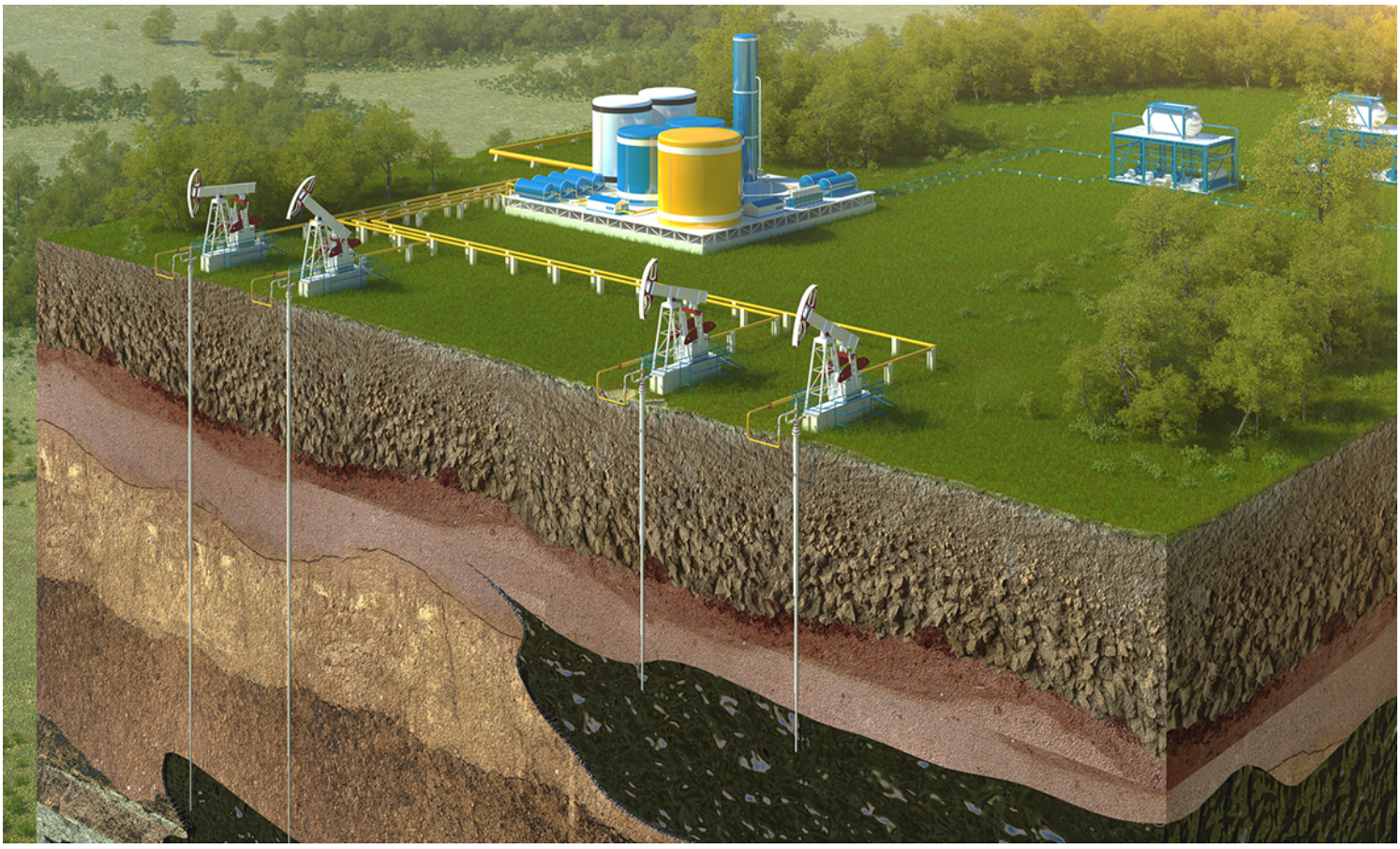
WELL MANAGEMENT: DELAWARE BASIN

Posted on September 20, 2022



Well Management: You Don't Know What You Don't Know

OLA assists a Delaware Basin operator in resolving a severe scale issue induced during the frac job and causing production failures.

The Situation

This operator was experiencing plugging issues on their subsurface equipment and production failures were on the rise. While they were aware that scale may be present, they were uncertain of the severity, type, and root cause. Prior to working with OLA, the operator was pumping the same chemistry and same application across their fields, without recognizing the need for change and the need to analyze each well for its individual uniqueness.

An Eye on ESG

This scale issue was attracting naturally occurring radioactive material (NORM) which can cause serious health problems. NORM attaches to solids like barium sulfate and is a major, costly issue for operators widely, especially within SWD wells.

The Solution

The OLA 5-step process started on the ground, in the operator's field of 70 wells, where trained technicians collected high-quality water samples in accordance with industry standards and sent samples for lab testing to analyze the wells' profiles.

After finding barium sulfate in the results, OLA conducted x-ray diffraction (XRD) performance testing on a portion of failures to confirm that the presence of barium sulfate was causing scale depositions and resulting in failures. OLA then went on to test the freshwater ponds and uncovered that massive quantities of barium sulfate were being introduced downhole during their completion operations. The barium sulfate was being induced by their use of mixed fresh water (over 1700 mg/L sulfates) and produced water (greater than 25 ppm barium), which chemically produces barium sulfate.

Chemical analysis also uncovered that the scale inhibitor being pumped on the frac job was not in fact an inhibitor, but a dissolver. For this reason, the scale dissolver product was offering no protection against barium sulfate.

The Outcome

1 WELLS ARE UNIQUE
with unique well management needs

2 COMPLETIONS OPERATIONS
directly impact production failures

3 PRODUCT CHEMISTRY & PRODUCT APPLICATION
go hand in hand and are equally important to optimize

OLA performance tested scale inhibitors from various chemical vendors and OLA's insights allowed the operator to select the best performing product, specifically designed to inhibit the formation of barium sulfate. Beyond this solution, OLA continues to optimize this operator's entire chemical application program, tailored from well to well, to ensure each individual well's peak performance and production. OLA monitors their wells with routine

well testing and conducts monthly review meetings.

Let OLA provide your team real chemical insights to redefine performance expectations!

Without analyzing the operator's completion operation and testing their freshwater ponds, the operator would have continued pumping more unnecessary chemicals on the production phase of the operation to combat their scale issues and failures. ***You don't know what you don't know.***