

ATTACHMENT 4

AR # 14

E-mail re: Question About Pressure
Front Tracking

IR 10
14

Greenhagen, Andrew

From: Gilmore, Tyler J [Tyler.Gilmore@pnnl.gov]
nt: Friday, February 21, 2014 4:20 PM
McDonald, Jeffrey
Cc: Bayer, MaryRose; Greenhagen, Andrew; Bonneville, Alain
Subject: Re: IR#10 02-20-14; question about pressure front tracking

Jeff,
We plan to directly measure pressure in the reservoir at 2 locations (SLR-1 and SLR-2) wells. We'll also directly measure pressure at 2 locations immediately above the caprock and at one location in the USDW. Pressure will also be monitored over a much larger area by an indirect geophysical method, deformation monitoring using DINSAR. The DINSAR is a radar technology deployed in a plane which can measure very small changes in ground surface elevation which can be used as an indirect measure of the pressure front. The area surveyed will extend beyond the predicted maximum extent of the CO2 plume. We do not predict that a measurable rise in the ground surface will occur outside the plume area, however, if we do detect a rise then it may be an indication that the plume is not developing as predicted. So we are recommending that the combination of direct pressure measurements in wells in conjunction with the DINSAR technique will address the requirement for "testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure..."

Please call if we should discuss more.
Thanks
Tyler

From: <McDonald>, Jeff McDonald <mcdonald.jeffrey@epa.gov>
Date: Thursday, February 20, 2014 11:33 AM
To: Tyler Gilmore <tyler.gilmore@pnnl.gov>
Cc: "Bayer, MaryRose" <Bayer.MaryRose@epa.gov>, "Greenhagen, Andrew" <Greenhagen.Andrew@epa.gov>
Subject: IR#10 02-20-14; question about pressure front tracking

Tyler,

We were talking about FutureGen's proposed monitoring scheme. The regulations at 40 CFR 146.90(g) state in part "Testing and monitoring to track the extent of the carbon dioxide plume and the **presence or absence of elevated pressure (e.g., the pressure front)**..." [emphasis added]
Since FutureGen is proposing to only have wells monitoring the pressure in the Mt. Simon within the predicted plume "footprint," can you explain how the proposed monitoring will be addressing this requirement? We suspect that someone besides us might ask us this.

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Jeffrey R. McDonald, Geologist
Underground Injection Control Branch

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U.S. EPA - Region 5
(312) 353-6288 [office]
(312) 408-2240 [direct fax]
mcdonald.jeffrey@epa.gov