

## Methane water: Some want to use it, others want to lose it



Marilyn Mackey stands near a herd of cattle on her ranch North of Gillette. A portion of the ranch is poorly watered making it difficult for the cattle. Other areas of the ranch have reservoirs from production of coal-bed methane, but the industry has chose to pump the water back underground on the other end of the ranch. - News-Record photo by Zach Long

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Water.

It's the element on which the fate of a ranch depends. They prosper or fail because of a wealth or dearth of it.

Marilyn and Dudley Mackey are no exception. In the high and arid sagebrush steppe country of northeast Wyoming, it's everything.

Logic would almost follow that with millions of barrels of water being suctioned from coal seams in the Powder River Basin to produce coal-bed methane, the problem is solved.

Of course, nothing is ever so simple. And the Mackey Ranch is a plain example.

A section of the ranch is poorly watered. There's a water well, but it's a bit of a walk for a portion of the 200 head of cattle she runs on a ranch west of town off of U.S. Highway 14-16 on Wildcat Creek.

With wells on the Mackey Ranch, each producing gas and water, she had hoped the dry pasture would be watered.

On one end of the ranch, there are three reservoirs within half a mile of each other — a little overkill.

### WHY NOT THE OTHER END?

Like everything else in the complex and often dizzying network of permits required to drill or discharge water, the answer is complicated.

But to boil it down, the subsurface latticework of dirt and rock creates a "regulatory risk" and calls for expensive monitoring to ensure that risk doesn't become reality. It's not necessarily an imminent violation, but it could happen if a reservoir is filled with coal-bed methane water at that location.

"At some sites we found shallow groundwater and have felt that the monitoring costs and resulting regulatory risks are too high at this time to move forward with using those sites," Yates Petroleum Corp. Environmental and Regulatory Supervisor Tim Barber said in a prepared statement. "We did some subsurface investigation at an existing site that the Mackeys wanted water at, and the reservoir had geology underlying it that appeared likely to make the

reservoir seep downstream.”

Historically, besides dumping water directly into some kind of drainage or creek, storing it in reservoirs is the most common way to deal with it.

And in terms of cost, it’s usually cheap.

Yet at the Mackey Ranch —as well as other landscapes in the rugged country nearer the Powder River — reservoirs can be tricky. Not only with the subsurface geology Barber mentioned, but also because of the hilly terrain.

Instead of reservoirs, Yates Petroleum is injecting the water underground, a method that’s usually more costly, Barber said.

This mystifies Mackey.

“When a company comes in and they’re going to develop, that’s one of the things they have to do for the state...that (the water) is getting put to beneficial use,” Mackey said. “They’re putting it in the ground. Where’s the sense in that?”

It’s a gamble energy companies take. To discharge, or not to discharge?

“The company is the one who has to make the call,” Department of Environmental Quality Water Quality Supervisor John Wagner said. “They have to weigh the possibility that they’re going to violate Wyoming (water) protections against landowner considerations and a good relationship.”

Depending on the company, they may or may not put their neck out there. Companies like Yates Petroleum could be said to be playing the game a little more conservatively.

For ranchers like Mackey, in a country just crawling out from beneath drought, water so deep underground is of little use.

## THE FLIP SIDE

Rancher Ed Swartz is the other side of the coin in this classic struggle for water. And downstream from the Mackey Ranch, too.

Downstream water rights always have been touch and go. Divert too much of it onto your own fields and you risk violating your downstream neighbor’s rights to that creek water.

In fact, Swartz was on the initiating side of a lawsuit when Mackey’s grandfather, Harold Scott, built a dam on Wildcat Creek during its course through his ranch back in the mid-60s. The lawsuit, pressed by Swartz and four other landowners, went all the way to the Supreme Court, where a judge ruled in his favor.

Such conflicts have even been seen at the state level between Wyoming and Montana, with the latter suing to claim what it asserts is its fair share.

In fact, in an odd and rather large-scale mirroring, Montana has sued Wyoming for coal-bed methane water dumped into the Tongue and Powder rivers. It appears the two states may be attempting to ink an agreement on what the water quality standards should be.

Yet, in ranchers’ terms, Swartz’ predicament has taken a turn for the surreal. He says he’s getting too much water at times. And he says the water is doing more harm than good.

Direct dumping into creeks and drainages is the most common method of disposing coal-bed methane water.

Many reservoirs on these creeks and drainages may be emptied at designated times. Yates Petroleum does not have any reservoirs they’re allowed to dump into channels on the Mackey Ranch.

But there are others on the creek that do, said Swartz.

The Wildcat Creek that slips across the Mackey Ranch, the Swartz Ranch and others, is an ephemeral drainage, meaning it does not run year-round. In fact, it’s health is dependent on that off-again-on-again cycle.

But he said it’s run for five months at a time — a month over the time allotted to keep the stream ephemeral — while energy companies channel water from their reservoirs into the creek.

The water, he said, has sloughed off the once gradually sloping banks and killed the cottonwoods and palatable grasses that line them on his portion of Wildcat Creek.

And during the June floods, when good irrigation water churned down Wildcat Creek, he said methane companies released their water at the same time, and when it poured over sections of his hay meadows, it killed them.

"The grass was coated with sodium and it's killed off," Swartz said.

As long as Yates isn't dumping the water down Wildcat Creek, Swartz said he's fine with it.

"I've got no quarrel with them putting the water in a tank that's got a float system on it," Swartz said. "I don't want it in the channel."

For him, Yates' injection may be the answer.

#### COMMON GROUND?

Can two irreconcilable interests ever meet on common ground? Mackey says the water regulations are too restrictive. Swartz says they aren't restrictive enough.

Organizations like the Powder River Basin Resource Council have petitioned to make water quality, as well as quantity, rules more protective of landowners through the Environmental Quality Council — an appointed, oversight dogleg of sorts to the DEQ.

They met with some initial success, but ultimately were defeated.

The EQC, with a few small amendments, approved the group's petition.

Gov. Dave Freudenthal, however, subsequently rejected it.

The group appealed to District Court in Cheyenne, but the judge ruled in favor of Freudenthal.

Wagner said those who seek to be heard through the rulemaking process will be best represented when decisions come down.

Barber sums it up as the "squeaky wheel" effect.

"If an operator provides a stock tank run on a float and the float fails and spills water, the operator faces serious enforcement. The cumulative effect of increased regulation of CBM discharge has had the unfortunate consequence of curtailing the beneficial use of CBM-produced water by ranchers such as the Mackeys who want this water," Barber said in a prepared statement. "Agencies and organizations that have pressed for these additional regulations don't appear to have considered this consequence, and ranchers who want the water have not been the 'squeaky wheel.'"

Yet for ranchers like Swartz, who say they've been hurt by this water, and ranchers like Mackey, who say they're being hurt by its absence, it's an argument that manifests itself in dollars.

And, unlike a coin, it doesn't appear that either side has landed up or down yet.