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Op-ed: Order to test water at Tavaputs Plateau is a win for science

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A recent decision to require monitoring of springs in canyons adjacent to permitted tar sand mining, processing and disposal has been hailed as a win for environmentalists (“Utah takes a closer look at tar sands mine,” July 18). But at its core it’s a win for inclusion of relevant science.

At issue is the source of the springs that exist in canyons adjacent to the ridgetops where tar sand mining, processing and disposal are being permitted. Previous decisions were based on assertions that: 1) there is no groundwater present at the site; and 2) the springs are not hydrologically connected to the ridgetops, but instead are either recharged in distant sources such as the Uinta Mountains or are recharged only via the surface of the narrow canyon bottom. These assertions were made in the absence of data, and they allowed regulators and a judge to conclude that there was no possible impact of tar sand mining, processing and disposal activities on the springs in adjacent canyons.

What I and my colleagues have done is to provide data from the springs demonstrating that the water in the springs is far too young to be derived from distant sources. Furthermore, the trends in chemical parameters with spring elevation indicate the source of water includes the adjacent ridges. Contrary to



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previous assertions, the data indicate that there is a hydrologic connection between the ridgetops and springs in adjacent canyons. Based on this data, we can be certain that the previous assertions are incorrect. Therefore, it is certainly not reasonable to assume a lack of impact on the springs from mining, processing and disposal activities.

Unfortunately, this certainty has been extrapolated in news accounts as a certainty that there will be impact on the springs. To be clear, the certainty is that the data indicates a hydrologic connection and it is therefore incorrect to assume a lack of impact. To their great credit, the Utah Division of Oil, Gas and Mining, and its director, John Baza, have decided on the basis of this newly available data to require monitoring of springs. This is a prudent, conservative, economic and intelligent approach for protection of local water resources.

This case demonstrates that the absence of data allows statements to be made that sway regulators and judges toward incorrect assumptions. When fossil fuel prices recover, and applications begin again to roll in for novel processes to extract hydrocarbons from the Tavaputs Plateau, it will be important for DOGM and other state regulatory agencies to remember the value of data in getting to the truth. This is not easy. The only previously existing data in this case (prior to the peer-reviewed paper) was the absence of copious amounts of water observed by drillers in shallow (less than 200 feet) coreholes drilled at the ridgetop to determine the extent of tar. All previous decisions hinged on this data. However, this data was not actually relevant to determining the possibility of recharge at the ridgetops, as recharge moves downward relatively rapidly and unevenly. Even if one drilled many holes to greater depths, more specialized hydrologic techniques would need to be employed to determine whether a groundwater system exists.

The recent column by Robert Bayer ("Tribune maligns good work of state regulators on Tavaputs project," July 8) attempts to make this an issue of reputation through years of service as an expert witness. But that strategy fails on the basis that the four senior authors on the peer-reviewed paper are internationally renowned in their fields and have formidable publication records in peer-reviewed international scientific journals. Mr. Bayer's strategy is an attempt to avoid the truth as provided by data. If Mr. Bayer has an alternative interpretation of the data that supports his claims, then he should submit it for peer review to allow the scientific and engineering community to assess the validity of his interpretation.

We look forward to potential continued discussion of the data. In the meantime, based on relevant data, we can be certain that a good decision has been made for protection of local water resources.

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