

**FUGITIVE NGL ISSUES IN THE CONWAY, KANSAS AREA –
ASSESSMENT AND MONITORING**

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In 2001, fugitive natural gas liquids (NGL) were discovered in Cathodic Protection Well CP-8 and subsequently in the Brine Production Test Well Willems No. 1 located near the Conway Underground East Storage Facility in Conway, Kansas. Following the discovery, an investigation of the aerial extent of the NGL in the shallow, unconsolidated, alluvial deposits of the McPherson Formation was completed. The results of the investigation indicated a plume of NGL located east of the Brine Production Test Well Willems No. 1. Geophysical logging of the Brine Production Test Well Willems No. 1 and adjacent Brine Production Well indicated poor cement bond along the casings. Subsequent abandonment of the Brine Production Well Willems No. 1 and recompletion of the Brine Production Test Well Willems No. 1 have resulted in a rapid and significant decrease in the concentration of NGLs in the adjacent shallow Monitoring Well CUE01-6S. This decrease suggests that the pathway of migration from the Wellington Aquifer to the shallow alluvial overburden has been eliminated. New soil gas monitoring points are now in-place for monitoring the presence of the NGLs in the shallow, unconsolidated, alluvial deposits located near the former Brine Production Well Willems No. 1. The presence of elevated carbon dioxide and depressed oxygen levels in the areas of the NGL suggest a biological reduction of the NGL is occurring. Soil gas monitoring data from 2003 to 2008 indicate NGL concentrations across the plume have decreased such that only one point has NGL present.

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