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D-J Basin Quiet Pad Operations



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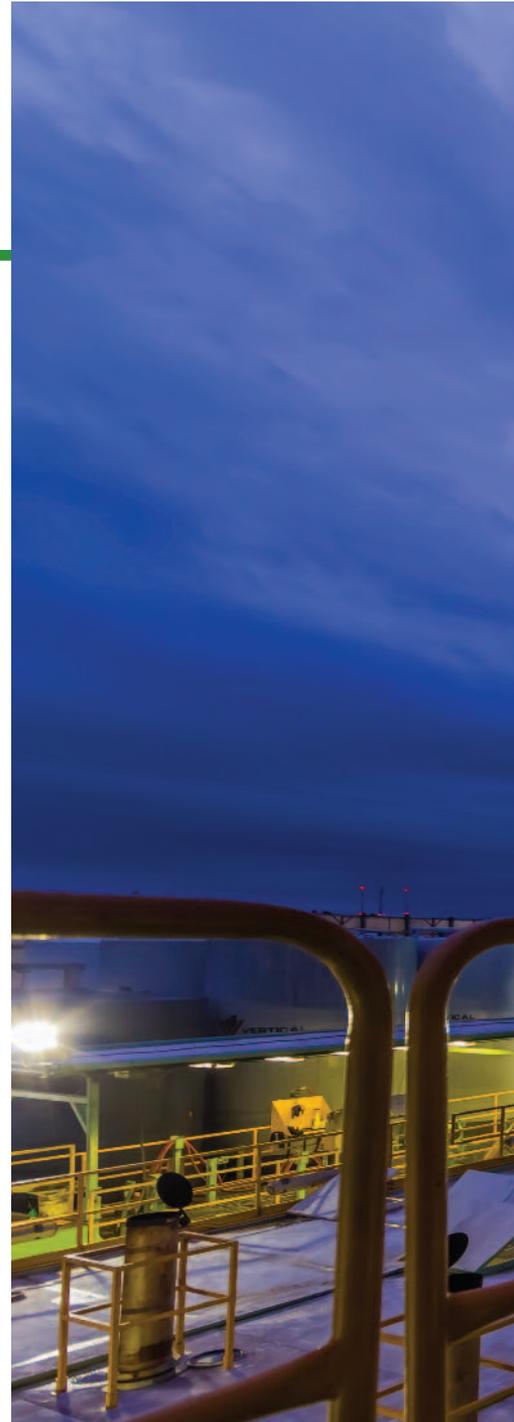
D-J Basin Operators Work In Harmony With Local Communities

By Tim Beims and Colter Cookson

DENVER—The law doesn't stop at the county line and geology doesn't change according to city limits. The same formations that hold oil and gas accumulations in the subsurface far beneath pastures, corn fields and wide-open stretches of countryside also extend below busy airports, bustling city centers and residential neighborhoods.

Drilling, completing and producing horizontal wells in urban areas brings extra operational considerations, and oil and gas companies often go far above and beyond applicable regulatory requirements to ensure reserves are developed in the safest and most environmentally responsible manner possible.

Nowhere are interactions between the industry and citizens more essential than in the Denver-Julesburg Basin. The D-J is certainly no stranger to exploration and production activity. The giant Wattenberg Field in Weld County, Co., was discovered in 1970 and saw its first horizontal well in 2009, after which it quickly emerged as the core area for laterals in the Niobrara and Codell formations. Weld now has 20,000 oil and gas wells, more than any other county in Colorado.





The Weld County seat is Greeley, which the U.S. Census Bureau defines as the fourth fastest-growing metropolitan statistical area in the nation, gaining 3.5 percent population between 2015 and 2016. The region's population growth, driven in no small part by flourishing drilling activity, has brought houses and businesses into areas where pumpjacks once stood alone.

As operators have mapped the prolific Niobrara and Codell formations, they have recognized that many of the best reserve opportunities are underneath Greeley and other towns along the Front Range. To access those reserves before the surface areas overlying them are lost to urban growth forever, companies must drill, complete and produce wells even as residential and business districts are being constructed around pad sites, and demonstrate to local citizens exactly how oil and gas companies can be good neighbors.

Operating in urban areas requires a delicate touch, due diligence, advanced technologies, a commitment to working with local community leaders—and more often than not—a willingness to take extraordinary measures to reduce operational footprints and minimize inconveniences on local residents. However, it also presents win-win opportunities for all parties; the metrics operators use to measure success, such as well counts and production growth, translate directly into the type of economic statistics city governments use to measure progress, such as new housing counts and job growth.

The official Weld County website says it all: “Horizontal drilling has brought new life to the energy industry in Weld County. The positive economic impact oil and gas has had on the county has been tremendous. Schools, fire districts, libraries as well as county and municipal governments all benefit from this recent oil boom . . . Other benefits of the boom: Weld County has no long-term or short-term debt, no county sales tax, a low mill levy compared to neighboring counties, and is able to pay for long-term projects with cash.”

In Weld County and other areas along the Front Range, independent oil and gas companies, local governments, business leaders and private citizens are proving

every day that the buzz and hum of oil and gas development can harmonize seamlessly with the hustle and bustle of urban expansion.

Community Responsibility

At the heart of Denver-based SRC Energy Inc.'s operations across its 60,000-net acre leasehold in the greater Wattenberg area is an overarching commitment to “community responsibility” to explore, develop and produce oil and natural gas in the safest and most environmentally responsible manner possible, according to Lynn A. Peterson, chairman and chief executive officer.

SRC plans to drill 116 gross horizontal wells in the Wattenberg this year, including 74 “mid-length” laterals with an average effective length of 7,500 feet and 36 “long-length” laterals with an average effective length of 10,000 feet on spacing that potentially allows as many as 24 wells a section. The targeted reservoirs are the Niobrara A, B and C benches, as well as the Codell formation, but Peterson says SRC Energy sees future potential in the Greenhorn, J Sand and other intervals.

“We take great pride in going over and above mandated regulations for the safety and benefit of our employees, our community and our environment,” Peterson says. “We believe our sensitivity to the needs of the communities in which we work forms the foundation for very positive relationships within those cities and towns.”

The effort to address those needs includes air and water quality monitoring, noise and light suppression at drilling and completion sites, operational practices to contain silica dust from proppant and road dust created by well site traffic, and on-site automation technology to remotely monitor the safety of each location 24 hours a day, seven days a week.

“Obviously, we care very deeply about our employees' health and safety in what potentially can be hazardous environments. With that in mind, we view regulations as minimum requirements to keep our employees, the community and the environment safe,” Peterson relates. “If your goal is to do the minimum to get by, you leave no margin for error, and there is far too much at stake to have such unexcep-

tional goals. We foster the culture of safety at every level within SRC and require the same from our service providers.”

The company launched horizontal drilling operations in 2013 with five horizontal wells on the Renfroe pad. From the start, the focus was on applying advanced technologies and techniques to not only improve efficiencies, reduce cost and maximize production, but also to minimize the impact of drilling, completion and production operations on the landscape and nearby communities—including noise, lights and traffic, which Peterson says are the most frequent complaints from local residents.

SRC Energy's operations this year focus on its acreage to the northwest of Greeley, a predominantly agricultural area in which the majority of well sites will be 1,000 feet or more from any surface structures. “We strive to maintain the maximum setback distance that we can—at least 500 feet—which often results in drilling from surface locations that lead to more complicated well plans,” Peterson offers.

Minimizing Impacts

The first step in limiting operational noise and visual disturbances is erecting temporary, 32-foot sound walls around well locations. “This dramatically reduces noise and light output from our operations. We also work closely with our service providers to integrate noise reduction modifications on drilling rigs as well as pressure pumping equipment,” Peterson explains.

He adds that SRC continually monitors the lights emanating from drilling and completion sites, and modifies lighting to reduce the impact outside the immediate work area while maintaining a safe, well-lit working environment at all times.

To protect local freshwater aquifers, Peterson says surface casing is set to a depth of 1,700 feet and cemented in place to provide an initial barrier. “Furthermore, before any completion operations begin, we cement production casing from the total depth of the well to the surface, creating a second cement and steel barrier across any freshwater aquifers,” Peterson reports.

All water runoff from well sites is guided to sump areas to be cleaned and

removed as necessary to eliminate any potential negative consequences to the surface location or neighboring surface environments. “We also design our locations with spill containment in mind. We ensure the containment of any potential spills using ground barriers and berms,” Peterson continues.

Accommodating trucks traveling to and from well sites is a particular challenge in urban areas, especially during times of day when streets are already congested with stop-and-go traffic. To alleviate disruptions, Peterson says SRC Energy takes a multifaceted approach to managing truck routing at all its well locations.

“During the drilling phase, access routes are coordinated with the county and local municipalities to ensure safe travel to and from the location. We also schedule deliveries to avoid high traffic times, busy intersections and night operations as much as possible,” he details. “During the completion stage, we deliver water to location by pipeline and use pipelines to transport oil, gas and produced water from the wellsite throughout the life of the well. Together, these measures dramatically reduce truck traffic in our operations.”

SRC Energy expresses plans to complete at least 104 wells by year’s end. To reduce exposure to silica dust generated by handling frac sand, Peterson says the company uses a state-of-the-art, container-based

proppant delivery system that does not require pneumatics nor conveyors, and reduces silica dust below the permissible exposure limit defined by U.S. Occupational Safety and Health Administration standards. “The system also reduces noise and the number of engines,” he adds.

Key To Success

The key to SRC Energy’s success in the D-J Basin, according to Peterson, is its dedication to go beyond regulatory compliance to ensure that the company always acts as a good neighbor and a careful environmental steward.

“We have developed and implemented strict in-house safety and environmental standards. These companywide standards are part of our culture and the service providers we use are held to similar standards in order to work for us,” he relates. “We are actively involved in communicating with and providing specific site tours and presentations with first responders and local government officials.”

It all starts with a mindset of being a valuable partner with local communities and building an active, local presence. “Be present and responsive to concerns of the citizens and municipalities that are impacted by your operations,” Peterson advises. “Be as proactive as possible in understanding how your operations will impact an area and make plans to mitigate that impact, or

at least open a dialogue and come to some level of agreement in advance.

“We regularly attend community meetings and maintain a strong and active relationship with the local governing bodies,” he continues. “We also have lots of ‘boots on the ground’ with employees that live in and around Greeley and can respond quickly to stakeholder concerns.”

The day-to-day interactions of the SRC Energy employees who live in the communities in which the company operates represent the most crucial interface with local citizens, he emphasizes. “Our employees act as ambassadors for SRC, providing an open dialogue. Our practices of open and active communication with local municipalities, and quickly addressing any community concerns, can only lead to stronger relationships,” Peterson acknowledges. “We feel the doors have been open to SRC Energy and it is up to us to keep them open.

“Therein lies the mutual economic benefits, not only to SRC from continuing to develop our oil and gas interests, but also to the communities in the form of tax and royalty revenues,” he concludes. “SRC and its employees also are actively involved with local charities such as the Poudre Learning Center, the Weld County Food Bank, the Boys & Girls Club of Weld County and many other nonprofit organizations in the area.” □



Temporary 32-foot sound walls enclose SRC Energy Inc.’s Evans pad in the D-J Basin, dramatically reducing noise and light output from wellsite operations. The two rigs finished drilling 22 horizontal wells on the pad last year, including 13 ‘long-length’ laterals averaging 10,000 feet and nine ‘extended-length’ laterals averaging 12,000 feet. Ahead of the horizontal drilling program, SRC plugged 27 legacy vertical wells on the Evans spacing unit and reclaimed



the associated surface acreage for return to homeowners’ associations and surface owners. The company’s other efforts to be a good neighbor include air and water quality monitoring, noise and light suppression, technologies to reduce silica dust, operational practices to minimize truck traffic, and automated systems to provide around-the-clock remote monitoring.