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## Water lies below hills at Belvoir

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CHEYENNE - A source of water lies beneath the hills at the Belvoir Ranch.

It's a source that has enough liquid to add two wells, possibly three, to the city's water arsenal.

Engineers unveiled the capacity of Belvoir Wells No. 5 and 6 on Thursday after completing a supply study for the Wyoming Water Development Commission.

Once on the system, Well 5 at 272 feet deep could produce 500 gallons a minute. Well 6 at a depth of 408 feet could produce 300 gallons a minute.

The existing wells in the city's system can produce anywhere from 40 to 700 gallons a minute, said Victor Spencer, the lead well-field operator for the city's Board of Public Utilities.

At these rates, these will be productive wells, said Austin Creswell of J-R Engineering of Westminster, Colo.

The city bought the Belvoir Ranch, located southwest of the city on the south side of Interstate 80, for \$5.9 million in 2003. Its acreage nearly matches that of Cheyenne proper.

The plan for the ranch has been threefold: water, recreation and landfill. Recreation is likely years away. And city officials hope they will never have to build the landfill.

But BOPU could poke two new straws into the Ogallala Aquifer to add to its existing 34 wells.

The cost for the connecting to the two wells would be \$16 million. That includes a pipeline and a treatment facility to remove TCE, a harmful chemical, from the water.

Grants could cover a third to two-thirds of the costs, said Bruce Brinkman of the Wyoming Water Development Commission.

But first, BOPU officials will evaluate the report, BOPU director Tim Wilson said.

It will be released to the public next month.

On the west side of the ranch, Lone Tree Creek is another potential water source, but there's no well

there, Creswell said. That would add another \$10 million to the construction project.

But that water bears traces of the Cold War in the form of TCE, or trichloroethylene, which was once a commonly used degreaser and cleaner.

The Belvoir Ranch was home to Atlas Missile Site 4, where first Atlas E then Minutemen missiles were kept. The Air Force used TCE to clean rocket fuel tanks.

Because TCE is volatile, experts say it's relatively easy to remove from water. Engineers propose sending it through an aeration system, which causes the chemical to break down and evaporate.

Beyond these two proposed wells, some are concerned about the overall health of the aquifer: Is water replenished as quickly as it is used?

The Laramie County Commissioners called for a countywide study on the underground water supply. The Legislature approved a grant to study it, which will be a two-year process, Brinkman said.

The city well system provides 25 percent of the water supply to Cheyenne's residents and business, Wilson said. The rest comes from surface water, such as the Crystal Reservoir.

BOPU doesn't have all its wells operating at all times, he added. Most are shut off during winter off-peak months. This gives the aquifer a chance to replenish.

Even when the wells are on, BOPU uses 10 percent less than the maximum amount the state engineer says it can draw. Because of the drought, BOPU has adjusted that to 15-20 percent less, Spencer said.

"We do that so we don't undermine the aquifer; so it doesn't collapse," he said. "The aquifer is our livelihood."