

Flowback Water Treated Using Environmentally Conscious Chemical Options

Bacteria and Scale Eliminated with use of NaturaLine™ Program

BACKGROUND

The challenge with this customer is to effectively fracture the formation while controlling these bacteria and scaling issues with a more environmentally conscious process than is currently being used. Multi-Chem was fracturing this formation for the customer before the customer decided to use Multi-Chem's new NaturaLine™ program. The chemicals being used were B-8642 and S-2510 T, which were proving to be very effective in controlling targeted bacteria issues and scaling problems. However, the current treatment products did not meet the high standards instituted in the NaturaLine(TM) product line. Together, Multi-Chem and the customer decided to find a more environmentally responsible solution.

ISSUES

Similar to most frac jobs, this customer is using flowback water as well as make up water that is proving to be highly contaminated with sulfate reducing bacteria (SRB) and acid producing bacteria (APB). The waters are also showing potential to precipitate scale.

ANALYSIS

RESOLUTION

The biocide was pumped using a Multi-Chem frac truck on location, as was the scale inhibitor. Multi-Chem pumped the biocide at less than half of the original rate that was currently being used. The scale inhibitor was pumped at the same rate as before, achieving the same results with a more environmentally conscious product.

DELIVERED VALUE

Multi-Chem was able to address the customer's needs while also addressing the customer's concerns about being a good environmental steward within their community. Multi-Chem decreased the amount of chemical on location, while also decreasing the amount of chemical transfers that take place during a frac job. This was done by reducing the pump rate. This also helps to decrease the opportunities for exposure to mishaps during chemical transfers on a live location. The chemical program treated the SRB's and APB's in the flowback and make up waters. The customer in turn was able to effectively report a shift to a more environmentally conscious alternative to achieving the same goals.

Multi-Chem warrants to purchaser, but no third parties or others, the specifications for the product shall fall within a generally recognized range for typical physical properties established by Multi-Chem when the product departs Multi-Chem's point of origin and that any services shall only be performed in accordance with applicable written work documents. Purchaser agrees that Multi-Chem will give purchaser the benefit of Multi-Chem's professional judgment in making interpretations of data, but does not guarantee the accuracy or correctness of such interpretations. Multi-Chem's recommendations contained herein are advisory only and without representations as to the results. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY MULTI-CHEM SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THE WARRANTY CONTAINED HEREIN. EXCEPT AS OTHERWISE SET FORTH HEREIN, THE PRODUCTS AND SERVICES ARE "AS IS" AND MULTI-CHEM MAKES NO OTHER WARRANTY OR GUARANTEE OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, INCLUDING NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. PURCHASER AGREES THAT MULTI-CHEM SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY OR CONSEQUENTIAL DAMAGES OR LOSSES FROM ANY CAUSE WHATSOEVER INCLUDING BUT NOT LIMITED TO NEGLIGENCE OR GROSS NEGLIGENCE.

Global Technology Center

World Houston International Business Center
15865 International Plaza Drive, Suite 200
Houston, Texas 77032 USA

(800) 805 9178
(325) 223 6200
(325) 942 7500 FAX

www.multichem.com

As is standard practice, Multi-Chem obtained samples of the water to be used for fracturing and ran standard tests to find that the waters being used contain SRB's and APB's. Specific biocide well loading for the well was accomplished after a full run bottle test on SRB and APB cultures. The Naturaline biocide was determined to be an effective candidate based on an environmentally focused ranking system. This was done by leveraging a new, exclusive chemistry to Multi-Chem, rather than increasing activity level and pumping a more concentrated biocide. Similarly, the scale inhibitor that was chosen, and was selected based on its environmental ranking through the Naturaline ranking process.

Multi-Chem warrants to purchaser, but no third parties or others, the specifications for the product shall fall within a generally recognized range for typical physical properties established by Multi-Chem when the product departs Multi-Chem's point of origin and that any services shall only be performed in accordance with applicable written work documents. Purchaser agrees that Multi-Chem will give purchaser the benefit of Multi-Chem's professional judgment in making interpretations of data, but does not guarantee the accuracy or correctness of such interpretations. Multi-Chem's recommendations contained herein are advisory only and without representations as to the results. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY MULTI-CHEM SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THE WARRANTY CONTAINED HEREIN. EXCEPT AS OTHERWISE SET FORTH HEREIN, THE PRODUCTS AND SERVICES ARE "AS IS" AND MULTI-CHEM MAKES NO OTHER WARRANTY OR GUARANTEE OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, INCLUDING NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. PURCHASER AGREES THAT MULTI-CHEM SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY OR CONSEQUENTIAL DAMAGES OR LOSSES FROM ANY CAUSE WHATSOEVER INCLUDING BUT NOT LIMITED TO NEGLIGENCE OR GROSS NEGLIGENCE.

Global Technology Center

World Houston International Business Center
15865 International Plaza Drive, Suite 200
Houston, Texas 77032 USA

(800) 805 9178
(325) 223 6200
(325) 942 7500 FAX

www.multichem.com

