

# Rachel's Environment & Health News

## #320 - How History Will Remember Mr. Bush

January 12, 1993

In its sad, corrupt last days, the Bush administration tried to inflict maximum damage on its most implacable adversaries, local environmental activists. Secretary of the Interior Manuel Lujan announced he would speed up the sale of 1000 acres of public land to the state of California to allow construction of the "low-level" radioactive waste dump at Ward Valley, near Needles, California. The federal Bureau of Land Management (part of Interior) delayed publication of an environmental impact statement to grease the skids for the land sale. Dump opponent Dan Hirsch, director of the Committee to Bridge the Gap, said the unexpected sale "virtually assures" that the dump will be built unless the courts or the Clinton administration can find some way to reverse it.[1] The Needles dump is planned to be large enough to hold the nation's entire production of "low-level" radwaste temporarily (that is, until it leaks out).

William Reilly, chief of EPA (U.S. Environmental Protection Agency) made his own personal contribution to Mr. Bush's final assault on environmental activists. On January 8, Reilly approved a test burn, now scheduled for January 13, for the notorious WTI incinerator in East Liverpool, Ohio--the world's largest toxic waste burner, built in violation of numerous state and federal laws and regulations.[2] (See RHWN #287.) Vice-President-elect Al Gore had announced last month that the Clinton/Gore administration would not approve a test burn until all legal and safety questions about the incinerator it had been satisfactorily answered. (See RHWN #315.) One of the issues Gore wants resolved is who exactly owns and will operate the WTI incinerator--an important issue since, by law, liability and responsibility reside with the owner/operator. Some 40 different corporate names have appeared on official documents related to the WTI incinerator during the past 5 years--a shell game that has left ownership and control shrouded in mystery. On December 24, 1992 EPA Region 5 Administrator Val Adamkus wrote to Blake Marshall, president of Von Roll (Ohio), Inc., asking him: "Please address the issue of whether VRI [Von Roll, Inc.] is an 'operator' within the meaning of RCRA [federal Resource Recovery and Conservation Act]."[3] Despite EPA's continuing ignorance about who actually owns and operates the incinerator--itself a clear violation of federal regulations--Bill Reilly allowed the test burn by SOMEONE to proceed.

But history will record that the Bush administration's major contribution to environmental destruction was its aggressively lackadaisical response to mounting evidence of major dislocations of Earth's atmosphere--global warming, ozone depletion, and other serious disturbances of atmospheric chemistry.

\*\* During the Bush years ozone depletion was measured for the first time over the Arctic regions in a zone extending to southern Canada and northern New England where major populations reside. (See RHWN #285.)

In late 1992, researchers in Great Britain and at Princeton University published their conclusions, that increases in carbon dioxide (CO2) in the atmosphere--the main gas causing global warming--will likely cool the stratosphere, causing greater ozone depletion by CFCs. (The formation of ice crystals in the lower stratosphere initiates chemical processes that deplete the protective ozone shield, allowing deadly ultraviolet radiation from the Sun to strike Earth's surface.) They say it is likely that the continuing CO2 buildup will contribute substantially to the development of a major ozone hole over the north pole, extending from time to time during the next 100 years (depending on weather and other factors) over the regions of the north latitudes where most humans reside.[4]

\*\* In late 1991, NASA revealed that modeling studies of the atmosphere led to the conclusion that a molecule called the "hydroxyl radical" (containing a single atom of hydrogen and a single atom of oxygen) has diminished somewhere between 5% and 23% during the last 200 years. If this is true, it is very bad news. As SCIENCE magazine explained, the hydroxyl radical is the "Pac man of Earth's atmosphere." Hydroxyl radicals are present at very

low levels in the atmosphere (hundredths of a part per trillion), yet they provide an exceedingly important service: "...gobbling up most anything that has been fouling the air--carbon monoxide that leads to smog, methane that enhances the greenhouse, sulfurous gases, and unburned oil. By oxidizing and thus eliminating these contaminants, the voracious hydroxyl radical serves as the mainstay of the global atmosphere's self-cleansing process, holding at bay noxious gases produced by natural processes and, more recently, doing its best to mitigate the worst excesses of human activity." [5] The hydroxyl radical removes methane from the atmosphere (thus reducing global warming) and removes ozone-depleting CFCs from the atmosphere, thus reducing ozone depletion. Reduction of the hydroxyl radical--if it is true--is bad news indeed. Fred Eisele, a scientist at Georgia Tech, and George H. Mount at the National Oceanic and Atmospheric Administration (NOAA) in Boulder, Colorado, are developing techniques for reliably measuring the hydroxyl radical, to try to confirm NASA's conclusion that hydroxyl is diminishing.[6]

\*\* Also in late 1991, scientists reported a 10-fold increase in the highest clouds on Earth, some 55 miles above the North and South poles, a part of the atmosphere called the mesosphere. Scientists joke that so little is known about the mesosphere that it is sometimes called the ignorosphere, but since 1981 scientists have been noticing not only more clouds but also unexplained high-frequency echoes from research radars. Something is definitely going on in the mesosphere. Dr. Gary Thomas at University of Colorado in Boulder believes the cause is methane gas, which is increasing in the lower atmosphere (the troposphere) at the rate of 1 percent each year.[7] Dr. Thomas told us in an interview December 23 that during 1992 his methane theory was widely publicized and has found broad acceptance among scientific audiences. "No one has effectively challenged the theory," he said. Methane is a greenhouse gas, second only to CO2 in its ability to warm the planet; it is produced chiefly by livestock, rice paddies, and deforestation. Dr. Thomas said the mesospheric clouds would have to get at least 10 times worse before they might affect Earth's climate. He said disturbance of the mesosphere is simply further evidence that humans are interfering with ecosystems on a grand scale and in ways that are poorly understood--a dangerous business.

\*\* Until 1992, global warming had been predicted based only by computer models. The models indicated a doubling of CO2 in the atmosphere might produce a warming as little as 1 degree Fahrenheit (F) or as large as 9 degrees F. But during 1992 Dr. Martin Hoffert of New York University and Dr. Curt Hovey of Lawrence Livermore National Laboratory in California analyzed climate data from 20,000 years ago and from 100 million years ago (a record found in Earth's geologic formations) and confirmed what the computer models have shown. A doubling of CO2 will produce a warming of 4.5 degrees F., they estimated, based on the geologic record. (NATURE Dec. 10, 1992, pg. 573.) Such a rise in a century's time would be unprecedented in Earth's history. More dangerous business.

\*\* Dr. George Woodwell, director of the Woods Hole Research Center in Massachusetts, and one of the world's recognized forest experts, has emphasized since the mid-1980s that a small warming will destroy forests, because they cannot adapt quickly by moving northward.[8] Dying forests will release large quantities of carbon dioxide that are presently contained in the living trees; the released carbon will in turn speed global warming, destroying more forests, releasing still more carbon dioxide, a vicious cycle that humans would be powerless to stop. "There is urgency in moving with deliberate and effective speed to stabilize the heat-trapping gas content of the atmosphere before we lose the capacity for affecting it and commit the earth to a cycle of warming of unknown severity, speed, duration, and effects," Dr. Woodwell testified before Congress in early 1991. Danger, danger, danger.

But throughout his watch, George Bush and his dutiful minions at EPA slept on.

--Peter Montague

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[1] "Low Level Dump: Wilson, Feds 'Rushing' Ward Valley?" GREENWIRE January 8, 1992. Greenwire is a "daily executive briefing on the environment" published on-line; phone (703) [237-5130.]237-5130.

[2] "Incinerator: EPA Approves Test Burn at E. Liverpool," GREENWIRE January 11, 1992. Greenwire is a "daily executive briefing on the environment" published on-line; phone (703) [237-5130.]237-5130.

[3] Correspondence from Valdas V. Adamkus to D.J. Blake Marshall dated December 24, 1992. 3 pgs.

[4] John Austin and others, "Possibility of an Arctic ozone hole in a doubled-CO2 climate," NATURE Vol. 360 (November 19, [1992],] pgs. 221- 225. See also, J.D. Mahlman, "A looming Arctic ozone hole?," NATURE Vol. 360 (November 19, 1992), pg. [209.]209.

[5] Richard A. Kerr, "Hydroxyl, the Cleanser That Thrives on Dirt," SCIENCE Vol. 253 (Sept. 13, 1991), pgs. 1210-1211.

[6] "Georgia Tech and NOAA Compare Atmospheric Measuring Techniques," OPTICAL MATERIALS & ENGINEERING NEWS (July 1992), pgs. unknown; available in File 636 on the Dialog Information Retrieval Service; phone (800) 334-2564.

[7] Richard Stone, "Signs of wet weather in the polar mesosphere?" SCIENCE Vol. 253 (September 27, 1991), pg. 1488.

[8] For example, see George M. Woodwell, editor, THE EARTH IN TRANSITION; PATTERNS AND PROCESSES OF BIOTIC IMPOVERISHMENT (Cambridge and New York: Cambridge University Press, 1990), especially pgs. ix through 7.

Descriptor terms: george bush; llw; ward valley, ca; needles, ca; ca; radioactive waste; bureau of land management; epa; william reilly; regulations; wti; east liverpool, oh; oh; global warming; ozone depletion; global environmental problems; carbon dioxide; forests;