

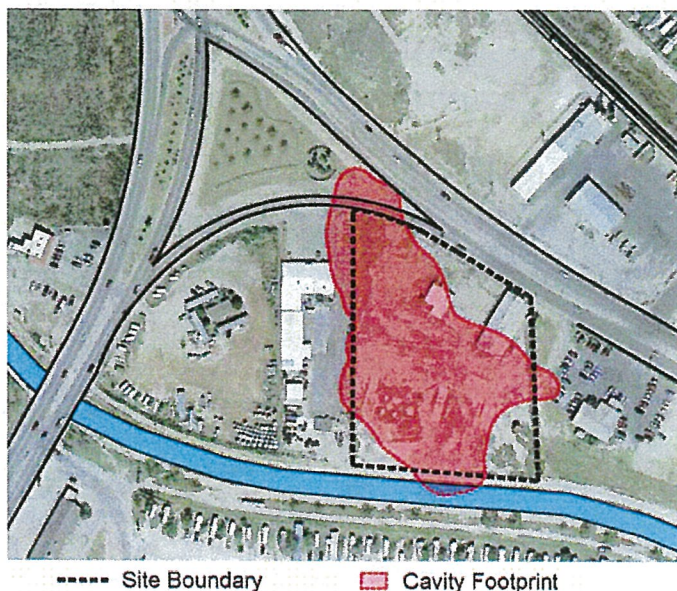
# Carlsbad I&W Brine Well Remediation

## Fact Sheet – Initial, November 2018

**wood.**

### What is the Carlsbad Brine Well Remediation project?

The former I&W Brine Well property, located at 3005 South Canal Street in Carlsbad, New Mexico, produced brine water for oil and gas drilling for thirty years before ceasing operation in July of 2008 due to concern of a potential collapse. In 2008, two other brine water production operations in remote areas of southeastern New Mexico experienced cave-ins leaving large sinkholes at the surface. Brine production operations pumped fresh water into salt layers underground, dissolving the salt to make brine, resulting in subsurface cavities. Although I&W has not collapsed, the situation is more serious because the property is located near Carlsbad's "South Y" interchange where two major highways and an irrigation canal come together (see map). The surface area potentially impacted by a collapse may exceed the footprint of the cavity and could cause damage to infrastructure and property, disrupt interstate travel, commerce, and local agriculture, and pose a threat to public safety. The Carlsbad Brine Well Remediation project aims to design and implement a plan to minimize these impacts by filling the subsurface cavity with grout to stabilize the existing underground void created by operation of the I&W facility.



### Who runs the remediation project?

The New Mexico Energy, Minerals and Natural Resources Department's (EMNRD) Oil Conservation Division (OCD) regulates the oil and gas industry within the state and oversees this project. Wood Environment & Infrastructure Solutions, Inc. (Wood), formerly Amec Foster Wheeler, was selected by EMNRD to design, manage, and implement the remedy at the project site. Since 2012, Wood has participated in monitoring the underground cavity, creating a conceptual site model, and developing a feasible remedy. Wood has assembled a highly knowledgeable team to safely complete the remediation project.

### Work done to date.

- 2009 - Installed initial cavity monitoring system, including sensitive near-surface tilt meters and groundwater level transducers. Later, more instrumentation was added, including wellhead fluid pressure and canal water level transducers, equipment to monitor cracks in buildings surrounding the property, and a weather station. The electronic monitoring systems run 24-hours a day and will trigger alarms to warn state and local authorities of any important changes.
- 2012 to 2014 - Conducted a feasibility study to determine possible remedies to stabilize the cavity.
- 2012 to 2014 - Used computer modeling to estimate the contents, size, and shape of the cavity based on monitoring and investigation information and created a conceptual site model, which continues to be revised with new data.
- 2012 to present day – Continuous site monitoring performed.
- 2013 to 2014 - Installed a deep underground seismic monitoring system to identify and locate movement of rock around the cavity, as well as onsite video cameras. These systems run 24-hours a day.
- Summer 2018 – Installed security fencing around the site and project related signs, conducted brine well sampling, and made other site improvements in preparation for cavity filling.
- September 13, 2018 - Wood hosted the first public meeting held in Carlsbad to present the remediation plan.

