Greenhouse Gases; Research Conducted at University of Texas at Austin Has Provided New Information about Greenhouse Gases (Simulation and 4d Seismic Studies of Pressure Management and Co2 Plume Control By Means of Brine Extraction and Monitoring At the Devine ...)

518 words
26 April 2019
Science Letter
SCLT
English

2019 MAY 3 (NewsRx) -- By a News Reporter-Staff News Editor at Science Letter -- Current study results on Greenhouse Gases have been published. According to news originating from Austin, Texas, by NewsRx correspondents, research stated, "Within the context of CO2 geological storage, excessive pressure build-up is undesirable because it increases the risks of CO2 plume leaks into unwanted zones, reduces the storage capacity of the formation, and can limit the life of a storage project. In this study, we designed a brine extraction field pilot project for pressure management and plume control in the Hosston Formation at the Devine Test Site (DTS) in Texas."

Financial supporters for this research include DOE-NETL Brine Extraction Storage Test Project at the Gulf Coast Carbon Center, **Bureau of Economic Geology**.

Our news journalists obtained a quote from the research from the University of Texas at Austin, "We investigated the possibility of using seismic and tracer data to monitor pressure front and injected fluids plume. Seismic surveys provide the volumetric coverage needed to understand the 3D subsurface fluid and pore pressure front movement; however, the limit of seismic detectability may be influenced by Hosston Formation initial pore pressure. The range of minimum pore pressure increase needed to produce detectable P-wave and S-wave seismic velocities is investigated. Simulation study of active pressure management system (APMS) and passive pressure management system (PPMS) at the DTS is performed using the numerical simulator CMG-STARS to demonstrate the possibility of controlling pressure build up in the storage formation. The estimation of pore pressure increase from flow simulations will help us to understand if the pressure changes during brine injection and extraction can be detected using seismic response."

According to the news editors, the research concluded: "Study findings show that 4D seismic is an appropriate monitoring tool considering the level of expected increase in pressure at the DTS and that, as expected, brine extraction is successful in controlling the pressure build up and potentially can steer the plume at the DTS."

For more information on this research see: Simulation and 4d Seismic Studies of Pressure Management and Co2 Plume Control By Means of Brine Extraction and Monitoring At the Devine Test Site, South Texas, Usa. Greenhouse Gases Science and Technology, 2018;8(1):185-204. Greenhouse Gases Science and Technology can be contacted at: Wiley Periodicals, Inc, One Montgomery St, Suite 1200, San Francisco, CA 94104, USA.

The news correspondents report that additional information may be obtained from A. Goudarzi, University of Texas - Austin, Bur Econ Geol, Jackson School of Geosciences, Austin, TX 78713, United States. Additional authors for this research include S.A. Hosseini, D. Sava and J.P. Nicot.

Keywords for this news article include: Austin, Texas, United States, North and Central America, Greenhouse Gases, University of Texas at Austin.

Document SCLT000020190426ef4q0015c