New Mexico Energy, Minerals and Natural Resources Department

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NEWS RELEASE

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Approximately 85 Citizens Attend Public Meeting Concerning a Carlsbad Brine Well

CARLSBAD, NM – The Oil Conservation Division, along with Eddy County Office of Emergency Management and the New Mexico Department of Homeland Security and Emergency Management, hosted an informational public meeting last night, July 16, 2009, at the Pecos River Village Conference Center in Carlsbad, New Mexico. The meeting room at the conference center was filled to capacity with 85 citizens, including Carlsbad Mayor, Bob Forrest and the City Manager of Carlsbad, Harry Burgess. The purpose of the meeting was to provide the public the latest information the Oil Conservation Division has acquired about the potential brine well collapse.

The Oil Conservation Division has been investigating and studying brine wells in New Mexico, since two brine wells catastrophically collapsed without warning last year in Eddy County. A facility in Carlsbad with two brine wells raised red flags for the Oil Conservation Division due to its location, which is between US 285 and US 180/62 where those two highways meet at a “Y”-shaped intersection. Certain aspects of the Carlsbad facility, such as the shallow depth and length of time in service, are similar to the two wells that already collapsed and the Oil Conservation Division has concluded that the site poses a serious risk to human life and to property.

“The Oil Conservation Division regulates brine wells to keep salt and other contaminates out of groundwater,” stated Division Director Mark Fesmire, who lead the meeting. “We will continue working to reduce the potential threat from another brine well collapse and to protect human health and the environment.”

Previously, the Oil Conservation Division organized a Brine Well Evaluation Work Group. The group consists of experts from the Oil Conservation Division, industry, the national labs, the Environmental Protection Agency, the Waste Isolation Pilot Project, the National Cave and Karst Research Institute here in Carlsbad, and national organizations concerned with solution mining. The group met and expressed concern that any brine well operation that had produced large volumes of brine from a shallow salt bed was subject to collapse and needed to be heavily scrutinized. Five brine well facilities in New Mexico fell into this category, including the two that had already collapsed. The facility here in Carlsbad is one of the other three that fall into this category and it poses a significant additional risk due to its close proximity to the Carlsbad Irrigation District Canal, businesses, homes and a church.

Jim Griswold, a hydrologist with the Oil Conservation Division, gave a visual presentation that went over the subsidence monitoring program and an early warning system, which includes: surface surveys, surface tilt measurements, groundwater measurements, and borehole tiltmeters. All of the monitoring program data indicates that subsidence is presently occurring above the Carlsbad brine well cavern.

Griswold explained that if subsidence at the Carlsbad facility continues at the current rates, in a year's time the surface will have moved 1 to 2 inches vertically and tilted as much as 6 degrees in some areas. Movement of the ground, buildings, subsurface utilities, and/or roadways may become visibly apparent.

Griswold's presentation included an analysis of the risk posed by the Carlsbad facility. He explained that 2 of the 34 brine facilities in New Mexico have collapsed: that is a failure rate of 6 percent. If you consider only shallow brine wells in New Mexico – those wells with a depth to bottom of casing of less than 500 feet- you are looking at 5 facilities, including the Carlsbad facility. Two of those 5 have collapsed, for a failure rate of 40 percent. And if you consider only shallow brine wells that have produced a large amount of brine, you are looking at 3 facilities, including the Carlsbad facility. The two other shallow brine facilities with high production volume have already collapsed, for a failure rate of 67 percent. See chart below:

Five brine well facilities in New Mexico produced large volumes of brine from a shallow salt bed: Combining the shallow depth with the overall volume of brine produced raises the historic probability in NM to 67 percent (2 in 3).

Facility	Production	Cavern Depth	D/H	Status
Jim's Water Service	8 million barrels	397 ft	1.13	Collapsed
Loco Hills Disposal	7 million barrels	505 ft	0.70	Collapsed
Carlsbad Facility	6 million barrels	456 ft	0.66 to 1.10	

"Cratering does not occur when the ratio between cavern diameter and cavern depth (D/H) is significantly smaller than 0.67"

Subsidence, Sinkholes and Craters above Salt Caverns.
M. Karimi-Jafari, P. Berest, and B. Brouard.
Solution Mining Research Institute
Spring 2008 Meeting, Portugal

The early warning system is designed to automatically contact Eddy County Emergency Management in the event that a collapse is imminent. Eddy County would be the first responders and implement their Emergency Response Plan.

"Eddy County Emergency Management has developed an initial incident action plan and is working with the New Mexico Highway Department and the New Mexico Department of Homeland Security and Emergency Management," stated Joel Arnwine, Eddy County Emergency Manager. "In September the Eddy County will participate in a tabletop exercise to evaluate the action plan."

Members of the community expressed concern about declining property values near the facility, a farmer worried about his pecan trees whose water comes from the Carlsbad Irrigation District canal and a member from Jehovah's Witness church located next to the brine well facility inquired about the early monitoring system.

Carlsbad Mayor Bob Forrest thanked all the agencies for their work thus far and also stated, "We are preparing for the worst and hoping for the best."

The next step is to conduct a seismic survey to determine the size and shape of the brine well cavern at the site. The Oil Conservation Division will continue to work with the owners, make suggestions to them about possible solutions or remedies to stabilize the brine well they own, operate and for which they are responsible.

For more information, including Griswold's presentation and to read the Brine Well Collapse Evaluation Report visit the website: http://www.emnrd.state.nm.us/ocd/BrineWells.htm.

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