

# STRAY CURRENT CORROSION - DOWNHOLE?

Charles L. Oney  
Oxy Permian, Ltd.

What is "stray current" and can it cause corrosion of my downhole equipment? Stray current, both DC and AC, is known to cause corrosion of steel in contact with the earth. Phenomena which cause such corrosion, circumstances conducive to corrosion by stray current, and practices for preventing stray current corrosion of pipelines and well casings are fairly well understood and accepted. Anecdotal reports of stray current causing corrosion of structures NOT in direct contact with the earth also abound. Well tubing, sucker rods and downhole pumps are among the most interesting of these types of equipment where stray current is sometimes proposed as the cause of observed corrosion. This presentation will discuss stray current corrosion of downhole equipment in light of experience and theories which have been accepted for "classical" stray current corrosion of pipelines and well casings.