

Cortez CO₂ Pipeline

Shell Pipeline Company



The 808-km (502-mile), 30-inch Cortez CO₂ Pipeline, built by Willbros in the early 1980s, is the longest, heaviest, and largest capacity carbon dioxide pipeline in the world.

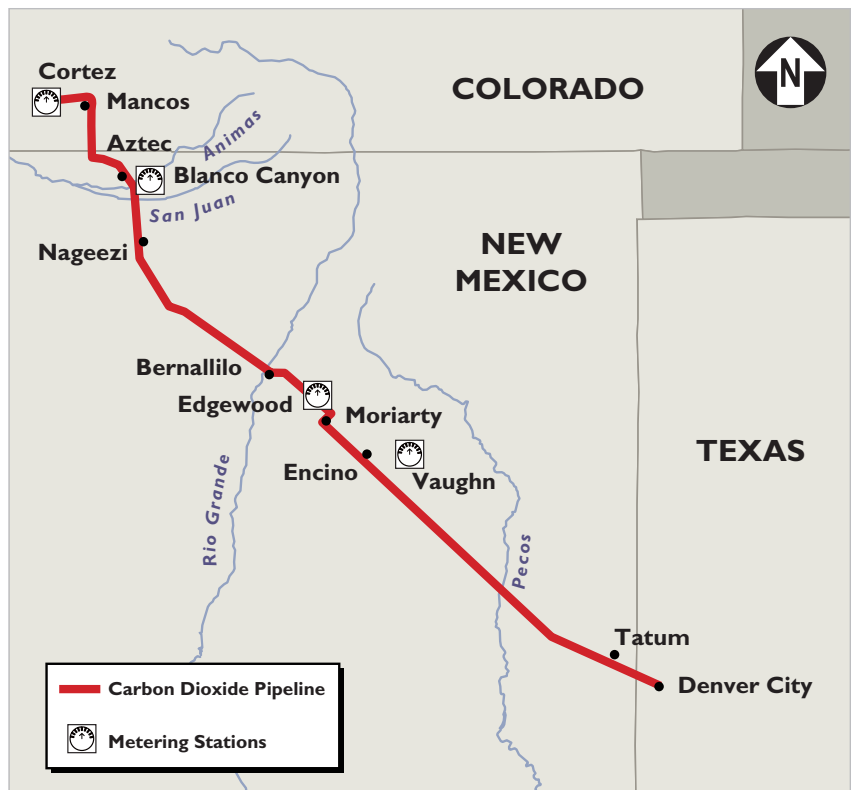
The pipeline was contracted to Willbros by Shell Pipeline Company. It originates at the McElmo Dome area in Montezuma County, Colorado, in that state's southwestern corner. Final destination is the Denver Unit in the West Texas Wasson Field, near the community of Allred in Yoakum County, Texas.

The pipeline's initial capacity was up to 650 MMscfd of carbon dioxide, transported single phase in a super-critical state (dense vapor). The CO₂ was originally delivered to Cortez at its origin in southwest Colorado at approximately 2,000 psi with delivery pressure at the terminus of the line near Denver City, Texas, of approximately 2,000 psi. Pressure at various points on the pipeline ranged from 1,400 psi to 2,600 psi, depending on the effects of elevation (hydrostatic head variations)—accounting for the need for heavy-wall pipe.

Project Award
April 1982

Project Completion
March 1983

United States



The CO₂ is used in enhanced oil recovery techniques to take another 280 MMbbl of oil from producing formations—oil that could

continued on back

not be recovered in any other way. Life of the field was expected to be extended by 20 to 25 years.

Four major river crossings along Cortez's route include the 158-m (518-foot) Animas River crossing; the 709-m (2,327-foot) San Juan crossing; the 627-m (2,056 foot) Rio Grande crossing; and the 305-m (1,000-foot) Pecos crossing. Pressure reducing stations were installed at three locations in New Mexico, and metering stations were installed at Cortez, Blanco Canyon, Edgewood, Vaughn, Poquita, and Allred, primarily to serve as a check on line integrity.

The Cortez CO₂ Pipeline is one of the most innovative pipeline construction projects in recent years. The pipeline was completed in 1983.

