Barrett Corp. supported, Spangler recalls. The BLM denied the request in order to expedite the process, but the federal Advisory Council on Historic Preservation countered that BLM was required to give the alliance the status under the National Historic Preservation Act.

The BLM's rejection of the original request and a required restart of the process cost BBC two years, Spangler says.

All along, the challenge was in getting organizations to soften outright opposition to more drilling, Felton says. "We explained our interests as a company, to develop a proven resource in a way that was sensitive to both environmental and preservation needs," he says. "If a company is willing



Bill Barrett Corp. is committed to investing \$20 million as part of its broader initiative to preserve Indian artifacts, restore drilled lands and improve wildlife habitat. Part of that effort includes funding the West Tavaputs Archaeological Conservation Trust. More than \$500,000 was in the trust as of mid-February with \$3 million expected by the time drilling is completed from atop the plateau at West Tavaputs Field, overlooking the Nine Mile Canyon area. Grants from the trust will be made available to researchers, scholars, authors and others for artifact preservation, research, area promotion and educational projects.



to invest \$200 million a year over the next five to eight years, that also means there are additional resources that can be brought to the benefit of other assets in the area, as we have done for wildlife, the community and to other local issues. We have been able to show other parties we could consider their interests instead of having to face opposition that precludes any creative ideas or solutions.”

Economic Impact

Krompel says the economic impact of natural gas exploration in a rural area motivated him to work with the company, local government and various agencies to find a solution that made sense for BBC’s investors, local communities and archaeological preservationists.

“About 50 percent of every mineral lease dollar comes back to the federal government, the state of Utah gets 30 percent of that mineral lease royalty, and the local county gets 20 percent in addition to the economic impact,” he points out. “That is a huge sum of money. The state also gets severance tax revenue from oil and gas production. That is on top of growth in jobs that pay very good annual salaries.”

In Carbon County alone, more than 60 percent of all property tax revenue

comes from energy companies involved in natural gas exploration and coal production, he says. Krompel urges public officials on every level nationwide to take a close look at Bill Barrett’s contribution, which results in more clean-burning natural gas production that can be used to transform the nation’s energy sector.

“This model agreement could be refined and used in the future to help the country move forward with these important domestic energy projects, so we can help secure our energy independence, benefit from the economic multiplier for our counties, and increase our revenues for all levels of government,” he says.

In addition to funding research and road construction, and reducing its operational footprint, Bill Barrett Corp. is recycling hydraulic fracturing water and reducing the need for hundreds of truck trips in and out of the canyon, further reducing emissions, Felton says. Moreover, many wells are being operated from below-ground cellars to reduce visual impacts, and the company is involved in wildlife habitat preservation projects.

“Every acre of wildlife habitat we preserve, we offset with habitat enhancement at a ratio of 4-to-1,” Felton comments. “We have spent hundreds of thousands of

dollars on sage grouse research to improve habitat health in corridor activity in crucial habitat areas. It is an amazing process to break ground on a well and then reclaim the site to not simply bring things back as they were, but to actually improve it.”

Habitat enhancement also is improving foraging for deer, elk and wild turkey. For its efforts, Bill Barrett Corp. received a Conservation Achievement Award from the Utah Division of Wildlife Resources. “Every single disturbance is monitored and surveyed,” Felton says. “All personnel, employees and contractors are trained for site avoidance in areas with sensitive cultural resources.”

On private leases, Bill Barrett is doing its own inventory of archaeological assets, preservation needs and educational planning, Felton adds.

For its part, CPAA is pursuing grant money to continue its work studying and preserving as many as 100,000 prehistoric rock art images at 10,000 locations in Nine Mile Canyon. “We live and die by grant money,” Spangler says. “We are professional research archeologists, and there will be opportunities in the area to explore scientific questions that we would love to sink our teeth into.” □