

Water Issues Flow In Mountain West

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DENVER—Oil and gas operators in the Mountain West are under increasing scrutiny regarding produced water, a byproduct of oil and gas production. Ranchers, surface owners, and senior water users claim that oil and gas wells that produce water, regardless of whether they are tributary to natural surface streams, should be administered as water wells. Further, they claim that produced water from oil and gas wells depletes water resources, which are subject to water rights administration.

Other questions include whether oil and gas operators may put produced water to subsequent use, including re-use in oil and gas operations. Are there any other purposes to which produced water may be applied?

Colorado's Vance Case

In 2007, ranchers in southwestern Colorado asserted that producing water from coalbed methane operations in the San Juan Basin was subject to administration by the Office of the State Engineer (SEO) because the produced water was put to beneficial use. The lawsuit filed by these ranchers against the SEO claimed that out-of-priority depletions injured their vested senior water rights. This was a theoretical claim, as a matter of law, since there was no allegation in the complaint of actual depletion of the plaintiffs' wells or springs.

In Colorado, the SEO is statutorily required to protect vested water rights owners from out-of-priority groundwater diversions under C.R.S. § 37-92-502. Since all ground water in Colorado is presumed to be tributary to a natural stream, the SEO administers all wells that withdraw groundwater under the prior appropriation system,

(*Simpson v. Bijou*, 69 P.3d 50, 59 n.7, Colo. 2003).

The SEO asserted in the *Vance, et al. v. Wolfe* litigation that produced water from oil and gas wells was subject to the sole jurisdiction of the Colorado Oil & Gas Conservation Commission as an exploration and production waste. BP America Production Co. intervened, asserting that water production was incidental to CBM production and that its mere extraction should not constitute a beneficial use.

Under the water court's analysis, CBM production differs from conventional gas production because producers rely on hydrostatic pressure to keep the gas in place. Producers then carefully manage coal seam dewatering to maximize gas production. The decision found that water production (diversion) was integral to CBM development and, thus, was a beneficial use of water. Diversion plus beneficial use are the indicia of a water right to be administered in accordance with Colorado's prior appropriation system. This meant that the SEO must permit CBM wells as water wells, and administer their water production in priority. This water court decision was later affirmed by the Colorado Supreme Court in *Vance, et al. v. Wolfe*, 205 P.3d 1165 (Colo. 2009).

The Plot Thickens

In Colorado, since all water is presumed tributary, even collecting rainwater in a barrel requires special dispensation from the SEO. In addition, in almost all basins, tributary water is overappropriated. Therefore, any groundwater withdrawal is ipso facto injurious to senior water rights.

In anticipation of an adverse ruling in *Vance*, the SEO considered the implications of permitting as water wells more than 7,000 CBM wells, and administering

those CBM wells in accordance with Colorado's priority system. In addition, the SEO decided that the tributary presumption required it to permit and administer Colorado's 35,000-plus other oil and gas wells, a daunting prospect not compelled by the *Vance* decision's express terms, which were limited to CBM wells.

Under standard SEO procedures, following the *Vance* decision, operators would have had 60 days to permit an oil and gas well as a water well and to submit a temporary substitute water supply plan (SWSP), under which modeled depletions to stream systems would be replaced. The SWSP must be followed by a water court approved augmentation plan. The depletions to be augmented—in water court parlance—are not limited to immediate impacts from produced water. Indeed, because water tends to move slowly in underground aquifers, such depletions might not even register until long after oil and gas production ends. Nevertheless, such depletions must be replaced in time, space, quantity and quality, a task for which few, if any, oil and gas producers were prepared.

Competing World Views

The adage that oil and water do not mix is apt in this regard. Petroleum geologists and so-called "water buffalos" view produced water from their own vantage points. These varying perspectives are manifest in a number of public statements:

- According to Vince Mathews, Colorado state geologist, "Saline aquifers are important because you do not want to mess with someone's drinking water. It is also deep enough that we are not messing with anyone's groundwater, and we have the kind of shields that have shown they can hold natural gas and

other things for thousands of years.”

- According to a petroleum geologist, “Of course oil and gas formations are nontributary. If they were not, the oil and gas would be long gone. Why are we even talking about this?”

- According to a water buffalo, “How can the state engineer possibly declare multiple formations across entire basins—encompassing thousands of square miles—nontributary in one fell swoop? It boggles the mind. See you in water court.”

The way out of this quandary was found in a special provision of Colorado water law, under which a water well permit is not required to produce nontributary groundwater to facilitate mining minerals (including oil and gas), unless that groundwater is put to beneficial use (C.R.S. § 37-90-137(7) 2010). That is, if produced water can be demonstrated nontributary, the contrary presumption is overcome, and oil and gas producers are off the water law hook—unless they put the produced water to beneficial use, as they do with CBM wells. Even if a water well permit is required, however, nontributary produced water is not subject to water rights administration, with its priority and augmentation requirements.

In 2009, the Colorado Legislature passed HB 1303 to supplement this special mining provision of the groundwater statutes. The bill provided a timeout from water well permitting requirements for oil and gas operators (to April 1, 2010) and a grace period for CBM producers to submit SWSP/augmentation plans (to Dec. 31, 2012). Most importantly, it vested the SEO with the authority to conduct rule making to facilitate its administration of nontributary groundwater extracted in the mining of minerals.

Going Into Action

In June 2009, the SEO convened the legislatively authorized rule making. It proposed a procedure for producers to obtain a nontributary determination for their water production through rule making or adjudication. The proposed rule started with the basic premise that all groundwater in Colorado was tributary to surface water and subject to the SEO’s administration under the prior appropriation doctrine. However, the rule making notice invited “alternate rules” proposing areas where produced water should be designated nontributary by basin and formation, and therefore exempt from water well permitting and administration.

In response to the proposed rule, ad hoc industry groups organized by geologic basin commissioned sophisticated and expensive hydrologic modeling to delineate the tributary/nontributary boundary for produced water from various formations.

These boundaries are set where water production will not, throughout 100 years of continuous pumping, deplete surface water by 0.1 percent of the pumping rate in any year. Such modeled depletion can occur either by directly drawing down surface streams and their alluvial aquifers or by reducing recharge to surface water systems, effects that occur at outcrops of producing formations. The industry’s proposed nontributary boundaries were vigorously contested by a coalition of water users, including self-proclaimed “senior water users,” ditch companies, the Colorado River District, and the Colorado cities of Boulder and Sterling, as well as Raton, N.M.

The hydrologic modeling also was supplemented by geologic and reservoir engineering evidence to demonstrate hydrocarbon formations’ isolation from surface water systems. Evidence included showing that certain formations did not outcrop (or were disconnected by faulting), reservoir pressure gradients that differed from hydrostatic, and produced water chemistry. This massive effort ultimately succeeded in demonstrating that large portions of the productive formations in each basin, covering more than 85 percent of producing wells, were nontributary. (For more information, including maps of the basin nontributary boundaries, visit: <http://water.state.co.us/groundwater/GWAdmin/NontribGW/Archive/Pages/NontribGWFinalRules.aspx>). This outcome was extremely conservative since the hydrologic models assumed direct connectivity to stream systems, water saturation, and other parameters that did not, in reality, pertain to hydrocarbon formations.

In 2010, the general assembly adopted SB 65, which extended the timeout and grace periods set in HB 1303. Most significantly, the bill authorized non-CBM well operators to use nontributary produced water for oil and gas operational purposes such as drilling, completion, well control and dust suppression, and to dispose of produced water as an exploration and production waste, without obtaining water well permits. In other words, such operational practices are not considered a beneficial use requiring a water well permit.

Subsequent Litigation

At the end of 2009, before the conclusion of the SEO rule making, several San Juan Basin operators filed protective actions in water court asking for decrees to establish in-priority water rights to their tributary produced water and to protect their nontributary withdrawals against other claimants. Various ranchers and surface owners challenged the relief re-

quested, asserting, among other things, that operators must obtain surface owner consent to claim nontributary water.

In early 2010, Raton Basin CBM operators filed augmentation plans in water court to replace modeled depletion from their tributary produced water by utilizing, in part, their SEO-designated nontributary produced water. These augmentation plans also have been challenged on grounds including surface owners’ claims to nontributary groundwater.

In addition, the senior water users’ coalition filed a lawsuit to invalidate the entire SEO rule making in six of Colorado’s seven water courts. A variety of plaintiffs also are challenging the basin-specific nontributary determinations for the San Juan, Paradox and Denver-Julesburg basins.

The rule making challenge cases were consolidated by the Colorado Supreme Court into Division 1 Water Court, in Greeley, Co. *Pawnee Well Users Inc., et al. v. Dick Wolfe, et al*, 2010 CV 89. A number of operators, the Southern Ute Indian Tribe, the Colorado Oil & Gas Association, and the Colorado Petroleum Association have intervened in the consolidated litigation to defend the SEO rule-making. Until this litigation over the validity of the rule making is concluded (surely with an appeal to the Colorado Supreme Court) the basin-specific challenges, as well as the San Juan and Raton Basin water rights disputes, have been stayed. Obviously, if the SEO rule making is invalidated, the regulatory edifice implementing HB 1303 and SB 165 will collapse, throwing the oil and gas industry back into turmoil.

This litigation remains in its preliminary stages. While the plaintiffs seek to invalidate the SEO rule making, their alternate goal is a ruling that the SEO nontributary determinations have no legal effect in a water court proceeding. If successful, this again would leave operators exposed to water rights injury claims based on the tributary presumption. The SEO rule making would be rendered meaningless, and industry would return to square one in water court. The industry interveners are attempting to remove this issue from the case as not properly presented in a rule making appeal.

Other States, Similar Fates?

In Wyoming, the *Vance* plaintiffs’ law firm claims the state engineer’s pro forma administration of water produced from CBM wells, violates Wyoming’s constitution and statutes (*William F. West Ranch v. Tyrrell*, 206 P.3d 722 Wyo. 2009). The lawsuit was dismissed by the Wyoming Supreme Court on the technical grounds that the plaintiffs had not sufficiently al-

leged a justiciable controversy.

However, the court admonished the state engineer in its opinion: "By ruling that the court does not have jurisdiction over this case, we do not want to leave the impression we approve of the state's administration of CBM water. In the event we are presented with a true justiciable controversy in another case, we will not hesitate to determine whether the state's processes meet the constitutional and statutory directives."

Since this decision, the Wyoming Oil & Gas Conservation Commission has issued show cause orders to operators that have required plugging and abandoning CBM wells with water-to-gas ratios greater than 10 barrels an Mcf. The notion under the beneficial use theory is that such small volumes of gas production do not justify the required water disposal.

CBM produced groundwater must not be wasted in Montana, either (*Diamond Cross Props. v. State*, 208 Mont. Dist. LEXIS 180, Mont. 22nd J. Dist. Ct., July 14, 2008). A recent ruling holds that enhanced evaporation of CBM water as a method of disposal is an unpermitted waste under Montana's constitution (*Tongue & Yellowstone Irrigation District, et al v. Montana Board of Oil and Gas Conservation and Fidelity Exploration & Production Co.*, Cause No. BDV-2003-579, Mont. 1st J. Dist. Ct., March 5, 2010). Montana courts have yet to determine whether reinjecting CBM produced ground water constitutes a beneficial use or waste under that state's constitution. Clearly, the Montana courts do not buy the *Vance* case holding that withdrawing water in conjunction with CBM production constitutes a sufficiently beneficial use.

These issues have not yet been litigated in New Mexico. However, a legal journal article sounds a warning: "While New

Mexico exempts water produced in mining activities from state engineer groundwater permitting requirements by statute, the parameters of that exemption have not been litigated. Under the rationale of the court in *Vance*, CBM water may not be easily dismissed from the beneficial use regime."

In conclusion, oil and gas operators in the Mountain West, with its water

scarcity and prior appropriation doctrines, face a new frontier of water law issues. □

Editor's Note: This article has been prepared for educational purposes only, and should not be construed as providing legal advice. Competent legal counsel should be consulted with regard to the issues described herein.



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