

Science - Geology; Reports Outline Geology Study Findings from University of Texas Austin (The critical role of core in understanding hydraulic fracturing)

491 words

16 December 2022

Science Letter

SCLT

454

English

© Copyright 2022 Science Letter via NewsRx.com

2022 DEC 23 (NewsRx) -- By a News Reporter-Staff News Editor at Science Letter -- Investigators publish new report on geology. According to news originating from Austin, Texas, by NewsRx correspondents, research stated, "Improved understanding of hydraulic fractures is needed to optimize petroleum well drilling and completion strategies."

Funders for this research include Us Department of Energy; The University of Texas Fracture Research And Application Consortium.

The news reporters obtained a quote from the research from University of Texas Austin: "Yet direct observations of hydraulic fractures are rarely made, and reliance is placed on indirect methods such as microseismic monitoring, interference tests, fibre optic detection of fracturing in adjacent wells and numerical modelling. While these techniques provide useful insights, verification of such studies is commonly lacking; core taken through stimulated intervals offers a robust option for verification. We make the case that core can provide complementary information at a different scale from other data types. Core from a slant well adjacent to two stimulated wells at the Hydraulic Fracture Test Site (HFTS1) in West Texas revealed 375 hydraulic fractures, striking $090^{\circ}(+-)20^{\circ}$, subparallel to present-day S_{Hmax} . There are more hydraulic fractures than expected, and clustering across a range of scales from approximately 1 cm to 50 m. The largest cluster correlates with high microseismic event density."

According to the news editors, the research concluded: "Diversion, bifurcation, and segmentation structures may account for the large number of fractures observed and the orientation spread. Reactivation of sealed natural fractures and bedding planes is relatively uncommon. Proppant sand packs and patches occur in a few locations, particularly where hydraulic fractures are complex."

For more information on this research see: The critical role of core in understanding hydraulic fracturing. Geological Society, London, Special Publications, 2022,527(1). The publisher for Geological Society, London, Special Publications is Geological Society of London.

A free version of this journal article is available at <https://doi.org/10.1144/sp527-2021-198>.

Our news journalists report that more information may be obtained by contacting Julia Fiona Wells Gale, **Bureau of Economic Geology**, Jackson School of Geosciences, University of Texas Austin, Austin, TX 78758, United States. Additional authors for this research include Sara J. Elliott, Bethany G. Rysak, Stephen E. Laubach.

ORCID is an identifier for authors and includes bibliographic information. The following is ORCID information for the authors of this research: Julia Fiona Wells Gale (orcid.org/0000-0002-8061-4859), Sara J. Elliott (orcid.org/0000-0002-7457-1442), Bethany G. Rysak (orcid.org/0000-0001-6682-1547), Stephen E. Laubach (orcid.org/0000-0003-2511-9414).

Keywords for this news article include: University of Texas Austin, Austin, Texas, United States, North and Central America, Geology, Science.

Our reports deliver fact-based news of research and discoveries from around the world. Copyright 2022, NewsRx LLC

Document SCLT000020221216eicg0009c