

Radiation: "DANGEROUS TO PINE RIDGE WOMEN," W.A.R.N. study says

A preliminary study by Women of All Red Nations (WARN) has found dangerous levels of water contamination on the Pine Ridge Indian Reservation, and an alarming increase in spontaneous abortions and cancer mortality. WARN is calling for a state of emergency and immediate delivery of safe, clean water to the residents of Pine Ridge and outlying areas.

The WARN study showed that in one month alone during 1979, 38% of the pregnancies reported to the Public Health Service hospital in Pine Ridge, resulted in spontaneous abortions (miscarriages before the 5th month of pregnancy) and excessive hemorrhaging. Of the children who were born, 60 to 70% suffer breathing complications as a result of undeveloped lungs and/or jaundice. Children have also been born with such birth defects as cleft palate and club foot, disease uncommon to the Lakota people.

A representative survey of 12 families showed that in 10 of the 12 families, an elder has died of cancer since 1962.

In Chadron, Nebraska, off the reservation, similar statistics show spontaneous abortions occurring without any medical explanation. On ranches within and around the Pine Ridge Reservation, the rate of stillborn and deformed cattle has skyrocketed.

"We don't need to look at paper anymore," says Lorelei Means, a founder of WARN. "We have real, physical documentation; unborn children, deformed babies, youth suffering and dying from leukemia and ever-increasing cancer victims. Already 25% of our women have been sterilized. We are still under attack; this is genocide."

According to Dr. Jeffrey Olenick, at the Pine Ridge Hospital, the rate of spontaneous abortions indicated by the study on the Pine Ridge Reservation was higher than national averages. Dr. Olenick indicated to a WARN investigator that he felt a comprehensive health survey of the area was in order and hoped that such a survey would result from the WARN study. Of particular concern to him was the rate of spontaneous abortion exposed during the period of November 15 to December 15. During that period he witnessed 14 spontaneous abortions. His calculations indicate that this was a 38% rate of spontaneous abortions during that period.

Dr. Olenick also expressed concern over the excessive bleeding that is prevalent after these miscarriages. In a normal situation, a woman does not need medical attention post-miscarriage, except for a watchful eye for rare complications. Sometimes a D and C (dilation and curettage) is required. On Pine Ridge, in almost every case, women have had excessive bleeding 48 hours after miscarrying, according to Dr. Olenick.

As many women on Pine Ridge do not use the Hospital's services, except for unusual illnesses, the figures given do not reflect the numbers of women who may not have detected or considered medical care for miscarriages in the early stages of pregnancy. The figures also do not reflect situations where miscarriage threatened but was avoided or very serious cases where surgery was indicated and the patient was transferred to a hospital in Gordon, Nebraska for surgical care.

The cause of these frightening health statistics is unknown. Local and national studies, however, tie these abnormal rates of disease and death to increased contamination of air and water by chemical toxics and nuclear development in the same geographic areas.

The Pine Ridge Reservation lies southeast of the Black Hills — the site of extensive uranium mining and milling during the late 1940s through the early 1970s. The mining community of Edgemont in the Southern Black Hills, 80 miles northwest of Pine Ridge, has over 30 sites of extreme radiation contamination from uranium mill tailings, which retains 85% of the uranium's radioactivity. According to the South Dakota Department of Water and Natural Resources and a 1978 Environmental Protection Agency study, 15 to 30 homes in Edgemont have radiation several times higher than deemed "safe" by health regulations for uranium miners. Increased exploration and massive projected mining plans, with no effective technology for tailing storage, has multiplied concerns for health safety throughout the Hills area.

There is no known uranium exploration or history of



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uranium mining on the Pine Ridge Reservation. Its primary source of water, however, is the Lakota Aquifer, an underground water source stemming from the Big Horn Mountains of Wyoming and shared with areas to the north.

According to Dr. Charles Hoover, professor of ecology at the University of Minnesota, the Lakota Aquifer is contaminated at the source with herbicides and insecticides, which in the short run can cause spontaneous abortions. In addition, energy companies have been drilling directly into the aquifer and have left exploration holes open, causing surface runoff, well dewatering or draining, and emission of radon, a major uranium by-product which dissolves easily in water but is tasteless, odorless and invisible, contaminating the drinking water of residents and their livestock.

Paul Robinson of the Southwest Research and Information Center in Albuquerque, New Mexico explains, "If holes puncture water-bearing layers and are not plugged, groundwater movement is likely to occur. If low quality groundwater is moving it can contaminate higher quality water layers."

The tailings also move easily, like sand, with the winds across the plains, polluting the air and contaminating surface water. Plants, edible crops and river life hold and concentrate radioactive radium, as do the residents of the area.

The Department of Interior summed up the problems of contamination by tailings holding ponds:

Contamination is well beyond the safe limit for animals. Escape by infiltration to the water table or by breakout to stream drainages could cause contamination by dangerous levels of radioactivity. Stock or humans using water from wells down gradient from tailings ponds would be exposed. Plants and animals encountering contaminated flows or contaminated sediments deposited in drainage channels would be exposed. Increasing the danger is the non-degradable and accumulative character of this type of

contamination.

Because of repeated documented links between contaminated water and incidence of disease, including cancer, the purity of Lakota water immediately came question. Water samples were scientifically removed and tested for radioactive alpha emissions. Tests conducted by J. Haworth Jonte, a Rapid City biochemist, proved that Pine Ridge water was not just harmful, but contained a lethal dose of radioactive particles. Radiation is measured in picocuries per liter as uranium. Jonte found 19 picocuries per liter in surface water tested from subsidiaries of the White River flowing into Pine Ridge Reservation and 15 picocuries per liter in groundwater in the Lakota Aquifer under Red Shirt Table community. Above 5 picocuries is considered dangerous by U.S. Public Health Service; the Red Shirt Table sample was three times the dangerous level, and the Pine Ridge water sample almost four times the dangerous level. In contrast, water from Cherry Creek on the Cheyenne River Reservation, which flows from the Belle Fourche River, tested at only 1.9 picocuries per liter.

The surface water of Red Shirt Tables comes from the Cheyenne River, which flows through the Angostura Reservoir and past Edgemont, South Dakota. On June 11, 1962 an accident at the uranium mill in Edgemont spilled 200 tons of radioactive mill tailings into Cottonwood Creek. Much of the radioactive material washed 25 miles downstream until it sank into the Angostura Reservoir. No cleanup has ever been undertaken. (Shutdown: Nuclear Power on Trial, the Book Publishing Company, Summertown, Tennessee, 1979).

The "Waste Guide for the Uranium Milling Industry" underscores the danger of this contamination:

If tailings are permitted to enter the stream, these solids will be deposited and will accumulate for long periods on the stream bed within a short distance from the discharge point. The undissolved radium will be leached from these solids to the overlying waters, increasing the dissolved radium content of the stream.

(The Robert A. Taft Sanitary Engineering Center, Technical Report W62-12, published by the U.S. Department of Health, Education and Welfare)

Children swimming in subsidiaries of the Cheyenne River have frequently been admitted to the hospital with body sores. Doctors automatically treated for impetigo until one doctor decided to first take a culture and found that the sores were not impetigo. The cause remains unknown.

No information has been obtained that the tailings from Edgemont are not contaminating the White River as well, which is the primary surface water source of the Pine Ridge. However, the water samples tested indicated an abnormal amount of nitrates, which Paul Robinson says can be attributed to gun powder blasts. On the northwest corner of the Pine Ridge Reservation is the "Gunnery Range," an area taken from the Lakota by the U.S. government during World War II for use as a bombing and target range. On June 26, 1975, then Tribal Chairman Dick Wilson transferred the Gunnery Range to the U.S. Park Service — a giveaway of one-eighth of the Pine Ridge Reservation, in secret, without the advice or consent of the Lakota people. The Air Force retained an area near which area residents have sighted large canisters being flown in by helicopter. These reports have raised strong suspicions that the Gunnery Range is being used as a dump for high-level military nuclear waste, which may be leaking radioactivity into the Lakota Aquifer. In this same area, on surrounding ranches, the rate of stillborn or deformed calves has skyrocketed. Northeast of this area are 12 nuclear missile sites, whose radiation effects are unknown.

Director of the Park Service at Pine Ridge, Donovan Shangreaux, explains the presence of nitrates as chemical wastes from the lagoons outside each district housing subdivision. The settling ponds are too shallow. The water becomes contaminated when the wastes leak into the water table and are pumped into the housing's plumbing by the pump houses some 100 feet away. This data, obtained by the Bureau of Indian Affairs, has not been made available to the Oglala Lakota people.

Another possible source of chemical contamination is the wanton use of poisonous dioxins in 2,4,5-T and 2,4-D used in combination as "Agent Orange" for insect control in the grasslands of South Dakota. Agent Orange was the defoliant used by the United States in Vietnam to clear the jungles and agricultural fields of Vietnamese guerrillas. There has since been an eightfold increase in liver cancer among Vietnamese living in those defoliated areas. The dioxins are part of the war machine brought home for domestic destruction. Use of these chemicals remains legally uncontrolled in South Dakota rangelands and during the grasshopper blight in recent years has significantly increased. The chemicals used in South Dakota may have a different name but they have the same chemical composition. It is known that they have been sprayed in the Big Horn Mountain area, the original source of the Lakota Aquifer, 2,4,5-T and 2,4-D have been documented as the cause of health problems in other communities.

Concerned health professionals have noted the statistics on the Pine Ridge Reservation, and it is known that as early as 1976 Pine Ridge water quality was tested and found contaminated. No results were ever promulgated by the Bureau of Indian Affairs, which contracted the study, or the Indian Health Service, the federal agencies allegedly responsible for the health and well-being of Indian people. And, of course, nothing has been done to alert the Lakota people of the potential health hazard of the water or to purify or replace the water supply.

There is no easy answer. Urban Rapid City, 100 miles away, draws its water from the Madison Aquifer, on the two most important water sources in western South Dakota. Geological and hydrological maps trace the Madison north of the Pine Ridge Reservation, from Oelrichs to near the White River. Researchers at the South Dakota School of Mines challenge this boundary, however, they say that in fact it runs far closer to, if not on, the reservation. The Madison, like the Dakota, is artesian, under high pressure that moves the water to the earth's surface without being pumped. It is also highly alkaline, and in Rapid City requires an extensive, sophisticated and expensive purification system to be drinkable. Drilling to its depth far below the Lakota Aquifer poses prohibitive costs. Thus, finding an alternative water source for the Lakota is a life or death problem, involving over 800 wells.

Radiation contamination has been found in well water on four Indian reservations. The Indian Health Service and the Environmental Protection Agency found radioactive contaminants in 19 of 150 wells tested on unnamed reservations in Arizona, New Mexico and California. According to Rep. Morris K. Udall (D-Ariz.), "No one knows for sure the source, nature or extent of the radiation in excess of standards proposed by the EPA." It is obvious, however, that Arizona and New Mexico are the focus of large rich uranium deposits and the arena for exploitative energy development. Western South Dakota is similarly targeted as a national sacrifice area to the energy crisis in the United States. uninformed, and like the U.S. energy policy, will be resisted by WARN and Indian people throughout the energy belt. Water is life.

Already Congressman Morris Udall (D-Az) has responded to WARN's call for a complete Congressional investigation. Roy Jones, Counsel on Oversight with Udall's House Committee on Interior and Insular Affairs, is investigating avenues of relief for the people immediately affected by the contamination. Jones is also exploring the possibilities for Congressional hearings and a General Accounting Office study of the water on Pine Ridge, similar to studies conducted on the Navaho Nation.



W.A.R.N.

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FAMILY PERMITTED TO LIVE IN "KNOWN" CONTAMINATED HOME; CHILDREN MOST AFFECTED

(A Black Hills Alliance report)

by Sherry Oswald and Colleen Ragan

Neal and Genevive Brafford, a Lakota couple, moved into their first real home two years ago in Edgemont, S.D., not suspecting that the house was radioactive. Federal, state and local officials had known this since at least 1972, but failed to warn the Braffords of the health hazard involved. A phone call on January 8, 1980 from the South Dakota Department of Water and Natural Resources informed Brafford of the dangers and convinced him that he and his family should move. Three days later, they relocated to a two bedroom apartment. According to 1978 Environmental Protection Agency (EPA) study, the Brafford house has the highest radioactive readings in Edgemont.

Brafford was notified by state officials that radiation levels at his home "were high enough to cause harm" and that he should "move his son out of his room in the basement immediately." The boy, Christopher, age 5, had had a room in the basement for two years. The state suggested moving the boy because he was being overexposed to radon gas and radon daughters released from the uranium wastes. Radiation has a devastating effect on children, because their cells grow rapidly and are more likely to be affected by radioactive materials than adults.

Tests in the upstairs of the Brafford house revealed dangerously high levels there as well. The readings throughout the house from .66 to .79 working levels (compared to .004 background working level, were over twice the exposure allowed uranium miners. The exposure is even more serious because both Neil and his wife smoke cigarettes which inhibits the lung's ability to flush out radioactive pollutants. Even more distressing, the growing cells of the three Brafford children, Chris, Marisa (3 years), and Ephraim (6 months), are extremely susceptible to damage from radiation. The damage from excessive radiation exposure can take many different forms, from terminal cancer and leukemia to congenital birth defects, diabetes, and asthma which may show up at any time during their lives and the lives of their descendants.

A survey of Edgemont was conducted on November 6-8, 1978 by the USEPA. This survey found 54 new sites as having high reading with 16 locations possessing possible mill tailings. The foundation of the house was built on tailings incorporated as land fill, a practice common in this region. The Braffords' house once more showed up with one of the highest readings in Edgemont.

The phone call came over seven years after AEC mobil gamma radiation survey identified the Brafford house and 144 other sites as having high readings, 44 of which were identified as having possible uranium mill tailings use. The tailing were the legacy of a uranium mill which was operated in Edgemont by the Chicago-based Susquehanna-Western, Inc., from 1956 to 1972.

The Edgemont school grounds also had high readings. The final EPA draft of the survey results was issued on Aug. 10, 1979 at which time the EPA, the State, TVA and NRC decided to install radiation monitors inside the Braffords' house and to take soil and water sample. However, the monitors were not installed until December, and the results were not back until January. As before, no one had informed the public, the Braffords, or other affected citizens of the results of the 1978 survey.

It was their first real home. The Braffords had bought the house two years before with a \$26,500 loan from Farmers Home Administration. Apparently, mill tailings had been used as land fill underneath their house when it was placed there around 1961. Now they are stuck with a radioactive house, which no one wants, and a \$23,500 debt and no one is willing to take responsibility. Mr. Brafford has been laid off from his job with Burlington Northern Railroad since November, forcing his family to accept some welfare to survive.

The Braffords must now keep a constant health vigil for the rest of their lives. The Center of Disease Control, a federal health crisis agency with expertise in epidemics, is studying the Edgemont situation to decide whether it should become involved. The immediate concern is the family's health. Only a few tests are

known to be able to detect radiation damage. The most reliable one, a chromatid sister exchange study, test for chromosome breakage and is needed for each member of the family. The tests conducted by the Roswell Cancer Research Institute in Buffalo, N.Y., costs \$100 each. The Braffords also needed at least \$1,000 for transportation to and from the cancer institute. They, of course, cannot afford to have the tests done and are desperately looking for someone who can pay for them to have the tests.

No state or federal agency has shown any willingness to foot the bill for these crucial tests. Genny Brafford is quite distraught over the possibility that her small children may have been permanently harmed by high radiation exposure and is hopeful the tests can shed some light on the seriousness of the damage.

The Braffords' feelings - Shock, at first. Now they say, "Someone should be responsible. They knew the tailings were there."



THEORY OF IRANIAN REVOLUTION

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power, whether they are just or unjust. Shi'ite says those in authority are put there by God. They are sinless and they are always just. Therefore, if the person in authority is unjust, then he cannot have been divinely appointed and it is the duty of the religious leaders to rebel or they will be punished by God.

The divinely appointed act in absolute justice. The true Shi'ite cannot remain silent in the face of injustice. It is exactly upon this point that the Shi'ites brought this revolution about. Anyone who went to the demonstrations would first purify himself (wash) with water and then go out into the street to defend his belief. "If I am successful I will achieve justice, and if not I will be killed and find my place in heaven."

The Shi'ite sect has kept monotheism alive to this day. It is the same school that has been handed down from the Prophet. If a religion says that a person must accept an authority which is unjust, will your children accept such a system? It would mean that God accepts such a system and that God is unjust.

This is the ideal which every Shi'ite must strive for. It is only Shi'ism which says that the law and the enactment of the law must come from God, and the leaders must be sinless and appointed by God. Purity of Religion. Purity of Government. Leaders sinless, pure and without fault.

Shi'ism has saved people from servitude and slavery. The people who gladly gave their lives (the martyrs) - those who were happy though their sons and daughters were killed - they are simple people and perhaps cannot express the belief which is in their heart. We reenact the uprising of Imam Husain, the Chief of the Martyrs.

In Husain's time, the Moslem government followed unjust ways. Husain and his 72 followers rose up to announce to the world that those who follow unjust rulers are not right. Husain remains alive today through the three days of mourning called Mashura. On those days the people reawaken in themselves the values of Imam Husain. Imam Khomeini used this awakening of the people to the values of Husain and showed the people that Mashura was happening again and they must follow Husain as if he were alive today.
