

## HDPE Pipe Used to Bring Water to San Antonio, TX

*San Antonio, Texas*

### Overview

This project provides a long-term solution for San Antonio, Texas, one of the fastest-growing cities in the United States. San Antonio currently obtains more than 90 percent of its water from the Edwards Aquifer. This project diversifies its water sources. San Antonio Water Systems (SAWS) is tapping into the Carrizo Aquifer, located approximately 50 miles from San Antonio in Gonzales County. SAWS is using more than 122,000 feet of HDPE to bring the water from the aquifer to an integration point where the water will enter the SAWS distribution system. There are 10 wells drilled 1,500-2,000 feet deep into the Carrizo Aquifer. The water and soils are highly corrosive and have an average temperature of 98° F.

### Problem

With the increased population comes the need for an increased water supply. There is no shortage in water in the state of Texas; it's just not in the

right places. SAWS needed to tap into the Carrizo Aquifer approximately 50 miles away and bring that water to them. ISCO Industries helped them solve this problem.

### Solution

The remote location of the project in relation to the rest of the SAWS infrastructure dictated the use of a low-maintenance material, hence HDPE and stainless steel materials were chosen. SAWS liked the ability to field bend the pipe, saving money not having to purchase elbows. The durability of HDPE allowed it to curve and maneuver around trees and obstructions, causing minimal environmental disturbance. Also, the ability to fuse pipe above ground in long lengths ahead of the installation crew allowed for lower overall cost and less work in the ditch, therefore making it safer.

Quality control was a huge concern for SAWS. ISCO was able to provide highly trained and qualified field fusion technicians to fuse pipe on site.

ISCO provided all the proper material certifications from the pipe manufacturer, including the traceability of resin, McElroy DataLogger™ use and in-field tensile testing. This was a huge issue for SAWS and would have been very costly with coated steel pipe. HDPE proved to be a leak-free, corrosion-free pipe material, with no cathodic protection required, leading to lower maintenance costs. SAWS especially liked the environmentally friendly nature of HDPE in general.



*ISCO representative viewing a string of 24-inch DR 9 pipe on the SAWS project*

## Conclusions

Initially this project was specified for steel pipe and ductile iron. Working diligently, ISCO Industries offered an alternate solution to SAWS to use HDPE for this project. ISCO provided a detailed analysis showing that HDPE is more cost effective, mostly due to the 50- to 100-year lifespan. Also, due to the corrosive nature of the groundwater, HDPE was determined to be a better choice. Once completed, this project is estimated to provide water to 60,000 households.

## Project Facts

(From SAWS.org):

- The Regional Carrizo Project will assist in diversifying San Antonio's water supply, reducing dependence on existing Edwards Aquifer supplies.
- The project will provide water to help meet San Antonio's short- and mid-term water needs.
- Up to 13 million gallons per day (mgd) of water produced from this well field will be transported by pipeline to an integration point in northeast San Antonio where it will enter the SAWS distribution system.

ISCO provided approximately 328 truckloads of HDPE pipe, totaling more than 11 million pounds. The total length was 122,149 feet in various sizes. ISCO provided various McElroy machines, including 1648s, 1236s, Poly Horses and DataLoggers™.



*Quality control was a top priority for SAWS and ISCO. An ISCO field fusion technician logs information using a McElroy DataLogger™. The pipe is 24-inch DR 9.*



*Staging of the pipe was imperative in a project as large as this one. Although this only shows a small portion of the pipe used, the ISCO team was highly organized to move large quantities of pipe as efficiently as possible.*



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INDUSTRIES  
1-800-345-ISCO  
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