



NEWS RELEASE

Colorado Departments of Law and Public Health and Environment

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REPORT DETAILS ENVIRONMENTAL DAMAGE AT ROCKY MOUNTAIN ARSENAL

Colorado Attorney General seeking compensation from Shell, U.S. Army

(DENVER) – Colorado Attorney General John W. Suthers today released a Natural Resource Damage Assessment Plan (NRDA) detailing past and ongoing environmental damages caused by chemical production at the Rocky Mountain Arsenal. The NRDA found significant harms to environmental resources on and off the Arsenal site, most notably contaminated groundwater and injured wildlife. The document can be downloaded at <http://www.cdphe.state.co.us/hm/rmaplan.htm>.

The assessment provides the basis of a legal claim to recover damages for environmental harms should the parties be unable to settle the claim. Although cleanup actions at the Arsenal are scheduled to be completed in 2010, the report notes contamination will remain on the site and in the surrounding areas for decades, at least. The NRDA was prepared on behalf of the three State natural resource trustees, the Attorney General, and designated representatives from the Colorado Department of Public Health and Environment (CDPHE) and the Department of Natural Resources (DNR).

“Over the last quarter century, we have worked with Shell and the Army to cleanup the Arsenal and make it a wildlife refuge for the benefit of Coloradans,” said Attorney General Suthers. “However, the law entitles the citizens of this state to fair compensation for past and ongoing harm to our environment. It is our job to ensure Coloradans are reimbursed for the natural resource damages caused by Shell Oil and the federal government.”

CDPHE executive director Jim Martin, one of Colorado’s three natural-resource damages trustees, concurred: “Although we applaud the clean-up work that Shell and the Army have completed on Arsenal so far, that effort merely reduces additional harm to our environment, however, harm remains. Plus, our citizens are entitled to fair compensation for wildlife deaths and other losses over the years. Wildlife, habitat and groundwater are among the injured resources for which Coloradans are owed fair compensation.”

“While the site has been designated a wildlife refuge, the historic use of the land for chemical manufacturing has resulted in significant impacts on wildlife and habitat,” commented Ron Cattany, the Department of Natural Resources’ Trustee. “Coupled with the contamination of scarce water

resources on the arid plains, adequate compensation to the citizens of the state is an imperative, not an option.”

The NRDA concludes that Shell Oil released an estimated 150,112 tons of contaminants into Colorado’s environment. The Army is alleged to be responsible for another 26,405 tons. From 1942 through the 1970s, the federal government used the Arsenal to produce, and later demilitarize, chemical weapons such as mustard agent and nerve gas. Shell Oil Company used the property from 1952 to 1982 to produce a variety of pesticides, including the carcinogenic neurotoxins aldrin and dieldrin.

Superfund, the same federal law that required Shell Oil and the Army to cleanup the contamination, also requires them to pay for natural resource damages. Superfund’s cleanup provisions aim to protect public health and the environment from future harm, while the natural resource damage provisions address the fact that once a resource has been contaminated, the loss to the public continues until and unless the resource is completely restored.

Officials from the Colorado Attorney General’s Office, CDPHE, and DNR have been working for several months with representatives from Shell Oil and the federal government to resolve the case. If settlement negotiations are unsuccessful, the State is prepared to pursue legal action to recover natural resource damages based on the NRDA. Any recoveries gained through litigation or settlement will be used to replace, restore or acquire similar natural resources, through projects such as parts of the Northeast Greenway Corridor initiative.

The assessment plan will be available for review and comment by the public during the next 30 days, and the State will seek public input throughout the assessment process.

“Perhaps more than any other asset, the State of Colorado is known for its breathtaking natural beauty and environment,” concluded Attorney General Suthers. “This study is an important step in returning Colorado’s great outdoors to Coloradans. I am hopeful that the state’s claim can be resolved in the near future.”

Groundwater injury

Although groundwater contamination has been reduced through treatment efforts, the NRDA estimates that water in and around the Arsenal may never be fully clean. Approximately 52,500 acre-feet of alluvial groundwater – water found near the soil surface – is unusable for human consumption. If not unavailable, that quantity would otherwise be large enough to provide water for every household in Commerce City for more than seven years. The NRDA estimates that 1.89 million acre-feet of deep groundwater are undrinkable, due to restrictions imposed as part of the Superfund cleanup. That amount of water would be sufficient to meet the needs of every household in the Centennial State for one year.

The primary causes of groundwater contamination include seepage from several evaporative waste basins, leaky tanks and pipes, and numerous chemical spills. Arsenal basins A, B, C, D, and E, which collectively covered 243 acres, were not lined and allowed waste to percolate directly into the water table. Basin F, which was covered with a porous, 3/8-inch asphalt lining, covered 93 acres and held as much as 240-million gallons of contaminated liquid.

Several chemical spills and tank leakages were recorded on the Arsenal site, including:

- 100,000 gallons of benzene in 1947
- 17,000 gallons of Dicyclopentadiene (DCPD) in 1963
- 1,548 gallons of DCPD and oil in 1976
- 58,864 gallons of DCPD in 1978
- More than 87,000 gallons of other solvents, pesticides, and metals.

Drinking liquid containing high levels of benzene can cause vomiting, dizziness, convulsions, rapid heart rate, and death. Prolonged exposure can damage bone marrow, decrease red blood cells, and injure the immune system. Exposure to DCPD can adversely affect the human nervous system and liver.

The primary contaminant at the Arsenal, however, is dieldrin, which was found to be widespread in soils, groundwater, and wildlife tissue. Dieldrin was one of many pesticides manufactured by Shell Oil at the Arsenal. The pesticide was banned by the EPA in 1987, and exposure has been linked to cancer and found to accelerate Parkinson's disease.

Wildlife injuries

The NRDA found severe injuries to area wildlife, for which Coloradans also are entitled to compensation. The U.S. Fish and Wildlife Service estimates at least 20,000 ducks died in a 10-year span at the Arsenal, and during the 1970s, hundreds of dead waterfowl were found each day around the Arsenal's four lakes. Mallard carcasses found onsite contained up to 15 times the acceptable level of dieldrin.

In addition to tens-of-thousands of birds, many mammals – such as prairie dogs and badgers – also fell victim to the deadly chemicals manufactured onsite. Still other species may have suffered reduced reproduction rates or chemically induced paralysis and birth defects.

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Additional media resources:

Map of estimated extent of a combined contaminant plume (trichloroethylene, benzene, chloroform, dibromochloropropane, and dieldrin) in the shallow alluvial aquifer
<http://www.ago.state.co.us/PR/Comm/1.jpg>

Map of extent of detectable diisopropyl methylphosphonate (DIMP) in shallow groundwater in 1994, according to USGS
<http://www.ago.state.co.us/PR/Comm/2.jpg>

Map of estimated extent of the combined contaminant plume (Figure 5.10) and a combined DIMP and chloride plume
<http://www.ago.state.co.us/PR/Comm/3.jpg>

Examples of the distance that communities near the Arsenal have gone to obtain reliable water supplies
<http://www.ago.state.co.us/PR/Comm/4.jpg>

Map of wells near the Arsenal owned by municipal water suppliers

<http://www.ago.state.co.us/PR/Comm/5.jpg>

Map of complainants noting persistent noxious odors during the Basin F interim response action

<http://www.ago.state.co.us/PR/Comm/6.jpg>