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### An influence of acetic acid on the carbon dioxide corrosion of 13 % Cr tubing in Minami-Nagaoka gas field

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**Abstract:** Localized corrosion was found on inner surfaces of 13 %Cr steel tubing at shallow depths in deep, hot corrosive Minami-Nagaoka gas wells. Judging from the high penetration rates of corrosion pits, factors other than high temperature and carbon dioxide (CO<sub>2</sub>) are expected to exist. The chemical analyses on produced fluids revealed that acetic acid of 250~300 ppm existed in the produced condensed water. Laboratory corrosion test results showed that acetic acid in the condensed water saturated with CO<sub>2</sub> markedly affected the passivity of 13 %Cr steel due to low pH. The existence of acetic acid can be a cause of the localized corrosion of 13 %Cr steel tubing in Minami-Nagaoka wells.

**Key words:** [Minami-Nagaoka gas field](#), [13 %Cr steel tubing](#), [localized corrosion](#), [high temperature](#), [CO<sub>2</sub>](#), [acetic acid](#), [passivity](#), [pH lowering](#)

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