## **SLUDGE VICTIMS** (And Other Sludge Related Articles)

## September 2002

## February 15, 2001 – CALIFORNIA – SOME CHILDREN WEAR MASKS TO WARD OFF STENCH FROM SLUDGE ON FIELD BEHIND THEM.



Sludge on a field near Menifee and Merjanian roads has caused some children who play there to wear masks. At left, Alethea Geges, 10, stands with her mother Athena, brother Dominic, 5 and sister Ana, 7. At right, Shane Womboldt, 11, Dylan Halsey, 7, and Cody Halsey, 8, stand with their grandmother, Margie Newman. *Thomas Kelsey/The Press-Enterprise* 

### Sludge Blamed for Inland IIIs Muck came from Orange County

Prepared by Helane Shields, Sludge Researcher Member, Citizens for a Future New Hampshire Member, New Hampshire Sierra Club P.O. Box 1133, Alton, NH 03809 Phone/Fax: 603/875-3842 E-mail: hshields@worldpath.net This victims report is referenced on page 109 of the National Academy of Sciences (NAS) report: Biosolids Applied to Land (July 2, 2002). The NAS report concludes that the current sludge rule may not be protective of human health because it is based on outdated science and that there is a serious lack of health related information about populations exposed to treated sludge.

#### WASHINGTON POST AUGUST 6, 2001

(See page 330)

James Lear developed a nasty rash from treated sewer sludge spread on a neighboring pasture near his home in Virginia. (*Jay Paul – For The Washington Post*)



## CANADA – SOLID WASTE RECYCLING – JANUARY 2002

Jack Eagles (son of Laurie and Allan) covers his face to avoid the smell of a nearby open sludge lagoon. Halton Region has said this is not a health issue and that official reports indicate "no odour detected." (See page 99)





According to Laurie and Allan Eagles – who have launched a \$2 million lawsuit against Halton Region and a sludge contractor – this photo from the summer of 2001 shows bright green ooze that overflowed over vegetation and into a conservation area from an unlined open pit near their home in which City of Toronto sludge was stored for several years.



Enid Lipsett (left) in front of a farm field that was sludged – and on which sludge was stored – late this summer beside her weekend home near Cobourg, Ontario. Ms. Lipsett and her family – eyes and throats burning – had to flee their home and rush 10-month-old granddaughter, Madison (right), to the hospital in the midst of an unusual respiratory seizure and intestinal attack. (See page 107)



The Pennock's lost their son, Daniel to an infection in 1995.

#### PENNSYLVANIA

A previously healthy 17-year-old boy suddenly died of viral/staphylococcal pneumonia in March 1995, shortly after he was exposed to sewage sludge, which was spread across the street from his home. No one was warned that sludge pathogens may pose a risk to human health. (See pages 270-277)



Molly Bowen and her children, Joel Serena, 12, and Anna Serena, 17, are trying to stop sludge dumping near their home in DeSoto County. Bowen said she and her six children have suffered chronic health problems. (See page 151)

July 2002 – DeSoto County, Florida (see page 92-H) "We're being poisoned"



Brad Zweerink/The Reporter

Pat Stokes stands on her ranch off McCormack Road. Stokes filed a protest to keep sludge from being spread in a nearby field.

CALIFORNIA - SOLANO CITY

#### **DeSoto residents demand** action on sludge problem



#### PHOTO/Rod Millington

Mari Hollingsworth and her son, V.C., 11, are fighting the DeSoto County Commission's decision to regulate the dumping of sludge. In 2000, C.C. spent four days in a hospital after being exposed to sludge.

FLORIDA - JANUARY 23, 2002

V.C. Hollinsworth, 11, contracted rotavirus, a serious intestinal disease, two years ago after he rode his dirt bike through a DeSoto County neighbor's pasture where sludge was spread. The reaction he suffered within hours – fever and vomiting – required intravenous fluids and several days of hospital care to remedy. (See page 143)



The Marshall family in happier times, before Shayne, far left, died.

#### GREENLAND, NH

Previously healthy 26-year-old man dies from respiratory failure/laryngeal spasm after 675 tons of Class B sewsage sludge are spread near his home. Sludge company pays substantial cash settlement.

(See pages 191-198)

(See page 77)

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#### PREFACE

To the reader:

The information about sludge victims in this booklet is just the tip of the iceberg. The U.S. Environmental Protection Agency (EPA) has refused all FOIA (Freedom of Information Act) requests about complaints of odors and/or harm to human health, pets, farm animals, wildlife, fish, land, surface and ground water, etc. from the land spreading of sewage sludge.

On October 30, 1997, Dr. Alan Rubin, author of the 40 CFR Part 503 sludge rules, called me on the telephone in response to my Freedom of Information Request (FOIA) and told me EPA lawyers said he could charge me \$42,000 for release of this information. He said \$1500 of that amount would be for Xeroxing 10,000 pages at 15 cents a page.

If, as the EPA and waste industry claim, there are "no sludge victims" - what is contained in those 10,000 pages?

Dr. Rubin told me "freedom of information" doesn't mean "free" information. He said providing me with this information at no charge would be a misuse of taxpayer funds. I asked about EPA giving taxpayer funds to the WEF (Water Environment Federation – whose members produce and land spread the sludge) to debunk and discredit sludge victims – wasn't that a misuse of public money? Dr. Rubin would not answer that question.

Dr. Rubin told me he was aware of "thousands of allegations" (regarding sludge problems).

I asked how EPA handled these allegations? He said EPA "responded" to sludge complaints. A few months later I filed another FOIA request asking for copies of those EPA "responses." Again, I got nothing.

On November 5, 1997, I got a call from Linda Person of Washington, DC, EPA FOIA office. She told me Dr. Rubin was "on edge" because I had filed my FOIA requests with EACH of the 10 EPA Regional offices. She said they wanted to coordinate the reply from "headquarters" (Washington, DC) and that the regional offices are "panicking" because they have "massive amounts of records."

I received little to no information about sludge complaints from EPA in response to those FOIA requests.

On November 19, 1998, Dr. Rubin testified before the N. H. House Environment and Agriculture Committee. In response to questions from committee members as to possible adverse effects from land spreading sludge, Dr. Rubin stated:

"We get reports that come in to us, either e-mail, fax, written, phone calls, news reports, that claim there are impacts on human health [and] the environment when biosolids are applied."

Ever optimistic, I filed another FOIA request on January 28, 1999, asking for copies of these "reports" claiming impact on human health and the environment from sludge spreading, which were referred to by Dr. Rubin in his November 1998 testimony to the N. H. E & A Committee.

Again, the EPA gave me nothing.

By letter dated February 2, 1999, Dr. Rubin referred to my prior FOIA requests and stated:

"I do not have any further information on alleged incidences in my file. However, US EPA is gathering information on reported incidences of potential impacts from biosolids use/disposal projects. This activity is being coordinated and managed by Robert Brobst, US EPA's Biosolids Coordinator Region 8. I suggest that you contact Mr. Brobst and request either directly or through a FOIA mechanism the type of information that you are seeking in this FOIA request."

On November 25, 2000, I filed two more FOIA requests – one with Mr. Brobst, Region 8, Denver, and one with EPA headquarters regarding EPA's testimony to House Science Committee in March 2000 about allegations of damage to public health and the environment from sludge.

By letter dated January 23, 2001, Mr. Brobst stated: "<u>AI Rubin of EPA headquarters was *mistaken* in stating that I was responsible for tracking all biosolids incidents. I am not</u>." Thus, Dr. Rubin was not telling the truth when he told me Mr. Brobst was coordinating the sludge victims' information.

So we appear to have a shell game going. Just where are the EPA's sludge victims' files?

I have been told by numerous sludge victims from around the country that they contacted the local EPA office asking for help. Every one of them say the EPA ignored them. And none of the EPA Regional Office ever complied with my FOIA requests by acknowledging contacts by those sludge victims.

In March 2000, the EPA told the House Science Committee it didn't have money or the inclination to enforce sludge issues. "Biosolids is not a national compliance and enforcement priority."

But the EPA has given millions of our tax dollars to the WEF (Water Environment Federation – whose members are the sludge producers and sludge spreaders) to promote land spreading of sludge and ot debunk and discredit sludge victims and those who claim present policies do not protect human health or the environment. This booklet just skims the surface. The truth abouth the harm being done to human health and the environment from the land spreading of sewage sludge lies in the files EPA has been concealing from the press, public and Congress for years.

In June and July of 2002, EPA microbiologist David Lewis published the first peer-reviewed articles in medical and scientific journals documenting illnesses and deaths linked to sludge exposure. Yet the EPA and the waste industry still claim that there are "no documented cases." As long as the EPA continues to protect itself and the sludge industry by withholding all records of sludge complaints and by ensuring that our tax dollars go only to sludge-friendly researchers (while independent scientists, like Lewis, are harassed and fired) land application of sludge will continue to threaten rural America.

Helane Shields, Alton, NH

#### **INTRODUCTION**

WHY does sewage sludge make people sick?

NEIGHBORS of sludge sites are frequently subjected to a noxious miasma of toxic/irritant gases, airborne particulates, allergens and pathogens including viruses, bacteria, endotoxins, molds, and fungi.

The U.S. Environmental Protection Agency (EPA) acknowledges sewage sludge emits toxic/irritant gases including Dimethyl Sulfide, Dimethyl Disulfide, Methyl Mercaptan, Trimethylamine, Ammonia, and others. (http://www.barc.usda.gov/nri/smsl/temp/appendix.pdf)

The Centers for Disease Control (CDC), Occupational Safety & Health Administration (OSHA), National Institute of Occupational Safety and Health (NIOSH), Department of Transportation (DOT) and the Agency for Toxic Substances and Disease Registry (ATSDR) all warn that these gases can pose significant risk to human health through "ingestion, inhalation or skin absorption." ("Ingestion" includes 'inhalation of bioaerosols, which are deposited in the throat and upper airway and swallowed.') Target organs: Eyes, skin, and respiratory system.

Symptoms from exposure to these gases can include irritation of the skin, eyes, nose and throat, headache, nausea, vomiting, wheezing, coughing, shortness of breath, irregular heartbeat, pulmonary edema and chemical pneumonitis.

Oft-repeated waste industry myths are that sewage workers don't get sick from exposure to sludge, and the symptoms suffered by neighbors of sludge sites are "psychosomatic."

In 1998 the National Institute of Occupational Safety and Health (NIOSH) issued Health Hazard Evaluation Report No. 98-0118-2748 regarding pathogenic bioaerosols emitted by sewage sludge.

NIOSH noted sludge workers reported abdominal cramps, loose bowel movements, intermittent episodes of various gastrointestinal symptoms, abdominal cramping and headaches.

NIOSH concluded: The detection of enteric bacteria in the air and bulk samples collected in this HHE confirms the potential for sewage workers to be occupationally exposed to organisms which have been associated with gastrointestinal symptoms/illnesses.

"The total bacterial concentrations detected in the air were similar to those found in the one study of airborne microorganisms from land application of sewage sludge."

"The three single CFU plates grew Burkholderia, Aeromonas-like, and Klebsiella-like bacteria (identified to genus level). The multi-CFU plate grew Burkholderia and Enterobacter agglomerans. All of these are Gram-negative bacteria. Bacteria in the Burkholderia genus and Enterobacter agglomerans are opportunitistic human pathogens (immunocompromised persons are more susceptible to these organisms)." "While the specific component(s) of the sewage sludge responsible for the employees' symptoms have not been determined, the nature and timing of the symptoms suggest occupational exposure by inhalation or ingestion of the biosolids as a probable cause."

"The environmental monitoring data show that contaminated aerosols may be produced during the work process; the potential for respiratory exposures also exists..."

In August 2000, NIOSH issued another Hazard Identification Report 2000-158 regarding workers exposed to Class B sewage sludge during and after field application.

"All five employees reported at least one episode of gastrointestinal illness after working with the biosolids, either at the treatment plant or during land application."

"The environmental sampling results indicated that the gastrointestinal illnesses were possibly of occupational origin."

"NIOSH collected bulk samples from different locations within the biosolids storage site. The mean fecal coliform concentration of the bulk samples was 22,000 CFU per gram of sample (wet weight). Fecal coliforms are used as an indicator for the presents of other enteric microorganisms."

#### "THERE REMAINS A SIGNIFICANT EXPOSURE RISK."

"These enteric organisms are usually associated with self-limited gastrointestinal illness but can develop into more serious diseases in sensitive populations such as immunocompromised individuals, infants, young children, and the elderly."

"NIOSH collected air samples for bacteria and endotoxin (a component of some bacteria), and bulk sewage sludge samples for fecal coliform bacteria at a Class B biosolids land application processing facility. Potentially pathogenic bacteria were found in bulk samples and in some air samples. Employee gastrointestinal illnesses at that facility may have been caused by ingestion or inhalation of Class B biosolids."

"Appropriate personal protective equipment should be required for all job duties likely to result in exposure to Class B biosolids. The choices of personal protective equipment include goggles, splash-proof face shields, RESPIRATORS, liquid-repellant coveralls, and gloves."

[NEIGHBORS of sludge sites unfortunately are not warned that they too may need respirators.]

In an Ecological Risk Assessment "Bioaerosol Transport Modeling and Risk Assessment in Relation to Biosolid Placement" by Scot E. Dowd, Charles P. Gerba, Ian Pepper and Suresh Pillai, published in the Journal of Environmental Quality 29:343-348 (2000) the authors stated:

"There is growing concern regarding exposure to microbial pathogens from biosolids via aerosols, especially in population centers surrounding biosolid application sites. (Dowd, et al,

1997) This is a valid concern because aerosols can transmit many enteric microorganisms (Pahren and Jakubowski, 1980)."

"Based upon the estimated bioaerosol release rates, we can apply bioaerosol concentrations and microbial inactivation rates to model transport data and obtain the risk factors associated with breathing air contaminated by microbial pathogens originating from biosolid material."

"The typical route of exposure for organisms that are primarily associated with intestinal infection is based upon the inhalation of bioaerosols, which are deposited in the throat and upper airway and swallowed (Wathes, et al, 1988)."

"Additionally, inhaled enteric pathogens may establish throat and respiratory infections that can increase the risk of swallowing an infectious dose (Clemmer, et al, 1960)."

"...the potential for an increased risk of work-related illness in such biosolid workers is collaborated (sic) by numerous epidemiological studies which have shown higher rates of illness in wastewater workers."

"Clinically, these illnesses were usually manifested as undue tiredness and headaches that were evident after work. Additionally, other symptoms such as respiratory problems, nonspecific bowel dysfunction, irregular heartbeat, nausea, vomiting, and diarrhea were also common complaints."

The ABSTRACT of the Bioaerosol Risk Assessment focuses on the (obvious) conclusion that healthy people who live 6.2 miles from the sludge site are at no risk from sludge bioaerosols. However, a closer reading of the Tables indicates significant risk to people living within  $\frac{3}{4}$  of a mile of a sludge site.

For example, the exposure risk from airborne bacteria originating in a sludge stockpile to people who live within 1640 feet and have their windows open day and night (such as in the summer) with a wind speed of 11 mph is 400 out of 10,000 – far in excess of EPA's "acceptable risk" of one out of 10,000.

In a 1993 report "HAZARDS FROM PATHOGENIC MICROORGANISMS IN LAND DISPOSED SEWAGE SLUDGE" by Timothy Straub, Ian Pepper and Charles Gerba (Reviews of Environmental Contamination and Toxicology, Vol. 132), the authors made the following statements about sludge bioaerosols (pages 71 and 72):

"Many enteric microorganisms can effectively be transmitted by aerosols...Organisms in such aerosols can be transmitted by inhalation..."

"The number of microorganisms in aerosols depends on the type of sludge disposed, method of application, and number of microorganisms in the sludge. The greatest amount of aerosol generation would occur during the application of sludges with a low solids content applied as slurries during spray application. Dumping of sludges from trucks onto the soil or into trenches and area fills would also generate aerosols on impact." "Some aerosoling would occur during the application of sludge. Greater numbers of pathogenic microorganisms would be aerosoled during disposal of primary rather than treated sludges."

"If wind velocities at a site are great enough, suspension sludge particles could occur (US EPA, 1986). Most sludges would not be easily resuspended because of their moisture content and tendency to mat as they try."

"Dried sludges, however, may be very light and fine in texture and, therefore, easily resuspended. If dried sludge is not covered at windy sites, winds will attain speeds capable of suspending the sludge from the working face."

"Aerosols could (also) be transported downwind to exposure areas distant from the disposal site."

After Dr. Charles Gerba was hired as an expert witness to testify on behalf of the sludge company (Synagro/Biogro/Waste Management) in the pending lawsuit regarding the death of 26-year-old Shayne Conner from exposure to sludge in Greenland, NH, in 1995, Dr. Gerba made the following statements:

"The pathogens found in biosolids are primarily transmitted by ingestion and not inhalation."

The organisms found in biosolids primarily infect the intestinal tract and are referred to as enteric pathogens for that reason. They cause diarrhea or other intestinal problems."

"Enteric bacteria ... are not usually transmitted by aerosols."

"No transmission of enteric pathogens by aerosols from biosolids has been reported in the scientific literature."

Dr. Gerba also said the pathogens "die off quickly."

US EPA publication, "CONTROL OF PATHOGENS AND VECTOR ATTRACTION IN SEWAGE SLUDGE – 1999" appears to contradict Dr. Gerba.

Page 9:

"How could exposure to these (sludge) pathogens occur?"

"Direct Contact ... Inhaling microbes that become airborne (via aerosols, dust, etc.) during sewage sludge spreading or by strong winds, plowing, or cultivating the soil after application."

Survival time of pathogens in soil - bacteria and viruses "absolute maximum, one year."

THUS, Dr. Gerba's statements declaiming airborne transport of sludge pathogens which he recently made in December 2000, as an expert witness for the sludge company, appear to contradict statements he made in his earlier works in 1993 and January 2000, as well as the conclusions of NIOSH and the US EPA.

In responding to Dr. Gerba, Microbiologist Dr. David Lewis notes:

"In his affidavit, Dr. Gerba states that pathogens in sludge are primarily transmitted by ingestion and not inhalation. Yet his published estimates of risks of infection ... were quantified by modeling aerosolized concentrations of microbial pathogens at a given distance from the source and the numbers inhaled over a given period of time."

"...Dr. Gerba testified that he has not been able to detect airborne, sludge-associated pathogens during application of liquid sludge (2 - 3% solids) and that this application method is more prone to generate airborne pathogens than chain-dragging the dried material with tractors ... Even without relying upon the wealth of scientific literature on transmission of pathogens by dust particles, most lay persons are familiar through personal experiences with the fact that dust from dry, non-vegetated fields is carried even great distances by strong winds and can cause respiratory illness."

"Class B sewage sludge that dries out and becomes airborne during chain dragging, or as strong winds blow over non-vegetated lands where solid sludge has been applied – especially within the previous 30 days – is more of a threat to public health than liquid aerosols."

"In any suspension, most microorganisms, by far, are attached to the surfaces of solid particles ... simply by virtue of the fact that most pathogens in sludge are attached to solid particles ... most anyone can understand that airborne dust particles contain much higher numbers of bacteria and viruses than liquid aerosols for comparably sized particles."

"Gerba's arguments that pathogens on dust from sludge pose virtually no threat because they quickly die off neglects the fact that many of the symptoms experienced by people who inhale or ingest Class B sludge particles are actually enhanced by bacterial cell death."

"Endotoxins, which account for gastrointestinal symptoms and various effects on the respiratory system, are liberated when gram negative bacteria die. Antibiotic therapy for patients infected with gram negative bacteria sometimes carries a high risk of mortality from endotoxins released as the bacteria die away after administering antibiotics."

"When Class B sludge is not incorporated into soil, organic aggregates that form dust particles carry a double whammy: an outside coating of endotoxins from dead gram negative bacteria plus an inner core of viable pathogens. When these particles are ingested or inhaled, bodily processes break down the aggregates, releasing both endotoxins and viable pathogens."

http://members.aol.com/lewisdavel/Expertreport.htm

THE REPORT "POTENTIAL HEALTH EFFECTS OF ODOR FROM ANIMAL OPERATIONS, WASTEWATER TREATMENT AND RECYCLING OF BYPRODUCTS:, Dr. Susan Schiffman, Duke University and Dr. John Walker, US EPA, lead authors, published in the November 2000 issue of the *Journal of Agromedicine* supports Dr. David Lewis' research and helps to explain why neighbors of sludge sites (as well as sludge workers) are getting sick.

Complaints of health symptoms from ambient odors have become more frequent in communities with confined animal facilities, WASTEWATER TREATMENT PLANTS, AND BIOSOLIDS RECYCLING OPERATIONS."

"The most frequently reported health complaints include eye, nose, and throat irritation, headache, nausea, diarrhea, hoarseness, sore throat, cough, chest tightness, nasal congestion, palpitations, shortness of breath, stress, drowsiness, and alterations in mood."

"Odors are sensations that occur when a complex mixture of compounds (called odorants) stimulate receptors in the nasal cavity. Most odorants associated with animals manures AND BIOSOLIDS are volatile organic compounds (VOC's) that are generated by bacterial degradation of protein, fat, and carbohydrates in the organic matter. Reactive inorganic gases such as AMMONIA and hydrogen sulfide are also important odorants that can be emitted from animal manures AND BIOSOLIDS." (Pg. 8)

"In the first paradigm, the symptoms are induced by exposure to odorants at levels that also cause irritation (or other toxicological effects). That is, irritation – rather than the odor – is the cause of the symptoms, and odor simply serves as an exposure marker."

"In this paradigm irritancy (or other toxicity) generally occurs at a concentration somewhat higher (about 3 to 10 times higher) than the concentration at which odor is first detected (odor threshold)."

"While the concentration of each individual compound identified in odorous air from agricultural and municipal wastewater facilities seldom exceeds the concentration that is known to cause irritation, the combined load of the mixture of odorants can exceed the irritation threshold. That is, the irritation induced by the mixture derives from the addition (and sometimes synergism) of individual component VOC's.

"In the second paradigm health symptoms occur at odorant concentrations that are not irritating. This typically occurs with exposure to certain odorant classes such as sulfurcontaining compounds and organic amines at concentrations that are above odor detection thresholds but far below irritant thresholds." (Pg. 9)

"Health symptoms often reported include a stinging sensation, nausea, vomiting, and headaches. The mechanism by which health symptoms are induced by sulfur gases or organic amines for which odorant potency far exceeds the irritant potency is not well understood."

"In the third paradigm, the odorant is part of a mixture that contains a co-pollutant that is essentially responsible for the reported health symptom. Odorous airborne emissions from confined animal housing, COMPOSTING FACILITIES, AND LAND APPLICATION OF SLUDGE can contain other components that may be the cause of the symptoms such as bioaerosols consisting of endotoxin, dust from food, airborne manure particulates, glucans, allergens, microorganisms, or toxins." (Pg. 10)

"The odor exposures that have received the greatest research attention are those that involve irritation. Physiological responses to irritation in the upper respiratory tract (nose, larynx) and/or lower respiratory tract (trachea, bronchi, deep lung sites) have been documented in both humans and animals."

"Irritation of the respiratory tract can alter respiratory rate, reduce respiratory volume (the amount of air inhaled), increase duration of expiration, alter spontaneous body movements, contract the larynx and bronchi, increase epinephrine secretion, increase nasal secretions, increase nasal airflow resistance, slow the heart rate, constrict peripheral blood vessels, increase blood pressure, decrease blood flow to the lungs, and cause sneezing, tearing, and hoarseness." (Pg. 12)

"Health symptoms from odors can potentially result from two sources: the odor (the sensation) or the odorant (the chemical or mixture of chemicals that happens to have an odor)."

#### "PHYSIOLOGICAL SYMPTOMS CAUSED BY SENSORY IRRITATION"

"Administration of irritant compounds to the upper and/or lower airway in laboratory studies produces many systemic responses including: (1) changes in respiratory rate, depending upon the primary level of irritation (upper versus lower), (2) reduced respiratory volume, (3) increased duration of expiration, (4) alterations in spontaneous body movements, (5) contraction of the larynx and bronchi, (6) increased epinephrine secretion, (7) increased nasal secretion, (8) increased nasal airflow resistance, (9) increased bronchial tone, (10) decreased pulmonary ventilation, (11) bradycardie, (12) peripheral vasoconstriction, (13) increased blood pressure, (14) closure of the glottis, (15) sneezing, (16) closure of the nares, (17) decreased pulmonary blood flow, (18) decreased renal blood flow and clearance, and (19) lacrimation or tearing."

"Irritants can also induce hoarseness of voice and impair mucociliary clearance functioning." (Pg. 19)

"Odorous VOC's have been found in the blood and brain after three hours of exposure, and olfactory receptors have been shown to respond to blood-borne odorants." (Pg. 22)

"Health complaints do occur at levels of VOC's that are below irritant thresholds."

"According to the World Health Organization (WHO), the definition of 'health' is '...a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Thus, a symptom that diminishes physical, mental, or social well-being would be a 'health effect' according to WHO."

"The majority of the participants at the Health Effects of Odors workshop considered it appropriate to explore health effects of odors within the WHO definition of health."

"Frist emphasized that reactions to odors such as nausea, headache, loss of sleep, and loss of appetite clearly represent a matter for public-health concern and attention under the WHO definition of health." (Pg. 29)

#### "EVIDENCE FOR PARADIGM 3: A CO-POLLUTANT IN AN ODOROUS MIXTURE IS RESPONSIBLE FOR THE REPORTED HEALTH SYMPTOM." (Pg. 31)

"AIRBORNE DUST PARTICLES CAN CONCENTRATE ODORANTS SUCH AS ORGANIC ACIDS AND AMMONIA ON THEIR SURFACES; this contributes to odor potential and exacerbates irritancy induced by dust in the respiratory tract. Experimental studies have found a strong link between odor/irritation intensity and levels of particulates."

"PARTICULATES ASSOCIATED WITH FECAL WASTE ARE ALSO KNOWN TO CARRY BACTERIA. Thus, it is likely that some of the health complaints ascribed to odor may, in fact, be caused by particulate matter (liquid or solid) suspended in air or by a synergistic effect between odorants and particulates." A SYNERGISTIC EFFECT OF AMMONIA AND DUST EXPOSURE has been reported in a study of 200 poultry facilities. The adverse health effects of ammonia and particulates in combination were greater than the additive effect of ammonia and particulates by a factor of 1.5 to 2.0."

"Both fine and coarse particles in an odorous plume enter the nasal cavity and can induce nasal irritation. However, these particles differ in the degree to which they traverse the respiratory tract."

"Fine particles include particulate matter with sizes less than 2.5 uM (PM2.5). These particles are more likely than coarse particles to cause respiratory health effects because they reach the gas-exchange region of the lung."

"ULTRA-FINE PARTICLES (i.e. THOSE WITH A DIAMETER 0.1 uM OR LESS) MAY BE EVEN MORE TOXIC THAN LARGER SIZED PARTICLES PRODUCING SEVERE PULMONARY INFLAMMATION AND DAMAGE AND EVEN AFFECTING MORTALITY." (PG. 31)

#### PAGES 57-58 – FINAL COMMENTS

Our current state of knowledge clearly suggests that it is possible for odorous emissions from animal operations, wastewater treatment and <u>RECYCLING OF</u> <u>BIOSOLIDS</u> to have an impact on physical health.

The most frequently reported symptoms attributed to odors include eye, nose and throat irritation, headache, nausea, hoarseness, cough, nasal congestion, palpitations, shortness of breath, stress, drowsiness, and alterations in mood.

Many of these symptoms (especially irritation, headache, hoarseness, cough, nasal congestion, and shortness of breath) can be caused by stimulation of the trigeminal nerve in the nose at elevated levels of odorous VOC's.

ON OCTOBER 13, 1994, 11 year old Tony Behun rode his dirt bike through freshly applied sewage sludge on a strip mine site in Rush Township, Pennsylvania. He returned home covered head to toe with black, putrid smelling material. His mother had him remove his clothes in the garage and bathe immediately. She hosed his bike off to remove the sludge.

TWO DAYS LATER Tony had a lesion on his arm and leg, a sore throat, fever, vomiting and headache. Six days later he was in a hospital emergency room, his fever climbing. The child was then rushed by helicopter to Allegheny General Hospital in Pittsburgh where he died the next morning from a virulent Staphylococcus Aureus infection...8 days after he rode his bike through the sludge.

The Pennsylvania Department of Environmental Protection (DEP) first blamed Tony's death on an infected bee sting. Subsequently, they apologized for this false statement. Later they suggested he was infected by sewage in a creek or a chipmunk bite. Then they claimed the Staphylococcus Aureus, which killed Tony, is not a pathogen found in sludge. (It is – see EPA's Pathogen Risk Assessment Methodology for Municipal Sewage Sludge Landfilling and Surface Disposal" PA/600/R-95/016 August 1995.)

In yet another misstatement of the truth, the PA DEP went on television November 15, 2000 and stated "NIOSH investigated the case and concluded Tony's death was not caused by sludge." (Totally false – never happened – NIOSH only concerns itself with work related health and safety issues.)

Continuing their inept investigation, the PA DEP recently went to the sludge site, took a sample of the 6-YEAR-OLD SLUDGE, had it analyzed, and announced on their web page that there was no Staphylococcus Aureus in the sludge. (As previously indicated, US EPA says one year is the absolute maximum for survival of sludge viruses and bacteria in soil.)

Microbiologist David L. Lewis, PhD stated in an e-mail to Dr. Joel Hersh of the Pennsylvania Department of Health:

"An otherwise healthy 11-year-old boy rides his motorbike across a mining area ankle deep in sewage sludge." "Within hours he develops lesions on an arm and a leg, runs a high fever within two days, and is dead in eight days from Staph aureus septicemia."

"I shouldn't be surprising that covering a child with wet caustic sewage sludge (containing strong irritants to skin, e.g. lime, ammonia, organic amines) is likely to give him a superficial Staph infection that may progress to septicemia. (Some of the Staph comes from what gets flushed sown toilets in hospitals where people are being treated for virulent strains of the organism, and what goes into sewer lines from mortuaries where they drain all the bodily fluids.)"

IN THE DARK OF NIGHT in October 1995, a convoy of tractor trailer trucks rolled through a sleeping residential neighborhood in Greenland, New Hampshire, and dumped 650 tons of biologically active, "lime stabilized" Class B sewage sludge from Portland, Maine, on adjacent hay fields.

Residents of the neighborhood awoke to a stomach-wrenching stench, which was followed by weeks and months of sickness ... and death for a 26-year-old man, Shayne Michael Conner.

A Case Study of Enhanced Susceptibility to Infection From Exposure to Gases Emitted by Sewage Sludge, by David L. Lewis, Samuel Shepherd, David K. Gattie, Susan Sanchez and Marc Novak, concludes:

"ABSTRACT: Most of twenty residents living in a Greenland, NH neighborhood where Class B biosolids were applied in 1995 experienced severe irritation of the eyes, skin, and mucous membranes, followed by respiratory and gastrointestinal illnesses.

A 26-year-old male died during one episode of respiratory distress approximately six weeks after the application. Laboratory tests and mathematical model outputs show that residents were probably exposed to at least 260 parts per million (ppm) of ammonia and 110 ppm of dimethyl disulfide emitted by the biosolids.

Residents were also exposed to biosolids dust containing significant numbers of opportunistic bacterial pathogens known to cause respiratory illnesses. Symptoms, which included severe irritation to mucous membranes followed by respiratory infections, are consistent with enhanced susceptibility to infections after exposure to irritant gases."

Typical of EPA's disdainful attitude towards sludge victims are the instructions to "investigators" of sludge odors caused by the toxic/irritant gases emitted by sewage sludge, contained in the "EPA/USDA Field Guide to Stockpiling Biosolids, Appendix A" (page 91):

"Odorous air sampling shall be performed upon the complainant's property. The inspector shall work independent of the complainant; results shall be released after a written report is filed. The inspector shall not conduct the odorous air sampling if the complainant is present."

#### ODOR-CAUSING GASES GENERATED BY SLUDGE

http://www.gsenet.org/library/20rcy/odor-gas.txt

FROM: Intp://w David L. Lewis, Ph.D., Research Microbiologist Department of Marine Sciences University of Georgia, Athens, GA 30602 Tele. (706) 542 7370

August 17, 1999

I greatly appreciate you contacting me today concerning my research on potential health hazards from land application of processed sewage sludge (biosolids).

Although I am interested in pathogen problems, I have of late been looking into what appears to be potentially serious problems with some of the odor-causing gases generated by sludge. In particular, it appears that sufficient amounts of organic amines, such as trimethyl amine (TMA), can develop from microbial and chemical reactions that occur in sludge.

Exposure to sufficiently high concentrations of gaseous organic amines can cause severe irritation of the eyes and skin, and damage to mucus membranes leading to pulmonary edema (bleeding in the respiratory system). These toxic gases can also cause damage to the lungs, liver, and other internal organs. Initial symptoms include eye irritation, skin rashes, burning in the mouth, nose, or throat, generation of mucus, headaches, nausea, and vomiting. Such damaged tissues can serve as a port of entry for bacterial or viral pathogens, leading to flu-like infections, pneumonia, or bacteremia/septicaemia.

Nitrogen-based, cationic polymers added to sewage sludge during the dewatering process enhance the potential for biosolids to generate large amounts of organic amines, formed by biodegradation. The amines are released in gaseous form when the alkalinity is raised somewhat above pH 10, such as by adding lime.

It appears that sufficient quantities of organic amines can be generated by sludge to cause clinical symptoms in individuals working with the material or living in areas where large amounts are applied. Adverse reactions may be manifested immediately among workers where sewage sludge is dewatered and limed at a waste treatment facility. Or, symptoms may be experienced among people living in and around areas where fresh biosolids are deposited and still degassing. Delayed exposures may also occur in the field when additional lime is applied, or rain causes dried biosolids to begin reacting again.

Symptoms associated with organic amine poisoning are occurring with some frequency among waste treatment plants workers, drivers who haul the material, and individuals living in and around areas where biosolids are applied. The effects of organic amine poisoning are serious, sometimes irreversible, and can lead to life-threatening complications. In my opinion, this is a potentially significant public health problem that should be seriously investigated.

## DAVID L. LEWIS, Ph.D., RESEARCH MICROBIOLOGIST ON ADVERSE HEALTH EFFECTS FROM EXPOSUIRE TO IRRITANT AMINE GASES EMITTED BY CLASS B SEWAGE SLUDGE

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DAVID L. LEWIS, Ph.D - RESEARCH MICROBIOLOGIST - PATHOGEN RISKS FROM APPLYING SEWAGE SLUDGE TO LAND

JULY 1, 2002 - AMERICAN CHEMICAL SOCIETY - ENVIRONMENTAL SCIENCE & TECHNOLOGY - pages 287A - 293A

http://pubs.acs.org/subscribe/journals/esthag-a/36/i13/pdf/702lewis.pdf

"Reports of illnesses and deaths from residents living near land application sites who are exposed to dust and water runoff from fields treated with sewage sludge indicate a pattern of chemical irritation. Symptoms, such as burning eyes, burning lungs, difficulty in breathing, and skin lesions, are followed within days to months by complaints of gastrointestinal, skin and respiratory infections."

#### \*\*\*\*\*\*\*

http://www.biomedcentral.com/1471-2458/2/11/qc

Interactions of pathogens and irritant chemicals in land-applied sewage sludges (biosolids) David Lewis, David Gattie, Marc Novak, Susan Sanchez and Charles Pumphrey BMC Public Health 2002 2: 11

"Results

Affected residents lived within approximately 1 km of land application sites and generally complained of chemical irritation (e.g., skin rashes and burning of the eyes, throat, and lungs) after exposure to winds blowing from treated fields. A prevalence of Staphylococcus aureus infections of the skin and respiratory tract was found. Approximately 1 in 4 of 54 individuals were infected, including 2 mortalities (septicaemia, pneumonia). This result was consistent with the prevalence of S. aureus infections accompanying diaper rashes in which the organism, which is commonly found in the lower human colon, tends to invade irritated or inflamed tissue.

#### Conclusions

When assessing public health risks from applying sewage sludges in residential areas, potential interactions of chemical contaminants with low levels of pathogens should be considered. An increased risk of infection may occur when allergic and non-allergic reactions to endotoxins and other chemical components irritate skin and mucus membranes and thereby compromise normal barriers to infection."

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Subj:congratulations Date:1 Aug 2002 15:38:00 +0200 From: "Paunio Mikko" To:LewisDavel@aol.com Sent from the Internet (Details)

Dear David L Lewis,

I congratulate you for your meticulous and imaginative research article published in June in BMC Public Health. Last March I was writing a review of health complaints of a sewaged sludge composting plant in Eastern Finland. I could not find any solid papers from MEDLINE then. Only one paper from 1970's where they suggested airborne transmission of from sludge used for land filling or agricultural purposes. Although we concluded that health hazard occurs in the vicinity of the composting plant this was based on the very consistent pattern of psycholsocial effects of odour (odour was so awful that I almost threw up), though admitting that upper and lower respiratory symptoms may have been caused by chemicals and endotoxins.

The people in the vicinity of the plant complained exactly same kind of symptoms as did your people. The most frightening aspect of all - though - were those invasive infections leading even to death. Have you received many comments from the U.S. or Europe. The reason why your article is so timely is that there are directives in the European Union that aim to recycle waste. Thus there are plans to really boost household and sludge usage. We in the Ministry of Social Affairs and Health are sceptical because of health risks involved.

Yours

Mikko Paunio, Senior Medical Officer Ministry of Social Affairs and Health P.O. Box 33, (00023 Government) Finland, e-mail:

## AUGUST 1, 2002 -- FINNISH MEDICAL OFFICER CONGRATULATES DR. LEWIS ON HIS RESEARCH --REPORTS SLUDGE COMPOSTING FACILITY IN FINLAND CAUSES SAME HEALTH COMPLAINTS AS REPORTED IN USA -- "UPPER AND LOWER RESPIRATORY SYMPTOMS MAY HAVE BEEN CAUSED BY CHEMICALS AND ENDOTOXINS"

E SCHI Internized F Soto New	<b>The Sun</b> /Saturday, April 6, 2002	ndicated	<ul> <li>people more susceptible to infections.</li> <li>"I thought, here's a mechanism for infection that has not been considered before," he said.</li> <li>of In November 2001, Lewis presented his theory in a speech at the University of Boston School of Public Health. He also published an article about it.</li> <li>"That earned him the wrath of the sludge industry.</li> <li>"David Lewis' 'article' appears to be little more than his latest effort to improperly cloak his invalidated and unpublished theories on biosolids with the creding daministrator Christine Whitman.</li> <li>"The OIG identified more than 10 major problem areas under the current sludge nucle and warned that "the EPA cannot assure the public that current land application in a February letter to EPA administrator Christine Whitman.</li> <li>"The OIG identified more than 10 major problem areas under the current sludge assure the public that current land application practices are protective of human health and the environment."</li> <li>"In response to the OIG's report, Whitman called for the National Academy of Sciences to expedite the completion of its research on the topic completion of its research on the topic of the NAS report is due next month.</li> </ul>
THE An Au wood News   North Port News   De	•	ogist vii	chemical MTBE to be added to gasolin Scientists had warned the chemic would wind up in drinking water, a wan ing that proved true. Lewis said an assistant administrator the agency "took offense" at the article Stripped of his lat's multi-million-do lar research budget Lewis launched low-budget study of sludge and health the late 1990s. He and an assistant su veyed 48 people residing near sludg operations who had complained of a ments and noxious odors. The cases studied also included a me who died in New Hampshire in 1995 ar an 11-year-old boy who died Pennsylvania in 1994. He found that 25 percent of the peop in the study were diagnosed with staph lococcus aurcus — including the tw who died. Such infections would the expected in sludge workers, he said. He also found that most of the peop reported burning lungs and coughin before getting ill. Lewis theorizes that chenical initants the sludge, including toxins that are lo wer after a certain bacteria dies off, caust the inflammation. That would make tho
FLORIDA FLORIDA Sassifieds   Charlotte News   Engle	FROM PAGE ONE	crobiol	at a community hull meeting in Arcadia last month. His presentation came at the invitation of anti-sludge activist Mari Hollingsworth of Port Charlotte. Hollingsworth began pushing for restrictions on sludge after two of her children, who lived on her former father- in-law's ranch in DeSoto County, came down with rotavirus. The ailment could have come from sludge spread on the ranch, Lewis said. "Stories like the one described by Mari are occurring across the country, from the East Coast to the West Coast, and in Canada as well," Lewis said. Lewis is an empleyee of the EPA's Office of Research and Development. He was a member of the EPA research team that first revealed a decade ago the AIDS virus could be spread by dental drills. But Lewis west transferred from that offic- cized the EPA in a 1999 atticte published in the British journal "Naure." The article cided EPA's failure to consider scientific evidence in making several policy decisions. Lewis cited not only sludge-spreading but also an EPA rule adopted in the early 1990s that required the unit-pollution
Sun Andrew Contraction Contrac		EPA mi	EPA report Corroborates his concerns by case warns by case of scien- tific investigation into policies that allow the spreading of sevage sludge on agricultural and won some vindication this wock. The EPA's Office of Inspector General issued a report that corroborated his con- cerns that the health and environmental issued a report that corroborated his con- cerns that the health and environmental issued a report that corroborated his con- cerns that the health and has wo idea how much the public health and has no idea how thas no idea how

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## THE NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMY OF SCIENCES released a report on July 2, 2002, "Biosolids Applied To Land: Advancing Standards and Practices" which validated the concerns of Dr. David Lewis and calls for extensive research on the health issues raised by Dr. Lewis in his peer reviewed articles published in scientific journals (which the EPA and waste industry desperately tried to prevent).

http://www.epa.gov/waterscience/biosolids/nas/complete.pdf

<u>Page</u> 4 - "Toxic chemicals, infectious organisms, and *endotoxins* or cellular material may all be present in biosolids. There are **anecdotal reports** attributing **adverse health effects** to **biosolids** exposures, ranging from relatively mild irritant and allergic reactions to severe and chronic health outcomes."

<u>Page 5 - "A possible exposure-assessment study would be to measure *endotoxin* exposure of workers at biosolids production and application sites *and of communities nearby.*"</u>

<u>Page</u> 98: "From a risk assessment perspective, this report will clearly establish that biosolids are a complex mixture of chemical and biological agents, the exact composition of which can change from time to time and place to place."

"Moreover, it will never be possible to account for all the components of the mixture, although its stable components are well characterized. As discussed in detail in various sections of this report, considerable efforts has been devoted to an enumeration of the hazardous constituents of biosolids. During the course of its study, the committee found that it remains necessary to conduct risk assessments on biosolids based on their component parts."

<u>Page</u> 100 "Human toxicity potential includes emissions, exposure potential, and toxic hazard indicators in a single measure of potential harm. It has been used as a cumulative-exposure screening tool for multiple chemical agents.

"Public-health and environmental concerns about biosolids foster a need for hazard assessments that can address multiple and complex issues. Among these issues are health hazards from chemical mixtures and pathogens, as well as concerns about specific categories of chemical hazard, such as metals, persistent organic pollutants (POPs), and high-production-volume chemicals (HPVs)."

<u>Page</u> 109 - "Health complaints include irritation of the eyes, nose, and throat; headaches; nausea; cough; chest tightness; congestion; shortness of breath; drowsiness; skin lesions; and mood disorders (Schiffman et al. 2000; *Lewis and Gattie in press;* Shields).

"The committee was not charged with the task of *evaluating the legitimacy of the* complaints, nor of determining whether application of sewage biosolids is related to the complaints. However, it notes that the primary concerns of neighbors to land-application sites and the alleged health impacts associated with land application of biosolids have not been addressed in the risk assessments upon which the Part 503 rule is based."

<u>Page</u> 198 - "Several potential exposure routes do not appear to have been considered when those use restrictions were developed. For example, inhalation of dust was presumed to occur only on-site, and controlling access to the site was intended to prevent such inhalation. <u>The potential for off-site exposure to wind-blown dust and aerosols does not</u> <u>appear to have been considered</u>. Nor was the potential transport of <u>pathogens</u> in <u>runoff</u> from the site to <u>neighboring properties considered</u>."

<u>Page</u> 214 - "Bioaerosols released into the air from soil surfaces, such as those surrounding biosolids and composting facilities, are often single organisms or are associated with particles. In many instances, these particles serve as "rafts" for microorganisms (Lighthart and Stetzenbach 1994)."

"Although there are reports on pathogen occurrence and survival on agricultural lands and waterways exposed to biosolids, there is surprisingly little information on airborne pathogen occurrence during land application of biosolids."

"In studies conducted at a large land-application site in Texas, Pillai et al (1996) used an AGI-30 impingement-based sampler to detect bioaerosolized microbial populations, including bacteriophages. Under low-wind conditions, none of the samples contained any presumptive Salmonella spp,, although some of the samples were positive for hydrogen sulfide-producing organisms and pathogenic clostridia. In subsequent monitoring during high-wind conditions, fecally associated male-specific coliphages, thermotolerant clostridia, and presumptive Salmonella spp, were also detected (Dowd et al 1997).

<u>Page</u> 219 - "Because endotoxins and glutans are cellular components of microorganisms, anaerobic digestion would not be expected to totally destroy or inactivate those compounds. The detection of viable cells in land-applied biosolids implies that endotoxins should also be present. However, local climatic and biosolids-management practices dictate the extent of endotoxin aerosolization."

Page 220 - "Ivens et al (1999) reported a direct relationship between bioaerosol concentrations of endotoxins and nausea and diarrhea and waste collectors."

"People with atopic asthma have increased sensitivity to **respirable endotoxins**, resulting in a variety of immune responses, including increased eosinophils in the airways (Peden et al. 1999). Studies suggest that asthmatic individuals exposed to allergens will have greater nasal inflammations if exposed to endotoxins (Gavett and Koren 2001; Liu and Redmon 2001; Reed and Milton 2001)."

<u>Page</u> 252: "It is important to note that, even if a summary index of the risk of an adverse response to mixtures was available, it would not necessarily reflect *the total hazard of exposure* 

to biosolids because of the inability to identify all of its hazardous constituents and their potential for interaction in vivo.

Moreover, the composition of biosolids is susceptible to unanticipated changes from time to time and place to place. Thus, it is not possible to conduct a risk assessment for biosolids at this time (or perhaps ever) that will lead to risk-management strategies that will provide adequate health *protection without some form of ongoing monitoring and surveillance.*"

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#### In April 2000, the EPA Inspector General stated:

"EPA does not have an effective program for ensuring compliance with the land application requirements of Part 503"; and

"Accordingly, while EPA promotes land application, EPA cannot assure the public that current land application practices are protective of human health and the environment."

In February 2002, the EPA Inspector General stated: "The agency (EPA) can neither investigate nor keep track of all of the complaints of adverse health effects that are reported."

IN June 2001, Scientists at a Cincinnati, Ohio, workshop sponsored by US EPA and USDA concluded a great deal more research must be done before Class B sewage sludge can be pronounced "safe".

## **ODOR: QUANTIFICATION AND HEALTH IMPACTS**

Susan S. Schiffman, PhD. Professor of Medical Psychology Duke University Medical School, Durham, NC 27710

Odor is an unwanted consequence of municipal waste processing and disposal of sludge Anaerobic digestion of sludge generates a broad range of odorants during the treatment process. In the first stage (acid fermentation), sugars, lipids, colloidal solids, and dissolved carbonaceous matter are converted to organic acids with the evolution of HS and CO<sub>2</sub>; pH drops during this stage. In the next stage (acid regression), the organic acids (formed in stage 1) along with some proteins are digested to acetate and ammonia compounds; pH rises slowiy during this stage. In the third stage, pH rises to neutral (pH = 7) with the generation of large volumes of gases, especially methane, that can be used as fuel. The resultant humic mass has more odor if thermophilic digestion rather than mesophilic digestion is used. The sludge is then stabilized by chlorine or lime to render the material less suitable for microbial growth. It is also heated to reduce the quantity of moisture. Composing of the material and other forms of treatment byproducts can also generate odor.

Questions have been raised about the potential health effects of odors from wastewater treatment plants and the disposal of sludge. On April 16-17, 1998, a workshop sponsored by Duke University, the Environmental Protection Agency (EPA) and National Institute on Deathess and Other Communication Disorders (NIDCD) was held to examine the potential effects of unpleasant odors on health and well-being (Schiffman et al., 2000a). <u>Complaints attributed to unpleasant odors from wastewater treatment (as well as other odor sources) include eye, nose, and throat iritation, headache, nausea, hoarseness, cough, nasal congestion, palpitations, shortness of breath, stress, and drowsiness. These health symptoms attributed to odors are generally acute in onset and self-limited in duration (Schiffman, 1998). Participants at the workshop attempted to determine whether these reported symptoms are caused by the odor (sensation) or the odorant (the chemical which happens to have an odor) or other causes.</u>

Workshop participants concluded that there are at least three ways in which odors may be associated with health symptoms. First, a person may be exposed to an odorant (e.g. exposure to annonia vapor) at levels capable of producing symptoms by sensory irritation (or other toxicologic mechanisms). In this case, the irritancy (or toxicity) occurs at a level above but within an order of magnitude of the odor threshold (concentration at which it is first detected). At concentrations above the irritative process, but symptoms are caused by irritation rather than "odor-induced." Odor in this first case is simply a warning of potential health effects at elevated concentrations.

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## DR. SUSAN SCHIFFMAN, DUKE UNIVERSITY - ON HEALTH IMPACTS OF ODORS FROM SLUDGE DISPOSAL.

The second way in which odors may produce health symptoms is one in which the odorant is part of a mixture. In this case, a co-pollutant, which itself may have no odor, is responsible for the health symptom. An example of such a situation would be simultaneous exposure to odors from sludge and to bacteria. To the extent that symptoms/health effects are a result of bacterial exposure, odor is merely acting as a marker of exposure. That is, odor is a "potential cofounder."

The third situation involves exposure to odorants that are 3-4 orders of magnitude below the levels that cause irritation or classical toxicologic symptoms. Example of such odorant classes include sulfur-containing compounds such as,  $H_2S$ , mercaptans, and thiophenes. Empirically there is considerable evidence that exposure to such compounds at concentrations above threshold but below irritant levels is associated with increased symptom reporting. More research is required, however, to understand more fully the complex interplay between biological and behavioral/psychosocial factors on expression of health symptoms from odors. Objective medical tests such as pulmonary function studies must be correlated with objective measures of air quality. Methods for assessing health effects at specific odor/odorant levels will be discussed (see Schiffman et al., 2000b for a review of methods for measuring odor).

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- Schiffman, S. S.; Bennett, J. L., Raymer, J. H. Quantification of odors and odorants from swine operations in North Carolina. <u>Agricultural and Forest Meteorology</u>, 2000b, in press.

## "... A CO-POLLUTANT, WHICH ITSELF MAY HAVE NO ODOR, IS RESPONSIBLE FOR THE HEALTH SYMPTOMS. AN EXAMPLE ... WOULD BE SIMULTANEOUS EXPOSURE TO ODORS FROM SLUDGE AND TO BACTERIA."

## "... COMPOUNDS AT CONCENTRATIONS ABOVE THRESHOLD BUT BELOW IRRITANT LEVELS IS ASSOCIATED WITH INCREASED SYMPTOMS REPORTING."

November 08, 2000



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Astraina/The Moone News

# Board looks at removing sludge's smell

#### 11/07/00 By YVETTE C. HAMMETT Staff Reporter

For a number of years, <u>residents in one area of Grand</u> Bay have complained of the putrid smell they have to endure when sludge trucks roll down their roads every day, into nearby farm fields, spraying treated waste onto the grass.

But if the Mobile Area Water and Sewer Service improves its treatment techniques, that sludge could end up - minus the bad smell - as soil conditioner for golf courses, parks or even home gardens. The utility's board is considering new treatment processes as part of its master plan for the future.

The utility board could be a pioneer in Alabama if it pursues ways to better treat the sludge, state Sen. Hap Myers said during a Monday meeting. Myers, R-Mobile, is an environmental consultant for the utility.

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Alabama House members keep seats

Mobile County precinct-by-precinct results

News:

<u>State suspends day</u> <u>care's license</u>

## ALABAMA - GRAND BAY. SLUDGE VICTIMS SUFFER PUTRID SMELL, HEADACHES, RASHES, NAUSEA

The new treatment process Myers described would	But it will also cost a bit more to add a new
remove potentially dangerous pathogens. The utility	treatment tank, which would use heat to kill the
could even go further, turning the sludge into a solid	pathogens. Myers said.
and removing that putrid smell. Only one other	
sewage treatment plant in the state - in the northwest	Turning the sludge into a "Class A" under guidelines
Alabama town of Sheffield - treats sewage so	set up by the U.S. Environmental Protection Agency
thoroughly, he said.	would cost about \$300,000 more than the utility now
	pays for the "Class B" sewage it is trucking to Grand
Grand Bay resident Gary Schaefer, the utility's	Bay.
biggest critic, couldn't be happier that the board is	
considering the change, he said. But unless the utility	It costs the utility about \$1.3 million right now to
removes the liquid from the sludge and turns it into a	truck 100,000 gallons of sludge per day to Grand
solid that it can bag and sell, it won't eliminate his	Bay. The sludge is spread on some 4,000 acres of
concerns, he said.	farmland there.
"I just don't want any more spraying in my	"We would be interested in getting to break-even."
neighborhood," Schaefer said, "If it's still liquid, it	Nix said. Board members agreed they'd be more
can still cause headaches and nausea."	willing to upgrade the treatment process if they could
	show customers a cost savings by breaking even or
Schaefer and others in his Grand Bay neighborhood	turning a profit.
believe they've gotten rashes and headaches from the	
sludge, which is also known by the term, biosolids.	Board Member Pamela Millsaps suggested the board
The utility has been trucking the biosolids to Grand	may even consider doing what some other cities are
Bay for about 14 years, Schaefer said. He believes	doing - buying its own hay or sod farm. Then it
the pressure he and his neighbors have put on the	would have a place to spray the sludge and could self
utility is prompting them to consider more thorough	the hay or sod to pay for the cost of treatment.
methods of treating the sludge.	
	By treating the sludge further, removing pathogens
Utility board Chairman Mark Nix directed Myers to	like e-coli, chloroform and salmonella, the utility's
take the study one step further and find potential	options increase dramatically, though, Myers said.
customers for the "Class A" sludge, as the more	He said he is working with the Agricultural
sanitized waste is known. Finding customers could	Extension Office at Auburn University to compile a
mean cutting back on the cost of trucking the sludge	list of potential uses for the "Class A" sludge. Those
to Grand Bay, which runs about \$700,000 a year.	customers could include large horticultural
	operations, sod farms and golf courses, he said.
Besides being less environmentally friendly, the	
utility also has very limited options for how it can	Depending on the customer base, the board may
dispose of the "Class B" sludge it now produces.	want to consider going that extra step, like the city of
When it is applied to a field in Grand Bay, for	Milwaukee does, turning the waste into pellets,
example, the sod can't be harvested for a year. If the	which it sells to the public as a soil conditioner,
less-treated sludge is applied to food crops, it cannot	Myers said.
to have a manthe Muare taid the heard	

# STATEMENT BY JIMMY NELSON, 7450 JIM MCNEIL LOOP ROAD EXTENSION, GRAND BAY, ALABAMA 36541 334-865-4835

They've been dumping sludge around here for about ten years. I'm surrounded on three sides by sludge dumping. There was a meeting about sludge, and a lady from BioGro stood up and said she had stood in the middle of the field after the sludge was spread and she couldn't smell a thing. Then I got up and told her that her nose must be burned out, or she needed a new nose because that stuff really stank.

At the meeting the people who wanted to spread the sludge were very obnoxious. They said they had a permit and had the right to dump where they wanted to.

About year ago they were dumping in the field near me and I asked when they would stop. They said they should be done by the afternoon. Three days later they were still dumping sludge there, really loading it up. I talked to the landowner face to face and expressed my concern about the sludge being spread so near to my place. Now they do not dump it closer than 2000 feet. It still smells when they dump it and the wind is blowing towards me, but it is much better now since they're not dumping right up to my fence line.

Some years ago I took a video of them laying the sludge on the field. The next day the guy who was spreading it came by and gave me a nice pamphlet about how good the stuff was. I told him that I saw in the pamphlet how they are supposed to be tilling it into the soil but that he was just laying it on the soil. He told me that sometimes they have to till it in but it's more beneficial if it's just laying on the field.

There is a petition going around that asks them to stop dumping that has about 700 names on it so far.

(Telephone statement taken by Judy Johnson on 4/30/01)

## ALABAMA - GRAND BAY - NEIGHBOR DESCRIBES SLUDGE SPREADER'S ARROGANCE AND INDIFFERENCE TOWARDS PEOPLE LIVING IN AREA

#### Statement of Terry Kennedy, Rainbow Downs Trailer Park, Grand Bay, Alabama 36541 - 334-865-1082

I live in a relatively new neighborhood --- I was one of the first people to move in. I don't know a lot of people, but I think about 3 people have moved out because of the sludge problem.

My home is about one to two football fields from where they are spraying the sludge. I did not know about the sludge spraying when I bought my home.

About 2 or 3 months after I moved in, my grandson developed a real bad rash. The doctors have diagnosed it as bacterial poisoning and they cannot heal it. The rash is around his private parts up to his belly button and a couple of places on his left arm.

My granddaughter suffered e coli poisoning. We don't know if it is from the sludge. I am on a disability pension and do not have the money to have the water tested.

My wife has developed severe headaches. She is also suffering bad sinuses and respiratory problems including asthma and bronchitis.

(Telephone statement taken on August 20, 2000 by Helane Shields)

## ALABAMA - GRAND BAY - VICTIMS SUFFER SEVERE HEADACHES, SINUS AND RESPIRATORY PROBLEMS, SEVERE BACTERIAL SKIN INFECTION.

#### STATEMENT BY CATHY CUTTS, 11800 JIM MCNEIL LOOP ROAD NORTH, GRAND BAY, ALABAMA 36542 334-865-4649

If I'm outside working when they spread the sludge I get diarrhea or upset stomach. I bring the kids inside when they are spreading it because they also get upset stomachs.

They used to spread it right up to my property line but now they don't spread it so close, they stay about an acre away.

They've added a perfume to the sludge. That has improved the odor but it still burns, the nose, the eyes, and the throat. And it does nothing about the flies. I'm a registered nurse. I hate to see those flies.

They just spew it out on top of the field, they don't till it into the soil.

I started to oppose this sludge spreading years ago. Someone told me I would have to be a rich woman to fight this. It's funny, you move to the country to have fresh air and then they dump this stuff here.

They dump it near streams and the stuff runs off into the water. I see people fishing down below and I wonder what the fish are getting from the sludge. I talked to the water board guy. I said what if someone dumps toxic waste into a manhole cover. He said that it would be so diluted then that it wouldn't matter

I complained when I saw the cows eating from the fields where the sludge was spread and I was told that it was OK as long as they weren't dairy cows. Gary Schaefer videotaped them having the field sprayed and then letting the cows out to graze on it. I think they might have gotten into trouble for that, and the landowner sued Gary. They said he was hiding, but he was just sitting at the end of my driveway.

My oldest son is asthmatic. He'll be fine but if they've applied the sludge he'll start wheezing as soon as he gets off the bus at home. Others in the area have had skin rashes and headaches when the stuff is applied.

(Telephone statement taken by Judy Johnson on 4/30/01)

## ALABAMA - GRAND BAY - VICTIMS SUFFER DIARRHEA, UPSET STOMACHS, BURNING EYES, NOSE AND THROAT, FLIES, ASTHMA

#### STATEMENT BY SHEILA NELSON, 7450 JIM MCNEIL LOOP ROAD EXTENSION, GRAND BAY, ALABAMA 36541 334-865-4835

It stinks really bad when they dump the sludge. If the wind is blowing this direction you have to go inside. I have had stomach problems since they began dumping and I've been to the doctor about it. The symptoms are like irritable bowel so they won't say anything about the sludge spreading. It's painful and the pain is with me all the time. Another person would be running to the doctor all the time, I've just learned to live with it.

(Statement taken by Judy Johnson on 4/30/01)

## ALABAMA - GRAND BAY - VICTIM SUFFERS PAINFUL STOMACH PROBLEMS "LIKE IRRITABLE BOWEL" SINCE THEY BEGAN DUMPING THE SLUDGE

# STATEMENT OF DONNA POIROUX, 11880 OLD PASCAGOULA, GRAND BAY, AL 36541 334-865-6491

l just found out that you not only get pathogens when you get the sewage sludge spread nearby, you get lead too. Everybody around here is staying sick all the time.

We're about 1/2 mile south of where they are spreading the sludge. The wind often blows this way. We can smell it, see it, and feel it.

There were headlines in the Mobile paper about this fellow spreading so much sludge in Grand Bay. A local EPA person tried to stop the spreading of so much sludge but he didn't get very far. We think he was stopped higher up.

I spoke to a university researcher recently and he said he has talked to people all over the country and in Canada and they are experiencing the same symptoms--headaches, fatigue and upper respiratory problems.

Outside this black soot settles on all the lawns. I wear a mask when I'm outside because I have such a bad reaction to the sludge. I was sick all winter and I was getting better until I mowed my lawn. I had my mask on but I got sick anyway. I have bronchitis and I'm so tired I can hardly move. My husband and I are young people, we're in our early 50s. If we go outside to work we have no energy. He said to me that we shouldn't be this tired all the time.

Last year I had trouble swallowing. The doctors thought it might be reflux and they gave me medicine. I kept coughing and coughing and when it came up it was black, just like the soot on the lawns.

My scalp is red all the time. I go to the best dermatologist in Mobile, he's been practicing for 30 years and he says he doesn't know what it is. He says, it's the environment.

My daughter has asthma and allergies and terrible migraines that started about eight years ago when they began spreading the sludge. My husband gets headaches. My mother has trouble breathing and skin problems as well. I've lived here 20 years so I know what I'm talking about, my mother has lived here for 40 years.

## BRONCHITIS, FATIGUE, COUGHING, DIFFICULTY SWALLOWING, ASTHMA, ALLERGIES, MIGRAINE HEADACHES, SKIN PROBLEMS, DEAD GOATS -- MORE SLUDGE TO BE SPREAD NEAR ELEMENTARY SCHOOL

I have a little white dog who weighs about 12 pounds. I took her out and she rolled in the black stuff and came back covered in it. I washed her off and she developed this terrible skin disorder, a red rash on her underside. All the animals in this area have the same problem from it. The vet says its the environment.

At the hearing we had about the sludge this man got up who had ten goats. He said that it's very hard to kill goats. All ten of his goats had died and he blamed it on the sludge.

I have a friend who's a teacher. She said that all her [school] children have breathing problems, asthma, bronchitis. The big landowner from here who is spreading this sludge has purchased even more land to spread even more of it. The land is near one elementary school-and not too far from another. Those school children are going to have a lot of problems because of the sludge.

The runoff from his fields goes into a creek that runs all through his property and then goes into the rivers. His cows graze on the same fields that the sludge is spread on.

Statement taken 4/30/01 by Judy Johnson

## SCHOOL CHILDREN HAVE BREATHING PROBLEMS, ASTHMA, BRONCHITIS . . . SLUDGE RUNOFF GOES INTO CREEK . . . DOG ROLLED IN SLUDGE, DEVELOPED RASH . . . SLUDGE BLAMED ON DEATH OF 10 GOATS
#### JUNE 2002 STATEMENT BY GARY O. SCHAEFER 8435 JIM MCNEIL LP RD W, GRAND BAY, ALABAMA 36541

After moving to my current home in 1996, I immediately became aware of a pungent odor permeating the neighborhood. Upon investigation I discovered the heinous aroma was eminating from sewage sludged fields down the road where huge tanker trucks sprayed sludge on fields for days on end.

After experiencing <u>head aches</u>, watery eyes, nausea, and sore throats, I decided to investigate sewage sludge. What I found out scared me no end. The people pushing this miasma, the EPA, listed in there own manual all the viruses, bacteria, and heavy metals hazardous to human health sludge could contain.

I circulated a petition to stop this practice. Over 600 signatures were obtained from friends and neighbors who did not want sewage sludge used as fertilizer in our area. While pursuing these signatures, I was appalled at the number of local children suffering from asthma and other breathing problems.

I have called, emailed, and sent letters to the EPA and Alabama Department of Evironmental Management, ADEM, complaining of several things I felt were in violation of 40 CFR 503. Nothing is ever done by these agencies as they are prime sponsors of the sludge spreading. The compliance officer at Region 4, EPA, tells me he might get around to checking a sludge operation every 2 or 3 years. It took him almost 2 years to figure out who is responsible for cattle grazing in violation of the 30 day restriction in Rule 503, and I am not sure who he selected. There is little or no enforcement or compliance being done in respect to 503. They claim it is safe if applied in accordance with 503, but how can they be sure this is being done?

I have discovered the regulators at EPA are among the biggest sludge pushers in the country. EPA sees to it the waste people get millions of dollars to promote their product and have even loaned EPA people out for this end, but guess what? They spend a mere pittance to investigate hundreds of health complaints nationwide. Local County Health Officers promised investigations, but they are not carried out because they believe the EPA promotes it.

The time for banning Class B sewage sludge is now, not 5, 10, or 15 years from now. The EPA promised more research in 1993 when 503 was promugated, but that research was never done. I do not believe we can expect anything more.

The NAS Committee is dominated by persons associated in some way with the sludge industry. Do you really expect them to shut off their own money supply? The so-called scientist: designated to research sludge have been largely financed by the sludge industry. Do you expect them to look a gift horse in the mouth? Whom do you trust? The people who are suffering from this malaise or the people who promote it for their own self interest?

#### ALABAMA SLUDGE VICTIM SUFFERS HEADACHES, WATERY EYES, NAUSEA AND SORE THROATS

#### JUNE 2002 STATEMENT BY RUTH VOSAHLO, 7100 WALTHER ROAD, GRAND BAY, ALABAMA 36541 - 251-865-2142

"During the sludge spreading, I have experienced <u>headaches</u>, sore throats, and <u>coughing</u> to the <u>point</u> of <u>choking</u> -- which required medication. <u>Phlegm</u> that I get occurs when spreading occurs and it clears up when I leave the area.

I had a <u>skin rash</u> the doctors could not identify. <u>Several neighbors</u> in our block <u>experienced the same</u>. During one particular application it <u>burned</u> my <u>throat</u> -- caught my breath -- and the same night the <u>glands</u> in my <u>neck</u> and <u>back</u> of my <u>head hurt severely</u>. I am now on Synthroid for <u>thyroid</u>.

Increased flies -- never had flies like we do now. Sludge is being applied in the rain, on slopes and it runs off and violations other properties. It runs over a well where people drink from . . . and into yards where children run and play bare foot.

We have black dust in the houses. Sludge must be banned now -- what about the 12 years of application and the dust now penetrating our homes? The sludge is never injected into the ground.

In over 10 years, nothing has been done by the EPA to alleviate our problems. We see no soil testing, no private well water testing. It can run over private wells -- not one EPA person has checked for bacteria.

There are too many people living around the fields with <u>health problems</u> that we feel have derived from this sludge, myself included. No long range testing was ever done before they started this. People were told it was fertilizer -- not treated sludge from the Municipal Sewer Plant.

We can not wait for any more research. It needs to be stopped completely now !!

#### ALABAMA SLUDGE VICTIMS SUFFER HEADACHES, SORE AND BURNING THROATS, COUGHING TO THE POINT OF CHOKING, HEAVY PHLEGM, PAINFUL GLANDS, SKIN RASHES, THYROID PROBLEM, SLUDGE RUNOFF ONTO THEIR PROPERTIES, SWARMS OF FLIES

#### EXCERPTS FROM JUNE, 2002, STATEMENT BY JANIE BOSARGE, PO BOX 752, GRAND BAY, ALABAMA 36541 251-957-6680

When the sludge started being dumped over and over on the adjoining property North of us, I kept wondering why I was <u>sick on my stomach</u> when that North winter wind was delivering that horrible gaseous sewer odor. Every time it was dumped, I felt that same <u>sick feeling</u>.

I started having <u>congestion</u> in my <u>lungs</u> which has been there to this day. My <u>throat</u> got <u>sore</u> and gets sore when it is dumped. The odor is difficult to explain -- it is a mixture of sewer and something else that I can't recognize.

We have had mosquitoes and <u>flies</u> this season like we have never had before in all the eleven years we've lived here.

My grandchildren next door had bout after bout of <u>diarrhea</u> and so do I when the sludge is applied.

The water from the (sludge) site behind us runs down onto our property and across the middle in a natural drain area, then on across another of our children's property where children play.... By the way, the grasses in those sludge fields seem to be dying in the last few months and there looks to be more weeds than ever before. In my opinion it looks like chemical burn.

We have not given our permission for sludge run off to cross over our properties where we work and play. We have well water, and our water table here is high. Our property is for sale, supposedly to help our dream of retirement. The Realtor has to let people know about the sludge fields close by to protect her license. When calls come about our place, they hang up and say they aren't interested after hearing (sludge field); it's just like a red flag! Sludge fields only depreciate property values.

Just keep in mind that your risk of contracting something that could make you sick or worse is lurking all around you. You may not see it, but you'll know it's there, sometimes even two weeks after it has been applied .... early in the morning when the fresh dew is in the crisp air -- don't step outside without holding your nose and covering your mouth. It's not only the odor -- it is what is in the odor. Chemicals .....give us back our freedom -- our normal lives again.

ALABAMA SLUDGE VICTIMS SUFFER HORRIBLE GASEOUS SEWER ODOR, NAUSEA, LUNG CONGESTION, SORE THROATS, DIARRHEA, SWARMS OF MOSQUITOES AND FLIES, DEPRECIATED PROPERTY VALUES





#### RAISING A STINK RESIDENTS ASSAIL COMPOSTING PLANT

Published on Tuesday, February 16, 1993 Section: Front Page: A1 © 1993 The Arizona Republic

Byline: By David Hoye, THE PHOENIX GAZETTE

When someone flushes a toilet on Coney Island, part of what goes down the pipe ends up in the Arizona desert.

Magazina - Kal

For the past year, a Maryland company has shipped New York City sewer sludge to the tiny Arizona town of Vicksburg, where the pungent material is composted and given to farmers.

Owners of the Arizona Soils Composting Facility say their operation meets all regulations, and is good for the environment because it keeps sludge from being dumped into oceans and landfills. However, the 80-acre facility, 120 miles west of Phoenix, has sparked a controversy that has left residents furious.

"There's nobody out here that wants that plant. Nobody," said Milo Mathis, who runs the town garage.

"It makes you want to puke. It blows right through your house and right up your nose. You're sitting down trying to eat your lunch, and you have to smell (expletive). It's terrible."

Others complain of large, biting flies that have appeared since the facility opened. Some say the sludge has made them sick.

ARIZONA - VICKSBURG - SLUDGE COMPOSTING FACILITY - VICTIMS GETTING SICK - PENETRATING, FINE MISTY DUST - BLOWS RIGHT THROUGH HOUSE ... UP YOUR NOSE ... THEY SUFFER NAUSEA, "IT MAKES YOU WANT TO PUKE", HEADACHES, LARGE BITING FLIES -- REDUCED PROPERTY VALUES --LOWERED QUALITY OF LIFE.

1. The second production of the second Aside from complaints of nausea and headaches, opponents say the "in the summertime there is a fine misty dust. It's penetrating," said Marie facility has damaged property values, in some cases has cost them the Green, who has lived in Vicksburg on and off since 1960. livelihoods and has made it impossible for them to sell homes. La Puz County officials are pointing fingers over who's to blame for  $\frac{1}{2}$ Ben Steele, a retired Phoenix tailor, said he has spent \$125,000 built ..... sing Arizona Soils to open without a single public hearing. campground for youth groups on his land in Vicksburg. t ve been a planner for 32 years, and I've never run into something like ... He plans to complete the project but figures it will make just one-thin mis cefore," said Bud Wall, La Paz County's planning and zoning the income he had planned. W. An and A creator. "I might get groups to come out here," he said. "But once they smell : They looked like an agricultural use, but it's turned out to be a sort of air, they're not coming back. I'll tell you that," tro an horse," he said. Phoenix Councilman Calvin Goode, a landowner in Vicksburg, also is consciledity was proposed in April 1989 by E.T. Technologies Inc. of upset. 220.00 The company said it wanted to compost steer manure on five acres ി. പടാലള "Those people in charge out there didn't think it needed to go through certain permit process. That was wrong. The people should have bee. Ine county decided the proposal fit the agricultural zoning of the site. able to protest." the company just needed a building permit, which was issued without a ្រុះ ដោះ មាន The company has responded to residents' complaints, as well as to pressure from the county and the state Department of Environmental later a year, the unbuilt facility was sold to Bio Gro Systems Inc., which Quality, and has taken steps to kill the flies and reduce the odors. inter its needquarters in Annapolis, Md. Greg Upton, a newly elected La Paz.County supervisor, said the model ....... said the company graded the property and made other never should have been allowed to open. He blamed former members c ingtovements before it learned the permit had expired. the Board of Supervisors. alanta estimati  $_{\rm OP}$  that time we were told they were going to use 80 acres and were  $\odot$ One of them, Duce Minor, said he sees nothing wrong with Arizona gang to import urban sewage sludge," Wall said. "I told them I didn't Soils. 1.5 model could reissue the permits." "To me, it's jobs for La Paz County. It's a tax base for La Paz County the suid the expanded facility constituted manufacturing, which would And it's as close to being in the middle of nowhere as you can be," Mine require public hearings and rezoning. said. internet advice of County Attorney Steve Suskin, officials issued another. So there the controversy sits. unding permit because they believed Bio Gro had operated in good fait Residents have complained for months, and are talking about a and had spent significant sums to prepare the site. class-action lawsuit. s concentration building permits don't expire and that it was Wall's fault for the original proposal complied with the site's agricultural zoning. County officials say they're watching the situation but don't plan to take action. is at last week, Bio Gro was importing up to 200 tons of sludge each "There's no secret about what they're doing out there," Suskin said. "The creacely from sewage treatment plants in New York City. question that remains is who said what three or four years ago. and sludge is treated in New York City, loaded into blue bins the size o "It looks to me that any way the county goes on this thing, we're going t many vans and shipped to Vicksburg on flatbed railroad cars. be the defendant in a lawsuit." once at the site -- the only one of its kind in Arizona -- the sludge is Color photos (2) by Peter Schwepker / THE PHOENIX GAZETTE rows and is mixed with wood chips and other material. The Map by THE PHOENIX GAZETTE (See microfilm) . ...s are tilled daily and are allowed to book in the sun for up to 60 days (1)Up to 200 tons of sewer sludge imported from New York City are man lesting to ensure the compost is free of pathogens and other delivered each weekday to the Arizona Soils Composting Facility in a groups materials, it's given to farmers free as long as they pay deliver, Vicksburg. Residents say the plant has lowered the quality of life in the . Alst. town (2) Mike Smith (front), foreman at the Arizona Soils Composting the orthogonal Linda Novick said the company makes its money Facility, does not share the opinion of Ben Steele, who says the ..... New York City, which pays Bio Gro up to \$250 a ton to take the Vicksburg plant will hurt business at the campground he is building for 💷 otříts hands. youth groups. Vicksburg (See microfilm) considents who have a problem with it really don't understand it," shi

#### THE ORANGE COUNTY REGISTER

#### SLUDGE A THERMAL COMPANY TURNS OUR WASTE INTO FERTILIZER. BUT THE OPERATION HAS INSPIRED BITTER PROTESTS AMONG AMERICAN IDIANS WHO SAY IT MAKES THEM SICK.

Tuesday, September 27, 1994

#### Byline:

#### Credit: PAT BRENNAN: THE ORANGE COUNTY REGISTER

Deep beneath Orange County, in an underworld of massive, branching pipes, the silent rivers flow.

Waste water by the hundreds of millions of gallons creeps along at an average speed of 2 mph into the county's two sewage treatment plants. It comes from our showers, sinks and toilets, our businesses and our homes. It never stops.

But Orange County sewage waste inspires anger, fear and accusations of betrayal on an American Indian reservation 60 miles to the east. Near the tiny city of Thermal, where both the population and the summer temperatures hover in the triple digits, protesters blockade big rigs that carry thousands of tons of *sewage sludge* each week intp the Torres Martinez Desert Cahuilla Indian reservation. The truckers' destination: a 40-acre patch of ground where the sludge is turned into dry fertilizer, then sold to vegetable, herb and date farmers in the surrounding Coachella Valley.

The operators of the sludge farm say their work is safe and beneficial to the environment. <u>The</u> protesters say the dust, flies and odors from the plant are making tribe members sick and may be poisoning their ground water.

Story appeared in the NEWS section on page A08 ID: 1994270041 Illustration: COLOR PHOTO:ILLUSTRATION

Caption: A handful of soil augmented with sludge, left, and dried sludge, or bio-solid. The bio-solid is used in Arizona to augment soil for growing cotton. (CHAMBERS) Members of the Torres-Martinez Desert Cahuilla Tribe protest a meeting called by the Bureau of Indian Affairs to investigate the possibility of a waste site on the reservation. Tribe members say they were not asked for their opinions and decided to close down the meeting by protesting and forcing the BIA to leave. Above, a huge earthmover loads a semi with dried sludge for transport to fields in Hemet for use as fertilizer. The cloud of dust is of concern to the EPA and Indians living near the site who have complained about respiratory illness and other health problems. At right, Carlos Garcia,

COMMUNIT EDUCATION EMPLOYMENT ENTERTAINMENT TRAVEL FUN & GAMES HEALTH & FITNESS LIBERTY ONLINE LIVING & SHOPPING POLITICS & GOVERNMENT REAL ESTATE SCIENCE & 3 TECHNOLOG) SERVICES & PROMOTIONS SPORTS & RECREATION WEATHER

#### CALIFORNIA - TORRES MARTINEZ - INDIANS SUFFER NAUSEA, HEADACHES, DUST, FLIES, ODORS, CHRONIC ALLERGIES, MYSTERIOUS SORES, SWOLLEN FEET, LISTLESSNESS.

#### GROUNDWATER CONTAMINATED WITH ARSENIC, CADMIUM AND CHROMIUM

"More or less everyone was having allergies," said Teresa Razon, who left the reservation with her four children in March because she believed the sludge was the cause of their illness. "I would go around to my friends' places, and they would have the same symptoms my children have."

But the chronic allergies along with headaches, mysterious sores, swollen feet and listlessness began to disappear when the family moved to nearby Indio, Razon said.

"Whatever it was, it was out there," she said.

The sludge standoff is more than just a local disagreement. Waste sites such as the Thermal plant operated by Pima Gro Inc. have been popping up on Indian reservations throughout the nation in recent years.

Activists blame a mid-1980s backlash in suburbia against garbage dumps, incinerators and other waste plants for waste operators' turning their attention to reservations. They say the operators are taking advantage of the remoteness, lack of regulatory oversight, poverty and confused politics of Indian reservations to make them the nation's new dumping grounds.

"We put the word out to be really cautious on these proposals," said Tom Goldtooth, head of an American Indian advocacy group in Minnesota called the Indigenous Environmental Network.

But the engineers and environmental specialists who oversee the treatment of sludge at Pima Gro insist that the final product is no more dangerous than backyard dirt.

"We run a clean ship," said Brent McManigal, an environmental planner with Pima Gro. "We return nutrients back to the earth, and the plants take up the nutrients and give them back to us."

The transformation begins immediately, the

5, grabs a sore in his leg as he swings outside his home, which is downwind from the site near Thernal. Health-clinic workers at the reservation have told Carlos' mother that his sores probably were caused by mosquito bites and were aggravated and infected in some cases by flies. Indians say the number of flies is considerably higher since the sludge operation began. Fresh sludge, left, transported from Orange County sewage-treatment plants is spread on the ground near Thermal to be composted in the desert heat. Water circulates through various filters, below, at the Orange County Sanitation District sewage-treatment plant in Fountain Valley. In the background are digester, where solids decompose naturally. (ANDERSON) Color illustrations: THE INTRICATE JOURNEY OF ORANGE COUNTY SEWAGE SLUDGE (see Graphic File)

Credit: BRUCE CHAMBERS: DANIEL ANDERSON: CRAIG PURSLEY Edition: MORNING

#### Correction:

moment the waste water arrives at the county's treatment plants in Fountain Valley and Huntington Beach.

Trunk lines as big as 7 feet in diameter carry waste water, and occasionally items that seem oddly out of place, into the plant. Bowling balls and

motorcycles have been among the bulkier waste screened out of the water and trapped in catch basins, said Margie Nellor, the districts' director of technical services.

More mundane household garbage \_ coffee grounds or eggshells, for example \_ are captured in special chambers and hauled away to landfills. SELF-PROPELLED PLANT Then the separation begins. Along one path, water passes through increasing levels of purification until it emerges clear. It is used to water grass and shrubs in places such as city parks.

Along a second path flows the sludge. Through giant settling tanks and digesters, *sewage sludge* slowly sheds its pathogens, the disease-causing microbes found in human and animal waste.

It also releases a smelly gas, methane, that is used to power both plants. Except in emergencies, there is enough gas to keep lights, computers, automated machinery and everything else running 24 hours a day.

Water is then removed from the sludge until it is moist, but solid.

Charles Egigian Nichols, the Orange County Sanitation Districts' good-humored and precise recycling manager, won't even call it sludge once the process is finished. He prefers the term "biosolids" \_ a word that makes a distinction between the foul material that enters his plant and the commodity that emerges, which he believes is clean and useful.

"Biosolids are essentially pathogen-free," Nichols said as he described the process to visitors on a recent tour. "You and I could eat it."

But he acknowledges that doing so would be illegal. It can't even be used as fertilizer on edible crops in the raw form that comes out of the sewage-treatment plant. That requires further processing.

And that's where the workers at Pima Gro step in. "Cake sludge" is their descriptive term for the truckloads of material they are paid to haul out of Orange County sewage plants daily, most of it headed for Thermal. Once there, the sludge is formed into windrows, long piles about 7 feet high. The few remaining pathogens are baked out of the sludge under the harsh desert sun.

Microbes in the sludge generate heat, which kills pathogenic bacteria. After about 15 days, the pathogens have dropped to "background" levels that match those of everyday dirt, McManigal said.

Orange County fertilizer is not only better than more common organic fertilizers, such as cow or chicken manure, but cheaper, its promoters say.

"Farmers pay \$500 a truckload for chicken manure," McManigal said. "Ours is \$75."

Thermal date farmer Fernando Torres has been using Orange County fertilizer for about three years, and says so far it seems to work the same as steer manure at 75 percent of the cost.

"I saved \$15,000," he said. "That's a lot of money. One more paycheck." GREAT CLOUDS OF DUST But it's the spreading, turning and drying of the sludge that has brought the wrath of the community down on the sludge-farm operators. Great clouds of dust erupt from the site as many as 20 times a day as the finished product is loaded onto the same trucks that carry sludge into the plant. The clouds sometimes float across the desert, settling on nearby trailers and homes, tribe members say.

<u>Clouds of flies also find their way to neighboring homes. Several tribe</u> <u>members in recent interviews described thick blankets of flies settling on</u> <u>window sills, clogging air conditioners and generally making life unbearable</u> on the reservation.

Such problems didn't exist before sludge farming began on the reservation in 1988, said Rhonda Garcia, a tribe member who lives in a trailer less than half a mile from the plant. Before 1988, Orange County sludge was taken to landfills.

Garcia complains of foul odors from the plant.

"Sometimes you have to turn off the coolers and make sure all the windows are closed," she said.

Some tribe members speak of even more disturbing possibilities. WATER CONTROVERSY A test of ground water beneath the sludge site, concluded by the California Regional Water Quality Control Board in April, showed high levels of contamination with poisonous heavy metals such as arsenic, cadmium and chromium \_ in some cases two to three times the concentrations allowed by law.

The same heavy metals are found in sewage waste.

But Pima Gro contends that the wells the samples came from were not designed for proper testing \_ open to the air and easily contaminated by blowing dust. Pima Gro has even suggested the samples were sabotaged. The U.S. Environmental Protection Agency has ordered a second round of tests with new, more reliable wells.

Tests by other agencies of deeper aquifers used for drinking water so far have revealed no contamination. But tribe members worry that contaminants, given enough time, could eventually work their way down. The EPA is planning more tests and wants to ensure no one is drawing drinking water from the shallow aquifers.

Headaches and nausea are common complaints on the reservation, and tribe members blame fumes wafting off the sludge farm. So EPA officials also have ordered the installation of air-monitoring devices to measure exactly what is being emitted by Pima Gro.

Suspicions run high on the reservation despite the new presence of the EPA. Joe Loya, a tribe member who said he was inspired by a divine revelation to help organize the group Members Against Sludge, makes a habit of asking difficult questions of the government, the sludge operators and the Bureau of Indian Affairs.

He wants to know why the EPA did not become involved until controversy over the sludge farm became public. He wants to know why the Indian Health Program at Morongo, which provides medical services from a small trailer on the reservation, has not begun an aggressive examination of tribe members' health complaints.

And even though Pima Gro officials say Indian employees on the sludge farm are safe, Loya says he wants proof.

"I want to know how much they are being exposed," he said. `LIKE A BIG WOLF' George Auclair, a member of the Torres Martinez tribal council, believes waste operators are taking advantage of the shattered economy of many reservations by offering infusions of cash.

"It's like a big wolf going after a little rabbit," he said. "People don't care what it will do to the environment. It's money. It's income."

In the case of Pima Gro, a fee of 50 cents a ton that was supposed to go to the tribe never got there. So the only economic benefit from sludge operations at the moment is the employment of four Torres Martinez tribe members, and preferential hiring of tribe members when new jobs open up.

Perhaps the most visible symbol of the tribe members' objections is Mount San Diego, a gigantic pile of dried sludge heaped on property adjacent to Pima Gro by a San Juan Capistrano sludge operator that went bankrupt last year.

The mountain is named for its city of origin. It stands more than two stories high, weighs about 500,000 tons and stretches 200 yards across.

McManigal, the Pima Gro environmental planner, says he is just as annoyed by the pile as the tribe members. His company, which leases a 40-acre plot from an Indian landholder, is not responsible for the pile. McManigal said he has offered to clean it up but was rejected by the landholder, tribe member Geraldine Ibanez.

At least one other offer from a company to take over management of the site and clean up the pile was rejected by Ibanez. That, and a failure by the bankrupt company, Chino Corona Farms Inc., to meet federal bankruptcy reporting requirements, led to the dismissal of the bankruptcy case in July, said attorney R. Gibson Pagter Jr., who handled the case. The defunct company filed another bankruptcy petition Aug. 30, Pagter said, although he is not handling that case. Former owners Larry Vaughan and Gordon Cooper, meanwhile, are being pursued by Chino Corona creditors in San Diego Superior Court, Pagter said.

So the mountain remains. Small amounts of it are removed from the site from time to time, said Michael McLees, vice president of Terra Farms Inc., the company that took over the lease on the property at the start of the year. But the real work won't begin until Terra Farms can generate money to pay for it.

The company wants to set up another sludge-recycling farm on the property and use outgoing trucks to whittle away at the pile over the next four years. It would be the third sludge farm on the site, joining Pima Gro and HCK Inc., which processes Los Angeles County sludge.

Members Against Sludge wants all shipments stopped immediately, arguing that anything less means further risk to tribe members' health.

But proving a link between sludge piles and tribal illness is elusive.

No increase in health complaints on the reservation has been reported since sludge farming began in 1989, said Allan Beckwith, spokesman for the U.S. Indian Health Services.

And even if such an increase had been noted, pinning down the cause would take an expensive epidemiological study, said Riverside County Health Officer Bradley Gilbert.

"It's very complicated in terms of establishing a relationship between those complaints and whatever potential exposure there was," Gilbert said.

Such studies were conducted after scores of people in Los Angeles and Orange counties complained about illness after aerial spraying of malathion during a 1989-90 infestation of Mediterranean fruit flies. But no firm link between the pesticide and the complaints was ever made.

"How do you put those against what the normal illness quantity would be?" Gilbert asked.

No epidemiological study is planned for the Torres Martinez reservation, Beckwith said.

"There hasn't been one requested," he said. "It would have to be an official request from the tribe."

Further adding to the confusion is the intricate weave of law and tradition on the reservation. Indian lands are supposed to be politically sovereign entities. But federal agencies have jurisdiction over some aspects of reservation life \_ the EPA regulates pollution, and the Bureau of Indian Affairs presides over transfers of land.

Local tribal councils can issue orders and make rules, but their pronouncements are often disputed. Pima Gro officials, for example, do not believe a cease-and-desist order against their operation, issued by the Torres Martinez tribal council, is legally valid.

Some tribe members, in turn, accuse Pima Gro of running an illegal sludge farm.

Other members of the tribe want to keep the sludge farms going, adopting the view of local officials from the Bureau of Indian Affairs, a federal agency composed mostly of Indians but including some non-Indians.

Bureau officials say that without sludge recycling, there will be no lease payments from the operators, and hence no funding source for cleanup of Mount San Diego.

For now, it appears the sludge recycling will continue. When the fall growing season comes, and lettuce, broccoli and herbs again blossom from processed Orange County sludge, the circuit will be complete once more: from the dinner table to our bodies, from our bodies to the sewage treatment plants, from the treatment plants to the sludge farm, and from there to the farmers whose crops will appear in the produce sections of Orange County supermarkets.

And back to the dinner table.

#1 newspaper in Orange County, California

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Sunday, July 7, 1996

#### Atwater cited for poisoned hay

By Tim Moran Bee staff writer

#### 13 COWS POISONED BY NITRATES IN HAY FERTILIZED WITH SEWAGE SLUDGE

The City of Atwater has been cited for applying too much sewage sludge on its farm property after hay from the farm was linked to nitrate poisoning of 13 cows on two different farms. The citation is from the California Regional Water Quality Control Board. The city contracts with a private firm, Metcalf Eddy Services, to run its waste water treatment plant and a 100-acre farm five miles south of Atwater. On the farm, sewage shudge is used as fertilizer to grow oats, alfalfa and sudan grass.

Lois Carson of Coulterville lost seven cows four months ago after feeding them sudan hay grown on the Arwater property. Manuel and Ilda Resendes of Los Banos lost six cows three weeks later after feeding them sudan hay from the property.

University of California at Davis lab tests abowed the cows had died of nitrate polsoning. Tests of remaining hay showed high concentrations of nitrate.

The California Regional Water Quality Control Board's office in Fresno investigated after seeing newspaper reports of the problem. The board cited Atwater in a June 10 letter. According to the board, parts of the city farm had received up to 238 pounds more nitrogen per acre than allowed during the course of a year. The water quality board monitors sludge application because excessive application of nitrogen can cause ground water contamination.

The violations of the city's permit to dispose of the sludge occurred in 1994 and 1995. The airrogen limits are based on the needs of individual crops, according to Darrel Evensen, a sanitary engineering associate with the Water Quality Control Board.

Arweter was to have submitted a technical report by June 25 spelling out the measures it will take to get its farm into compliance. Evensen said the report has not yet been received.

Monte Finke, who operates the waste-water plant for Metcalf Eddy Services, said the remainder of the high nitrate hay has been accounted for. "We've gotten all the hay back."

Finke said he couldn't comment about the Water Quality Board citation, but added, "We are working with the state board to get back to zero (excess nitrogen) and grow clean hay again."

In the meantime, Carson and the Resendes' have incurred losses of several thousand dollars each. The city's claims adjuster investigated and found the city was not negligent, and the city denied the claims.

"No one wants to claim responsibility, but it's not my fault," Ilda Resendes said. "We don't mow what to do at this point. If it was \$100 or \$200 I would say forget it, but to me it's a lot of money."

Finke said attorneys for the city and Metcalf Eddy Services are working on a settlement offer, but he could not comment on details. "We are working on it. We are going to take care of it," he said.

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CALIFORNIA

vage sludge			likely got there cy said Thursday.	"I don't think the conclusion is well-supported," Kelley said before the meeting. "I would say that at this point we cannot be certain how the plutonium got into the park."	Kelley called for more plutonium sampling at other possible "hot spots" east of th lab, removal of plutonium-contaminated soil at Big Trees Park and an investigatio y by the state Department of Health Services on where other contaminated shudge zer may have ended up.	Cooper said there are no plans to conduct more surveys of soil in Livermore, but he did not rule out that additional sampling may happen.	Some in the audience worried that plutonium levels could be high elsewhere in the community, especially given that sludge was distributed to homeowners.	Hazel Street resident Janis Turner, 56, said she brought home some of the potentially contaminated sludge to her garden. She said she would like the lab to test the vorte of arrevees whe constant is	"I'd like to know if my backyard is safe to grow vegetables," said Turner, adding she is affiliated with Tri-Valley CARES. "I have a concern."	Others were less worried. Eleanor North, 75, lives on Diane Lane, not far from Big Ial Trees.	yo "I don't feel that it's hazardous to us living here," said North, adding she often visits the park. "I'm satisfied."	The agency is affiliated with the Centers for Disease Control in Atlanta.	UTONIUM IN PARK FROM
Investigation ties plutonium in park to sew	Sunday September 19, 1999	By STAFF WRITER	LIVERMORE Plutonium found in the soil at Big Trees Park through sewage sludge introduced as a fertilizer, a federal agenc	The Agency for Toxic Substances and Disease Registry also determined that no clean-up or further surveys are needed at the park largely because the radioactive metal was found at levels that are not believed to pose a health risk to people.	The long-awaited findings reflected a theory supported by Lawrence Livermore Laboratory that the plutonium was released accidentally from the lab into the city sewer system many years ago. Contaminated sewage sludge distributed as fertiliz then may have been used around trees at the park.	A lab watchdog group questioned the agency's findings, claiming that evidence does not back up the sludge conclusion.	"We're satisfied that Big Trees Park poses no health hazard," said Burt Cooper, energy section chief with the agency. About 30 people, many of them lab officials	turned out at Arroyo Seco Elementary School on Thursday evening to hear the report.	Plutonium is used as an explosive in nuclear bombs. Research on the metal is conducted at the lab. The Environmental Protection Agency and state Departmer of Health Services earlier this year also determined that plutonium levels at the park were within allowable levels.	Cooper went on to say that an analysis of park soil samples suggests that the met did not arrive at Big Trees through airbonne releases from the lab or vie the Arrow	Seco, a creek that flows through the lab grounds and by the park. Big Trees, located next to Arroyo Seco Elementary, sits about a half mile west of the lab.	Marylia Kelley, leader of a group called Tri-Valley Communities Against a Radioactive Environment, didn't buy the agency's report.	CALIFORNIA - LIVERMORE - PLU SEWAGE SUINGE

-4]

ike facilities around the nation, the laundry was licensed to release a total of one trie of radioactive material into sanitary sewers per year. This small amount was ought to be harmless when diluted by millions of gallons of water. But in 1984, e NRC discovered radioactive materials were being reconcentrated in sludge and cinerator ash at three sewage treatment plants in Tennessee and New York.

Oak Ridge, Tenn., sludge spread in a forest was found to have raised ckground radiation levels by a factor of two to three.

NRC sent out a bulletin to alert facilities that release radiation into sewer tems of the problem. In addition to decontamination laundries, hospitals and nufacturers can make such releases.

The company that ran the laundry in Pleasanton, Interstate Nuclear Services, tudied the issue at its facilities in a 1987 report. Reconcentration of radioactive naterials was found to be a problem in sewer systems near the company's loyersford, Pa., and Vicksburg, Miss., facilities. In assessing the potential for uch problems at its other facilities, the company ranked Pleasanton fifth on a list f its 11. But the plant had been abandoned and no soil samples were taken.

ccording to the GAO, a congressional agency that audits federal programs, there ave been about a dozen incidents of contaminated sewage sludge or ash around ite nation.

But it wasn't until a problem at a sewage treatment plant in Cleveland was discovered in 1991 that the NRC tightened its regulations. In Cleveland, radiation was detected in some soil samples at 20 times normal background levels, a GAO report said. The report said more than \$1 million was spent assessing and cleaning up the problem.

The NRC found that the radioactive materials, called radionuclides, had a endency to bind to sediments. The agency's new regulations, which went into effect Jan. 1, 1994, said any radioactive materials released into sewers had to be water soluble. The one-curie-per-year cap was maintained, but individual limits were set for some radionuclides that take longer to decay.

CALLFORMA - FLEASANTON - RADIATION IN SEWAGE SLUDGE SPREAD ON LAND WHERE 1900 HOMES TO BE BUILT - NUCLEAR LAUNDRY POSSIBLE SOURCE OF RADIOACTIVE WASTES

#### THE PRESS-ENTERPRISE, CALIFORNIA - APRIL 19, 2001

#### SAN BERNARDINO COUNTY - AIRBORNE PARTICLES FROM COMPOSTING FACILITY CAUSE INMATES AND PRISON EMPLOYEES TO SUFFER RESPIRATORY PROBLEMS, CHRONIC SINUS INFECTIONS, SORE THROAT, RUNNY NOSE, HEADACHES - WORKMEN'S COMP CLAIMS FILED.

Escape from dust sought: HEALTH CONCERNS: A composting facility is working with a prison near Chino to address complaints.

Published: April 19, 2001 Edition: ALL ZONES Section: A Section Page#: A01

#### By THE PRESS-ENTERPRISE | LAURIE KOCH THROWERTHE PRESS-ENTERPRISE

Corrections officers and inmates at the California Institution for Women near Chino say they've gotten sick from inhaling airborne particles stirred up by a nearby plant that makes fertilizer out of human and animal waste.

Several prison employees are seeking workers compensation benefits for respiratory problems they blame on the composting plant run by the Inland Empire Utilities Agency, according to public documents and the attorney handling the claims.

"These employees are seeking benefits under California workers compensation for exposures and ailments," said John Ferrone, an attorney representing the employees.

The agency does not acknowledge that the compost might be causing illness, citing studies to the contrary. Furthermore, the agency has plans to expand the composting operation, while also taking steps to control dust and odors. On windy days, airborne matter from the composting operation has blown across the road and into the women's prison, invading the ventilation system and working its way into computers, according to prison officials and an inmate.

"When we wake up in the morning, on our windows is a layer of dust sometimes an eighth of an inch thick," said Myrtle Green, a 70-year-old CIW inmate who said she has had chronic sinus infections since the plant started operation six years ago.

Despite years of complaints from the prison, San Bernardino County planning officials are recommending that the Inland Empire Utilities Agency be allowed to expand operations at the 97-acre plant. A hearing on the expansion is scheduled today before the San Bernardino County Planning Commission. The meeting starts at 1:30 p.m. at the County Government Center, 385 N. Arrowhead Ave., San Bernardino. The utilities agency wants to relocate the composting operation within three years to a site yet to be determined. For now, agency officials say they are taking steps to reduce dust and odor. "I've got to hand it to the people over there, they're trying to work with us," said Lt. Robert Sebald, CIW spokesman.

Piles of compost are being sprayed with odor-reducing chemicals and covered with green tarps. "This is done to keep the dust down," said Sandra Elrod, spokeswoman for the Inland Empire Utilities Agency. The dust-control measures appear to be helping so far, but it remains to be seen whether the tarps will work in a strong Santa Ana wind, said CIW business manager Ron Kettle.

In a document filed with San Bernardino County, Inland Empire Utilities Agency officials say they do not have enough information about the workers compensation claims to comment on them. And, they said that studies haven't found serious health problems among compost workers, who have the greatest exposure to the waste.

Sludge under scrutiny

The complaints are surfacing at a time when the use of sewage sludge on agricultural fields is under attack around the state. Sewage sludge contains various germs, so the federal government has advised against touching it.

In Riverside County, residents of rural areas between Hemet and Temecula claim that sludge smells awful and that they get sick after the material is spread on neighboring agricultural fields. <u>They say they've suffered respiratory problems</u>, bloody noses, headaches, rashes and intestinal illnesses.

Riverside County's top health officials have concluded that sewage sludge, when handled the way federal regulators say it should be, does not pose a health danger to the general public. Still, the residents' complaints prompted the Riverside County Board of Supervisors to appoint an advisory panel of residents, farmers and health experts to recommend a policy for the use of sewage sludge.

Near Corona, Temescal Canyon residents for years have fought a nearby sludge composting plant, saying the odor often drives them from their homes and makes them sick.

Statewide, concerns about the possible health effects of sewage sludge have prompted several counties to ban the material from agricultural fields.

The U.S. Environmental Protection Agency endorses the use of sludge as a fertilizer under restricted conditions. The federal agency recently commissioned a panel of the country's top scientists to study whether the rules are adequate to protect the public.

#### Dusty situation

The women's prison and the composting operation face each other on Chino-Corona Road in the southern portion of the Chino Dairy Preserve. Built in 1995, the plant was designed to turn

sewage sludge from the Inland Empire Utilities Agency's treatment plants and the abundant cow manure from the region's dairies into compost used to fertilize mostly gardens and lawns.

The operation has two sections: One composts pure cow manure, the other composts a mixture of manure and sewage sludge. To reduce dust, the expanded operation would include two enclosed structures for sifting and bagging the compost.

The prison, built in 1952, has little air conditioning. Filters in window coolers are filthy in a month, said Sebald, the prison spokesman. "I come to work in a white pickup truck and at the end of the day it's a brown pickup truck," Sebald said.

Dust filled the prison, especially the administration building and visiting room, on Christmas Day when a strong wind kicked up, Sebald said. The Department of Corrections supports the recycling mission of the composting plant and is seeking a solution that will ease the impacts on the prison, Kettle said. "We've been working really diligently with the folks across the street," Kettle said.

Kettle confirmed that several prison employees have filed workers compensation claims citing dust exposure, but he would not comment further on the claims.

An inmate's complaint

At least the prison workers can leave at the end of their shifts, said Green, who has been an inmate at CIW for 12 years. Prisoners can't escape exposure, she said.

Green said she had "horrendous" surgery on her sinuses and that she believes exposure to compost dust is responsible. "My entire lifetime, I never had a sinus problem or an allergy," she said. After the composting operation started up, Green said, she started experiencing a sore throat, a runny nose and headaches.

Her doctor told her she had chronic nasal infections, she said. Finally, she underwent surgery that involved drilling through the roof of her mouth to clean out her sinuses. Doctors tell Green she should have the surgery again, but she refuses to repeat the ordeal, she said.

"If this was near Beverly Hills or Los Angeles," Green said, "where there was a neighborhood, they would move it or pay."

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COMPOSTING FACILITY - Where: 8100 Chino-Corona Road Size: 97 acres

Agency seeks: To increase the 150 tons of sewage sludge received daily to 200 tons and to increase the 310 truck trips to 460 round trips a day. Plant makes: "Class A" compost -- sludge and manure treated to make it as safe as fertilizer typically sold at retail nurseries.

Notes: Includes info box. - Copyright The Press-Enterprise Co.

#### Sludge plan would widen 'buffer zone': The request comes after complaints from residents who say treated waste is making them sick.

Published: March 12, 2001 Edition: RIVERSIDE; DESERT & PASS; HEMET NEWS; TEMECULA-MURRIETA; SOUTHWEST; CORONA-NORCO; MORENO VALLEY Section: LOCAL Page#: B01

By The Press-Enterprise | Laurie Koch Thrower The Press-Enterprise

Sewer **sludge** should not be used to fertilize farm fields closer than a quarter-mile from residences, Riverside County Supervisor Bob Buster is recommending. Buster's proposal would widen the required "buffer zone" between **sludge**-laden fields and homes, now 500 feet. His request comes in response to complaints from some residents in the rural areas of Winchester, Menifee and the French Valley who say the sludge is making them sick. Residents are complaining of ailments, including nosebleeds and breathing problems. Buster's request is on the agenda for Tuesday's Board of Supervisors meeting, but it was unclear Friday whether the item would be postponed. Sludge is treated waste taken from wastewater-treatment plants. It is treated to kill some, but not all, of the germs in the material. The supervisor is suggesting a quarter-mile separation between sludge farms and homes as "a starting point for discussion," said David Stahovich, a Buster aide. Buster is also asking the board to ban sludge on county-owned land. A quarter-mile buffer would put more space between **sludge**-laden fields and Menifee resident Athena Gages' house, but not enough, Gages said. "I would like to see it completely banned," she said. "That's what we're fighting for." Gages is still concerned about airborne pathogens and fungus spores, she said. A report from the county Department of Health Services concludes that using **sludge** as fertilizer does not pose a health threat to most healthy people. Supervisors are also scheduled to discuss other means of paying to preserve about 510,000 acres for wildlife habitat. The plan requires the county to acquire about 150,000 acres now in private ownership.

#### CALIFORNIA, MAY 23, 2000 - SOLANO COUNTY SLUDGE VICTIM JUDY BRETTHAUER SUFFERS RESPIRATORY PROBLEMS

Subject: BRETTHAUER Date: Wed, 17 Jan 2001 18:44:07 -0500 From: "Diane St. Germain" <dianes33@worldpath.net> To: Helane Shields <hshields@worldpath.net>

http://snap.lib.ca.us/bos/bos00/minutes052300.html

Do you know these people?"One of the primary reasons for appeal is due to Mrs. Bretthauer's respiratory problems and health issues, and reviewed the problems experienced when the sewage sludge had applied in 1995. As noted in the letter from Mrs. Bretthauer's doctor she had become ill due to the pathogens contained in the sewage sludge dumped on the property,"

SOLANO COUNTY BOARD OF SUPERVISORS' MINUTES May 23, 2000

(Item 28C) APPEAL OF MR. AND MRS. BRETTHAUER RE APPLICATION OF BIOSOLIDS TO AGRICULTURAL LAND, APN 0048-020-360 (TOM STUART), DENIED;

APPLICATION PERMIT OF BIOSOLIDS TO AGRICULTURAL LAND, APN 0048-020-360 (TOM STUART) WITH MITIGATION MEASURES, APPROVED

Dennis Kalison, Program Manager Environmental Health Division of the Department of Environmental Management reviewed the information contained in the Agenda Submittal from his department dated May 23, 2000, incorporated herein by reference, highlighting the mitigation measures that have been proposed.

Chairwoman Kondylis opened the public hearing. Darrell Bretthauer, Suisun, noted their property is surrounded on 3 sides with fields proposed for this application. One of the primary reasons for appeal is due to Mrs. Bretthauer's respiratory problems and health issues, and reviewed the problems experienced when the sewage sludge had applied in 1995. As noted in the letter from Mrs.Bretthauer's doctor she had become ill due to the pathogens contained in the sewage sludge dumped on the property, and with a lower grade sludge proposed to be spread there is a greater risk of Mrs. Bretthauer getting ill.

Mr. Bretthauer discussed the smell and effects of that, and submitted four articles relative to the harmful effects of sewage sludge, and the harmful contaminates contained in the sludge. Disking does not completely cover the sludge, contaminates are still in the soil, and feels there is a potential for ground water contamination. Mr. Bretthauer noted he does not want to live in sewage sludge, and requested the permit be revoked.

Judy Bretthauer, Suisun, discussed how ill she had become in 1995 when the sewage sludge was spread, concern was voiced with the smell and blowing pathogens since they do not have air conditioning, and with the number of metals that are not monitored. There are four different ways they could ingest this stuff, the different regulations applied to sludge when spread on farmland versus if it is put in a landfill. The County has options controlling contaminates coming into the County. Notification by Synagro has been very lax, and further discussed potential hazards to the wildlife and environment, and requested proof that these materials are not hazardous to your health.

David Marianno, Suisun, noted between April 15th and October 15th 24 hours a day sewage sludge is being brought into the County, and expressed concern with what isin the sludge. There are not many residents that live in the area, and noted his bad experience with the biosolids that have been spread, exposure to the vectors, pathogens and odors. Mr. Marianno expressed concern with these toxins being transferred into the food chain, with runoff carrying this to the marsh, and the damage to the wildlife and the environment. This needs to be stopped, and requested the Board deny the permit for Synagro

Mark Grey, Regional Technical Services Manager Synagro Technologies, noted the measures Synagro has proposed to mitigate the concerns, and emphasized that no other health problems nave been reported. Farmers do want the biosolids to improve the soil. Mr. Grey discussed the regulations pertaining to biosolids, the rigorous testing, and EPA Regulations were discussed. There are many studies noted that heavy metals do not leach, and discussed testing that is done on the products being spread. Responding to questions posed by Chairwoman Kondylis relative to how far the odors permeate, Mr. Grey explained the factors, and noted that disking does help with the odors.

1 om Stewart, Suisun, noted he applied biosolids in 1994/1995 to over 500 acres, the application was successful, and soils in the area are sometimes low in nutrients and need amending. As long as the applications are done per County code, Mr. Stewart feels it is safe to use. The smell can be a problem, we will be disking the product in this time, and setting aside additional land as a buffer away from the Bretthauer's home. Duncan McCormack III, Rio Vista, noted he has been using biosolids for about 5 years, and noted the great benefits and increased weights for live stock. Mr. McCormick feels the product is safe and is comfortable with the application, and supports the practice.

Ian Anderson noted he has used biosolids successfully on poor soils, recommended continued observation of the County Code to see if there are areas that can be improved. Mr. Anderson's wife was greatly bothered by the odors from the biosolids, requested more information on soil sampling by the County, and noted the recommendation relative to sampling by the Farm Bureau should be done.

Mr. Kalison noted the County random samplings of the biosolids that are being spread, and further explained the process. There have been no metals exceeding the limits, and the technical section of the Department of Environmental Management reviews the samples.

Responding to questions posed by Supervisor Kromm regarding testing, record keeping, dissemination of that information, and site registration, Mr. Kalison noted the annual report to the Board on those statistics, and summary of the program. Ms. Corsello noted that identified samples that were contrary to the profile as specified would be the only samples specifically pointed out to the Board, and noted requirements of data collecting and reporting.

Responding to questions posed by Supervisor Thomson relative to testing livestock that has grazed or been fed from bio solids amended fields, Ms. Corsello noted the County does not do any sampling of products coming off the fields, there are recommendations relative to planting and grazing on them.

BARBARA R. KONDYLIS, Chairwoman

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#### **Residents win court fight** -

#### AGNES DIGGS Staff Writer

TEMESCAL CANYON ---- It was almost like a breath of fresh air for Diana Schramm, who learned unofficially Tuesday that

she and her Temescal Canyon neighbors have apparently prevailed in their legal battle against a composting plant. The group filed 37 individual small-claims lawsuits against Synagro Technologies Inc. for \$5,000 each, the maximum allowable amount, charging the company with creating a public nuisance.

A clerk at the Riverside County Superior Court in Corona who declined to be identified confirmed the 37 cases were settled, although no official notices have been sent yet.

"All the plaintiffs have won their cases," he said. "Looks like they got the amount they asked for."

A delighted Schramm said, "It's just so nice to see that the courts work. The odor for the last 11 years has been like an open septic tank. That's what it would smell like, and it was insufferable."

Residents accused Synagro of creating a nuisance with the odor that is a by-product of the company processing tons of sewage sludge per day. Sewage treatment plants supply the sludge, which is processed into biosolid products used to fertilize crops.

The odor permeated their homes, their clothing and their lives, Schramm said.

"We would express our frustration to these people, Synagro, that the odor was so intense that it was <u>burning our eyes</u>, <u>burning our noses</u>, <u>burning our throats</u>. It was so frustrating," she said. "They just didn't seem to care about us."

After years of complaining to the county and Synagro officials, Schramm said, she and her neighbors finally ran out of patience. Last summer, they began doing research in the law library downtown and, based on the definition of a public nuisance, decided they probably had a case. Together, they helped each complete the necessary paperwork, collect the money for filing fees and filed their individual suits.

The judge heard their cases during a three-day period beginning Dec. 12. Part of the evidence presented against Synagro included documentation from the County Environmental Health Department's "odor patrol," which monitors foul odor complaints.

Contact staff writer Agnes Diggs at (909) 676-4315, Ext. 2621, or adiggs@nctimes.com.

CALIFORNIA - FEBRUARY 7, 2001 - SLUDGE VICTIMS WIN SMALL CLAIMS LAWSUITS AGAINST SYNAGRO TECHNOLOGIES. SLUDGE ODORS BURNED EYES, BURNED NOSES, BURNED THROATS. ODORS PERMEATED HOMES, CLOTHING AND LIVES.

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#### CALIFORNIA - CORONA - VICTIMS SUFFER NAUSEA, DIARRHEA, HEADACHES, HOARSENESS, NASAL CONGESTION, SHORTNESS OF BREATH.

#### JANE LANGSTON, 24020 Lawson Road, Corona, California 92883 909-277-1431

Since I have been exposed to the emissions from the Synagro composting facility, I have suffered a great deal of adverse health effects, including nausea, headaches, hoarseness so bad my son says I sound like a man, nasal congestion and shortness of breath and diarrhea. My nose burns and my throat aches and burns.

My granddaughter raises golden retrievers, and her dogs have been experiencing eye infections. My cat also had an eye infection.

My daughter took my 8 year old grandson to the doctor because his nose is always running and he has constant coughing. My daughter told the doctor about the Synagro composting plant, and the doctor said that was a big factor in the child's illness.

There is a grammar school close to the sludge facility, and they have had a great deal of absenteeism because many of the children are suffering respiratory problems.

I was not part of the lawsuit against Synagro (in small claims court, which residents won)., But if there is another lawsuit against Synagro, I will be joining it.

#### CALIFORNIA - CORONA - VICTIM SUFFERS VIOLENT HEADACHES, NOSEBLEEDS, NAUSEA, VOMITING, DIARRHEA, BURNING NOSE, NASAL CONGESTION, SHORTNESS OF BREATH, COUGHING, THICK MUCUS.

#### STATEMENT BY DIANNA SCHRAMM, 23905 Lookout Lane, Corona, California 92883 909-277-8202

On September 19, 1999, at 4 a.m. my husband and I were awakened by the stench from the Synagro composting facility. The odor was so intense I couldn't lift my head off the pillow. Since then I have been suffering violent headaches (and I am a person who never got headaches). I have a vile, metallic taste in my mouth. My eyes, nose and throat burn.

I called Riverside County at 4:30 a.m. (They have a telephone line for odors.) I finally reached an environmental health official from the county at 8 a.m. I told him how bad the odor was. He said to me, "Dianna, get out of your house. Go to the mall, the library or go to a movie ... but get out of that house."

We have winds blowing every day here. You can see the dust blow down off the mountain from the composting facility towards us. Synagro has over 200 acres up there. They have big piles on sludge on 3 pads. There is so much, they are not even turning it. They have another pad -- number 5 -- where they have had sludge sitting there since 1989. It was a mountain of sludge. They are slowly whittling it down and I think they are spreading it in Menifee, California. I believe we are being exposed to airborne pathogens.

I have been suffering continual nausea, vomiting, diarrhea, headaches, sore and irritated throat, burning in my nose, nasal congestion every day of my life since this started, shortness of breath, and occasional bouts of thick, choking mucus. My husband and I never had nosebleeds until this composting facility moved in and we were exposed to the sludge emissions. I have a persistent cough which sounds terrible, which I cannot get rid of.

I had 5 horses on my property and I never had a fly problem. But when Recyc started with their processing facility we were plagued with swarms of flies. My horses had fly bites and their throats welled up and they couldn't swallow. The horses had diarrhea so bad it was squirting out. The vet said some kind of airborne viral or bacterial infection got in my horses and killed the flora in their stomachs and caused this tremendous infection. My vet told me to get out of here.

I was told by Mr. Damian of Riverside County to shut up and stop talking about people suffering health problems from the sludge. The stink was so bad around Christmas that Mr. Fanning of the local health agency told me to make alternative plans for the holidays (away from

my home)! Health officials from Riverside County have told me they would not live where we are living. I have been sick for the past 2 years.

A gentleman planned on building an industrial complex in the area. Synagro went to the county officials and requested that they attach to his permit an odor easement .... so that his tenants and employees could not complain about their odors. He was very mad.

Their vile emissions have trespassed onto my property. They have violated me and violated the sanctity of my home. I went to a meeting of county officials and asked them, "How dare you keep me a hostage in my own home?"

I have a girlfriend who does VA/FHA property appraisals. In California, if the appraiser smells a noxious odor, they do not have to complete the appraisal. They have denied me the right to sell my own home. One of the county officials told me, "You can still sell it conventional." I said, "How dare you take away my rights. You are despicable."

I have a statement from a Realtor that says I have to disclose anything within 3 miles which could adversely affect my property. So I have to disclose this composting facility and I am going to have a hard time selling my house.

After Synagro's appeal of the small claims odors lawsuit (which they lost) is decided, I am considering suing Riverside County for permitting this to happen to us .... our sickness and the devaluation of our home.

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Local News Front State News Digital Extra Weather Comion Attely Strety

#### Local News - Corona

#### Sludge plant ruling upheld

The 27 Corona-area neighbors had asked for \$5,000 but were awarded \$1,000 apiece.

#### 11/10/2001

By ADRIANA CHAVIRA THE PRESS-ENTERPRISE

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Residents are entitled to compensation for the nuisances caused by a sludgecomposting plant near Corona, a court commissioner ruled this week. But the amount awarded Wednesday on appeal is one-fifth of what was originally granted.

In a ruling for 27 residents living near the Synagro plant south of Corona, Riverside County Superior Court Commissioner Joan F. Ettinger upheld an earlier court decision granting the plaintiffs compensation, but she reduced the amount of the award to \$1,000 per person.



The residents last year filed separate small-claims lawsuits against Synagro Composting Co. of California, claiming the facility was a threat to their health and lifestyle. Another court commissioner awarded each resident \$5,000 -- the maximum allowed in small claims cases -- and Synagro appealed the February decision.

Although the award is smaller than the original amount, residents see it as a victory against the company, which they say has not been a good neighbor.

"I'm just glad they're continuing to see we're impacted by this," said plaintiff Becky O'Rourke. Each plaintiff also will receive \$20 in court costs plus \$150 for attorney fees, bringing the total amount against Synagro to \$31,590. Under the earlier \$5,000 award, Synagro would have paid more than \$135,000.

The company cannot appeal this second judgment.

"Synagro doesn't agree with the decision," said Richard D. Marca, the lawyer representing Synagro in the small-claims lawsuits.

A seven-day trial on Synagro's appeal included testimony from a county employee called out to sniff the air at Synagro when neighbors complained and a psychiatrist who said any claims of illness were psychological manifestations. The commissioner also toured the Temescal Canyon neighborhood and the plant during the trial.

The plaintiffs said the amount was small compared to the yearlong legal battle they endured. But they say they are glad that the commissioner penalized Synagro.

"We just got to keep hitting them in the pocketbooks," said resident Gena Osborne, one of the plaintiffs.

Reach Adriana Chavira at (909) 737-1366 or achavira@pe.com

#### CALIFORNIA - RIVERSIDE COUNTY - SUPERIOR COURT UPHOLDS LOWER COURT RULING: SLUDGE COMPOSTING ODORS CONSTITUTE PUBLIC NUISANCE $-54^{-7}$







#### JANUARY 18, 2001 RIVERSIDE, CALIFORNIA - SLUDGE VICTIMS: CHILDREN GETTING SICK AND SUFFERING HEADACHES, NOSEBLEEDS

## Residents complain sludge making them sick

What We Do

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Keyword Scandle

 WYATT HAUPT Jr.
 Search

 Staff Writer
 RIVERSIDE ---- Scores of children and adults from Menifee

 Valley pleaded with the Board of Supervisors on Tuesday to halt the dumping of sewage

 sludge near their homes because it is making them ill.

The residents of the neighboring communities of Menifee and Winchester said the dumping has been going on for years. They made their comments during the board's weekly meeting in downtown Riverside.

"Stuff is being dumped by my home and it makes me very sick. Please help all of us make it stop," said Shane Womboldt, a 10-year-old Winchester resident.

Fellow Winchester resident Dylan Halsey, 7, said he is often sickened by the odors coming from the sludge that is produced from human waste and used to fertilize land in the area. He complained of getting several nosebleeds and headaches.

"Please make it stop," Halsey said.

But undercutting their cause is an operating permit from Riverside County, Supervisor Bob Buster said, that allows the spreading of the sludge to take place. Buster called for an immediate look into the claims by the residents and asked for a report to be compiled on the issue.

The sludge is produced by the Syangro Technologies composting plant in Temescal Canyon and spread by the company on up to 15,000 acres in Southwest Riverside County for turmers. Farmers are required, under a county ordinance, to till under the sludge within 24 hours.

But Buster said that may not be happening, and some of the sludge is lying dormant.

"So it is ending up on land that is designated as farmland even though it is not being farmed," Buster said.

Supervisor Jim Venable, whose district includes Winchester, said he has met with representatives of the Riverside County Farm Bureau to address the problem. He said an ordinance is being crafted to try and resolve the situation and should be ready for the board's review in January.

"They are also concerned that manure in some area is being spread way too thick," Venable said.

Winchester resident Margie Newman said she's aware that the sludge dumping is legal, but still wants it stopped.

"Our children are deathly ill," Newman said. "It is so amazing how everybody is for the environment, yet out there we are being poisoned."

Five-year-old Menifee resident Dominic Geges agreed.

"It makes me sick," he said.

Contact staff writer Wyatt Haupt Jr. at (909) 676-4315, Ext. 2615, or whaupt@nctimes.com.

#### Hillibuay, Louiser,



Subge on a field next Manifee and Marjanian roads <u>has caused</u> some chuidren who play there to wear masks, At left, Alethea Geges, To stands with her mother Athena, brother Dominic, 5 and sister Ans, 7. At right, Shane Womboldt, 11, Dylan Halsey, 7, and Cody reasey, 8, stand with their grandmother, Margie Newman. Domas Kelsey / The Press-Enterprise

Sludge blamed for Inland ills Muck came from Orange County

#### By David Daneiski and Michael Fisher The Press-Enterprise

Sewage sludge containing illegally high levels of germs was spread on thousands of acres of Riverside County farmland, much of it near housing developments and ranches, federal officials said.

The sludge was applied to fields over a 16-month period ending last spring. Not only did the sludge contain more contaminants than allowed, but the fields were not adequately posted with signs warning people to stay out, according to the U.S. Environmental Protection Agency.

Many of the affected fields are between Hemet and Temecula in the French Valley-Menifee-Winchester area, where residents blame sludge-spreading for nealth problems such as nosebleeds and respiratory ailments.

"Two years ago, they started dumping (sludge) down the street from me," said Margie Newman, who is raising three grandsons at her home in Winchester. My grandsons started having rashes. They couldn't breathe.\*

A sewage-treatment plant serving coastal Orange County supplied the sludge, and a Texas-based company applied it to 75 fields in Riverside and San Diego counties. Both were found in June to be in violation of the federal Clean Water Act. Representatives of the treatment plant in Dana Point and the sludge distributor, Synagro of California, said they stopped distribution of the improperty treated, sludge last spring after an EPA inspector identified the problem, it had been applied to at least 3,300 acres in Riverside County, according to EPA records.

The sludge had not been treated enough to meet agency standards for viruses, bacteria and other infectious particles. However, the increased risk of contamination was slight, according to the EPA.

In June, the EPA ordered Synagro and the sewage-treatment plant to deter public access to the sludge.

Yet in a November inspection of the fields, EPA inspector Lauren Fondahl found that children and dogs were walking in a buffer zone less than 50 feet from sludge-laden fields along Scott Road.

Synagro, under the EPA order, has until next week to submit plans to keep people off the fields.

Brent McManigal, senior operations director for Synagro's Southern California office in Corona, said the company will boost warning signs to 3-foot-by-2-foot posters.

Warning signs apparently had been blown down when Fondahl inspected the fields, and the company now is careful to ensure the signs stay up, McManigal said. Residents contend few signs were ever posted.

Fondahl, contacted at EPA offices in San Francisco, said the clash of farming and housing is raising concerns about the chance of people coming in contact with the sludge, which contains germs that can cause illnesses.

The risk of illness is higher for people with weakened immune systems because of AIDS, cancer or organ transplants.

"Someone who is immune-compromised could have problems," said Fondahl, an environmental engineer.

Residents say the sludge on the fields near their homes is making them sick.

"We've had sore throats, sore throats with blisters. bloody noses, rashes," said Athena Geges, whose

CALIFORNIA - RIVERSIDE COUNTY - SLUDGE VICTIMS SUFFER SORE THROATS, SORE THROATS WITH BLISTERS, BLOODY NOSES, RASHES, HEADACHES, DIARRHEA, ASTHMA AND RESPIRATORY PROBLEMS, COUGHS, FUNGUS IN THE LUNGS AND BLOOD INFECTIONS. family has lived in the shadow of Bell Mountain in Menifee for 11 years. <u>"My husband never gets sick, and</u> he has been sick for three weeks now."

Other residents in Winchester, Menifee and surrounding areas say they are experiencing similar symptoms, as well as headaches, diarrhea and respiratory troubles. The illnesses cropped after sludge was spread on neighboring properties, they said.

Armed with camcorders and disposable cameras, some residents, including Geges, travel the dirt roads of the rural area, taking pictures of fields where sludge was spread or of football-sized lumps of muck lying on the roadside.

They worry that contaminants from the studge will seep into wells, the chief source of water for many of the ranches. Some make their children wear surgical masks when they play outdoors. And they swap stories about friends and neighbors who have health problems.

They said county officials are ignoring their cries for help. And they said they doubt a recent county report concluding that treated sludge spread on fields poses little health risk.

"There are a lot of people who are concerned about this," said Janine Matelko of Menifee. "I will put myself in front of those sludge trucks if they come near our schools... We're mama bears trying to protect our young."

Matelko said that her son Matt. 11, who suffers from an irregular heartbeat and other ailments, has struggled with worsening health problems since the family moved to Menifee two year ago. She and her husband believe his illnesses are linked to airborne contaminants from the sludge.

"It has become a public nuisance and has affected the quality of life of people and their health," said her husband, Mark Matelko.

Synagro's McManigal said his company tested the sludge in the fields and found no pathogens that could cause illness.

"It boils down to a regulatory issue, not a health issue," ne said.

The problem sludge had been certified by the Orange County sewage-treatment plant, which is owned by the South East Reclamation Authority, serving Dana Point, Laguna Hills, Laguna Niguel, Mission Viejo, San Clemente and other coastal communities in Orange County.

Fondahl found that sludge was going through a

"digester" for 10 to 11 days instead of the required 15 days, and tests indicated a too-high level of pathogens. The digestion process reduces the amount of pathogens in the sludge.

The plant is now having Synagro composit the sludge, said Tom Rosales, assistant general manager of the reclamation authority. Heat from compositing kills germs in the sludge.

The reclamation authority pays Synagro \$25 per ton to take away the sludge, Rosales said. But he expects the price to go up because it is becoming more difficult to find fields for the sludge.

Some areas, including Kern County, are banning pathogen-carrying sludge from agricultural fields, so more of the waste is being dumped in Riverside County, said Damien Meins, assistant director of the Riverside County Environmental Health Department.

"Riverside County is becoming one of the few remaining places that still allows this material," Meins said.

Staff writer Laurie Koch Thrower contributed to this report.

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#### EPA OFFICIAL SAYS INADEQUATELY TREATED SLUDGE EXCEEDS ALLOWABLE PATHOGEN LEVELS

**THURSDAY, MARCH 1, 2001** 

### SLUDGE USE SPREADING IN REGION - INLAND RESIDENTS SAY SEWAGE FERTILIZER IS MAKING THEM SICK, DESPITE ASSURANCES IT IS SAFE

## By Bavid Danelski and Laurle Koch Thrower The Press-Enterprise

Use of sewage studge as fertilizer has tripled in six years in western Riverside County, making the area a battleground in a national public-policy dispute over the waste we all produce.

Many residents who live near sludge-laden fields between Temecula and Hemet say the stuff smells bad and makes them sick. Sludge advocates say an essential, Earth-friendly recycling program could fall victim to hysteria by those can't get past the "yuck factor."

No studies have proved that sludge spread on fields causes illness, sludge advocates say, and a recent Riverside County Health Services Agency report described the health risk as "negligible." Still, people should not touch the sludge, federal officials say.

The U.S. Environmental Protection Agency has ordered an 18-month study to determine if its limits on germs and toxic substances contained in sludge are strict enough to protect people.

In Riverside County, Supervisor Bob Buster wants to ban sludge from county-owned land leased to farmers.

Some say it's a classic clash between farms and homes, spurred by a need for Southern California's growing population to move east. Tract homes and sludge-laden fields make poor neighbors.

> Other California counties, including agricultural centers like Kern and San Joaquin counties, are barning lower grade – Class B – studge because of concerns about health and image, leaving fewer farms to take the stuff San Bernardino County, which has less farmland, hasn't had any requests to spread sludge, said Dan Avera, chief of Environmental Health Services

Riverside County records show that the amount of Class B sludge, much of it from Los Angeles and

Orange counties, tilled into county farmland has more than tripled in six years. It is used mainly to grow wheat and barley used for animal feed.

The sludge comes directly from sewage-treatment plants after it has been treated for 15 days as required by the EPA. It has more germs than Class A sludge, which is mixed with other materials and composted at high temperatures, killing the germs. Class A also costs roughly twice as much to process.

The sludge boom here can be attributed to population growth, geography and marketing, say county and sludge industry officials.

For Southern California's sewage-treatment plants, Riverside County offers the nearest sludge-taking farm community.

Synagro, a major sludge recycling and transport company, has aggressively marketed the sludge to Riverside County farmers, who get it free or are paid by the company if they work it into the fields themselves.

Riverside County officials recently issued a report concluding that studge-spreading poses little health risk to the public. Nonetheless, they say they are concerned about complaints from residents who live near fields.

> Buster said the county should either ban the spreading of sewage sludge or require it to be injected underground.

"I think the county itself should set an example," Buster said. "This county should begin to respect itself, and no longer should we allow ourselves to be the dumping ground or utility basement for Orange County."

The Board of Supervisors is expected to talk about the issue at its next few meetings.

What to do with studge is a contentious issue elsewhere in the nation.

In Pennsylvania and New Hampshire, families have blamed sludge for the deaths of a boy who rode his bike on fertilized hills and a young man who lived near a field where sludge was spread. Some researchers are concerned that heavy metals leached from sludge could poison farmland, crops and groundwater.

The EPA has asked the National Academy of Sciences to evaluate whether the agency's standards for the amount of bacteria, viruses and toxic materials allowed in sludge fertilizer adequately protect public health.

Federal officials commissioned the study "because of the concerns raised by a number of parties that there

had been risks that had not been identified," said Lauren Fondahl, an EPA environmental engineer.

**NOSEBLEEDS, STRANGE RASHES, CANCER AND BREATHING PROBLEMS** VICTIMS BLAME SLUDGE FOR RESPIRATORY PROBLEMS, FLU LIKE SYMPTOMS CALIFORNIA - RIVERSIDE COUNTY - MARCH 1, 2001 -- 100 RESIDENTS VENT COMPLAINTS "WE ARE A FAMILY THAT NEVER GETS SICK" (BEFORE THE SLUDGE)

County under contracts with sewage-treatment plants. maintains that sludge is safe. Sludge has an inherent image problem, even though it is essentially the same as animal manure, said Ross Patten, chairman and chief executive officer for Houston-based Synagro.

"It is obviously a perception issue," Patten said.

Synagro officials point to the county report released last month that surveys health literature and concludes that health risks are slight – even for workers hauling and spreading the sludge.

A 1996 study for Texas AM University found "no significant amounts" of airborne pathogens from a West Texas ranch where sludge hauled from New York City covers about 18,000 acres. Researchers concluded that bacteria and viruses from the fields pose fittle risk to residents of the nearest town, four miles away. Patten said that his employees, who work with sludge daily, as well as thousands of sewage-treatment plant employees don't get sick from sludge.

Yet people with compromised immune systems, such as people with have AIDS or are undergoing chemotherapy, or with severe allergies to the contaminants in sludge could be at risk, according to the county's report. Residents living near the Riverside County fields say illness has increased since the sludge appeared in their neighborhoods. More than 100 crowded into a school auditorium in Menifee last week to vent their complaints. They blame sludge for respiratory. problems, fluike symptoms, nosebleeds and strange Linda Febbo, a Mentiee resident for 10 years, said that in three years, her family has suffered a string of illnesses, including cancer and breathing problems.

rashes.

"We are a family that never gets sick," she said.

It all sounds familiar to David Lewis, a research microbiologist with the University of Georgia who has challenged the EPA's sludge safety standards. <u>He has</u> studied neighborthoods around the nation where residents commerind of sludge sites complained of fluike symptoms a few days after the waste was spread on heids.

Lewis contends the gases the sludge gives off can

weaken a healthy person's immune system, much the way fighting off severe allergies can make a person more susceptible to viral of bacterial illnesses.

The gases can irritate eves and skin and damage mucous membranes, Lewis said. Weakened tissues could be vuinerable to bacteria and viruses.

"As soon as you smell the sludge ... you're already geting wind carrying all of these lowers of pathogene that are in the collective sewage sludge of hundreds of thousands of people." Lewis said

Researchers with the National Institute of Occupational Safety and Health, the workplace safety arm of the Centers for Disease Control, said that Class B sewage can pose a health risk to sewage-treatment workers, who are exposed to E.coli, salmonella and other bacteria and vituses. A 1997 Cornell University study, "A Case for Caution," said that farmers and siudge handlers who follow EPA gudelines may be putting the pulpica ar risk. The EPA's gudelines are based on assumptions, not facts, and do not take into account how a combination of germs and metals might work together to increase health risks from studge, Cornell researchers wrote.

Several nations have tougher restrictions on studge than the United States does, the report said.

The EPA has disputed the Cornell study.

The best way to eliminate the risk, the National institute of Occupational Safety and Health report said, is to theat the studge to Class A standards, thus kitling the germs. One way to do that is to mix sludge with green waste -leaves, grass, straw, wood chips -- and compost it. The process cooks the waste and kills the germs.

Composting, however, doubles the costs of getting rid of sludge, said Synagro's Patten.

And that alternative has its drawbacks, too. Synagro's compositing plant in Temescal Canyon has been the center of a storm of complaints from residents who object to the odor.

But sludge has to go somewhere, Patten said.

It can no longer be dumped in the sea. And California does not allow it to be put in landfills, he said.

Sharon Letts, who produces and serves as host of a gardening show on public-access cable television, said using sludge as fertilizer is the best way to deal with it. "We don't have a lot of options out there," said Letts, of

Canyon Lake. "We need to get rid of our wastes creatively. "The citizens might be overboard. If their kids are playing in it."

Sludge offers a free, rich source of fertilizer for farmers. It boosts yield of animal-feed crops and, in the Southwest, cotton. In the Pacific Northwest, sludge makes trees grow faster, boosting lumber yields.

"This is such a beneficial reuse. I wouldn't want this material to go anywhere else," Patten said.

Andy Domengoni, who uses treated sludge on his fields in Winchester and Menfree, said the doesn't agree with his neighbors who think sludge is a health agred and takes comfort in the fact that county health officials and the federal EPA allow it.

"I think the EPA is pretty strict myself," Domenigoni said.

His workers plant crops in the sludge and haven't reported any unusual itinesses, he said.

Domenigoni began using Class B studge four years ago, prompted by the rising costs of oil-based fetilizers. He credits the nitrogen-rich material for increasing the protein count in his harvested wheat, which means it fetches a higher price. "This is really a bonus for farmers in these economic times," he said.

County Supervisor Jim Venable, whose 3rd District includes much of the familand where studge is used, said he doesn't support burdening famers with a ban on Class B studge, but his office is working on a compromise. "I understand the residents, I really do," Venable said. "but I also understand there's more than one way to skin a cat."

David Danelski can be reached by e-mail at odenelski@pe.com or by phone at (909) 782-7569. Laurie Koch Thrower can be reached by e-mail at <u>ithrower@pe.com</u> or by phone at (909) 248-6130.

#### CALIFORNIA - MENIFEE - VICTIMS SUFFER HEADACHES, SORE AND IRRITATED THROATS, BREATHING DIFFICULTIES INCLUDING SHORTNESS OF BREATH, ASTHMA AND WHEEZING, NOSEBLEEDS, DIARRHEA, RASHES, AND TERRIBLE FATIGUE

STATEMENT OF TINA CHILDERS, 28318 Jenny Lane, Menifee, California 92584 909-679-1582

They started spreading the sludge about  $1 \frac{1}{2}$  to 2 years ago, and that is when all the sickness began. The sludge is about 500 yards from our home.

I have 3 girls, ages 15, 12 and 5. Our 5 year old, Autumn, got really sick with a pneumococcal infection. She has been sick for the last 2 years, in and out of the hospital. She gets chronic virus infections that they cannot treat. Within a few minutes her fever can spike up to 107 degrees. She will be on antibiotics for the next year... the infection stays with her all the time. If massive doses of antibiotics don't work within 2 days, we have had home nurses in and out of the house for the past 2 years who put her on IV antibiotics for 14 day periods. I won't admit her to the hospital for fear of contracting other infections because she is very susceptible. Autumn also has had seizures, but the doctors cannot tell us why.

Medical problems my daughters and I have suffered include headaches, sore and irritated throats, breathing difficulties including shortness of breath, wheezing and asthma, nosebleeds, out of control diarrhea, rashes and coughing up thick mucus. My two older girls have had asthma real bad for the past couple of years since they started spreading the sludge. The girls never had it before and there is no history of asthma in my family. The girls have been on breathing machines. I give them Clariton and they have to use inhalers.

My husband and I are suffering terrible fatigue. I am suffering from mononucleosis and have been getting B-12 shots. I am so tired and fatigued that I cannot function.

My husband was always very healthy -- never went to the doctor. But then he had a tumor on his leg. He had it removed -- it was non cancerous. But within 12 days he became so ill he had to go back to the hospital. They found he had a staphylococcal infection. He lost a lot of weight, he turned gray, he thought he was going to die. He was very sick and out of work for 2 months.

We keep getting sores on the tip of our noses. My taste buds feel like I burned them. There is a lesion on the tip of my tongue which is turning white. The doctors did a culture and found it was a staphylococcus infection. The doctor said to me, "where are you working? You are breathing this stuff into your mouth!"

I have had a headache every day for the last 2 years since the sludge came. One day all our neighbors were outside talking and one mentioned "my husband has headaches". I said, "We have headaches, too". It turned out EVERY ONE of our neighbors is suffering from headaches.

We went to Arizona for a while and we all felt better. My husband has been working in Arizona for 3 months now. He works 12 to 14 hours a day and he is fine physically. But within 24 hours after he comes home, he feels extremely tired and fatigued.

MY brother's girlfriend stayed with us for 12 days. She has a little boy, going on 2 years old. He was playing outside all the time he was here. Then he started running a fever. She thought he was teething. After they got home, the child developed blisters in his mouth and down his throat. They are like canker sores. She rushed him to the doctor, and the doctor said he never saw it before.

(I told Tina we are hearing about rashes and mouth blisters from many sludge victims, and we think it may be hand, foot and mouth disease, which manifests itself as a rash with mouth blisters and is caused by coxsackievirus, a pathogen EPA says is in sludge.)

TINA said her neighbor, Joan Leach, down the street runs a day care facility .... and many of the kids there had hand, foot and mouth disease last year!

This sludge is coming from Orange County where there is much heavy industry. They are sending the sludge containing the chemicals and metals to the rural areas. Tina said the sludge was illegally dumped on a parcel of 440 acres in Riverside County. It was tested and found to be "contaminated waste" -- they couldn't get it to the right temperature (she is probably referring to pathogen levels.)

Tina says they have hired an attorney .... they have to stop this sludge dumping. The family is considering selling their house and moving to get away from the sludge.

(Telephone statement taken by Helane Shields on 5/1/01)

#### STATEMENT BY ATHENA GEGES, 29065 MERJANIAN ROAD, MENIFEE, CALIFORNIA 92584 - 909-679-0176

We have had constant health problems since they started spreading sewage sludge near our home.

We have four children. My son has asthma. When they first started dumping the sludge in the rain, he got very sick. All my children had sinus infections. My 5-year old got pneumonia.

We have suffered headaches, sore throats with blisters, diarrhea and intestinal cramping.

My husband was sick for 4 months straight, with coughing and bronchitis. I just got more antibiotics .... I have an ear infection.

We believe out immune systems may have been weakened because our family has suffered continuous health problems since our exposure to the sludge.

Telephone statement taken by Helane Shields on Saturday, April 14, 2001.

# stopped **County residents want sludge use**

# WYATT HAUPT

## Staff Writer

RIVERSIDE ---- Scores of Southwest Riverside County schools. hepping them fight against the use of sewage sludge on farmland near their homes and residents told the Board of Supervisors on Tuesday that the board has done a lousy job of

More than a dozen property owners from Winchester to Corona pleaded, yelled and even slammed their fists against the speaker's podium demanding that supervisors disallow the spreading of sludge, saying it's having a negative effect on their health and ground water. The residents appeared before the board during its weekly meeting in downtown Riverside.

pounded her fist into the podium that stands just in front of the board. "I demand that you take responsibility for this," Diana Schraman of Corona said, as she

Schramm said. "You people have had this studge dumped in front of my home for 11 years. Staff writer Agnes Diggs contributed to this report. Contact staff writer Wyatt Haupt at "I am holding this county 1,000 percent liable for my health and my husband's health,"

delayed two weeks until Dr. Gary Feldman, county director of Public Health would be has been treated, but can still contain low levels of pathogens. However, the proposal was Buster that calls for more stringent guidelines to be used when applying the studge, which The residents initially gathered Tuesday to support a recommendation by Supervisor Bob available

studge over several thousand acres of western Riverside County for agricultural purposes. manufactured by Temescal Canyon-based Synagro West Inc. and used by regional farmers Menifice resident Cresha Gernandt said the use of "Class B" biosolids ---- processed shudge

"I don't find bloody noses normal for children unless they get socked in the nose," Gernandt said. "I don't want my children growing up getting bloody noses and coughs. It's not fair to us, the kids at the school and the parks ... there should be a red flag here.

shudge may contain E. coli, salmonella and shigella, which can cause dysentery. However, the agency has approved the sludge for use as fertilizer. a report by Feldman, despite a warning from the Environmental Protection Agency that the But county health officials have downplayed the effects of sludge on residents, according to

diseases and is a problem more related to quality of life than a health bazard because of the Feldman determined that the shudge presents a negligible risk of the transmission of the smell the studge omits.

surrounding counties. One way to cut back on the use of the sludge, Buster said, is to stop treating sludge from

we accept more and more sludge. About 80 percent of it is (from) out of county." "It looks like it's a supply push rather than a demand pull," Buster said. " Our concern is that

(909) 676-4315, Ext. 2615, or haupt@nctimes.com

2/28/01

**SLUDGE SPREADING -- CITE "NEGATIVE EFFECT ON** 2001 - PROPERTY OWNERS DEMAND END TO "BLOODY NOSES AND COUCHS" **CALIFORNIA - RIVERSIDE COUNTY - FEBRUARY 28**, THEIR HEALTH AND GROUND WATER" .....
### CALIFORNIA - MENIFEE - VICTIMS SUFFER CONSTANT HEALTH PROBLEMS INCLUDING DIARRHEA, HEADACHES, RASHES, PERSISTENT CONGESTION, BLISTERS ON THEIR FINGERS, TOES AND BACK OF THROAT.

STATEMENT BY JANINE MATELKO, 32905 Murrieta Road Menifee, California 92584 909-679-3900

Since they started spreading sludge in our area two years ago, we have suffered constant health problems including headaches and rashes.

When they first started dumping the sludge we all had stomach problems and constant diarrhea.

My son suffers from persistent congestion which can go on for up to 4 weeks.

My son has suffered rashes. The doctor kept saying it is an allergy. But they did 65 allergy tests, but found no allergy.

I am under a doctor's care -- my red blood cells are going down and the doctor is watching my blood count.

We have been threatened by the man spreading the sludge.

(On 5/7/01 I received the following email from Janine: "My son just went through weeks of blisters on the back of his throat. Myself and others have had what we though were wart like blisters on our fingers, toes, etc.")

(Telephone statement taken on 4/17/01 by Helane Shields and email received 5/7/01)

Use of human waste on crops causes a ruckus

November 08, 2000

FRESNO – If it weren't for the constant shipments of human waste from Southern California's crites, Kern Courty farmer Shaen Magen arys his farm would dry up and blow away.

Magen grows barley, wheat and milo for animal feed on 7,000 acres he describes as "highly alkaline and really very marginal" -- so marginal, in fact, that without regular truckloads of treated sewer shudge to be used as fartilizer, the land would be useless, he said.

Mcgan is paid roughly \$25 a ton to dump the sludge on his land.

"The only reason we survive here is that we get a fee for removing the sludge and morporating it on our farm. We also make our money out of the crop we grow because we get it subsidized by free fertilizer," Magen said.

The growing use of urban sewage as fertilizer on industrial farms, however, is unpopular in the San Joaquan Valley. Over the past two years, several county governments have waged legal and political buttles against a few local farmers and Southern California saritation districts over where and how the stuff is used.

Kern, Frresso, Tulare and Kings counties have all either enacted or are drafting ordinances intended to ban the practice or tighten regulations.

The counties, which account for roughly a third of the state's \$28.4 billion annual agricultural output, fear a consumer backlash if word gets out that effluent from Southern California is being used to grow their crops.

"Folks are concerned that the perception would be that Kern County crops (intended for humans) were poisoned with sewage studge. We know that isn't true, but that is the concern poople have," said David Price, who as chief of the Kern County Resource Management Agency helped draft the new rules.

Since 1994, federal and state regulations have allowed the use of sludge, also called biosolids, to grow animal feed or fiber crops, such as alfalifs or cotton. Regulations govern bow often and how much studge can be used, to what extent it can be contaminated with heavy metals and other industrial waste, and what levels of puthogens are acceptable.

The sludge is fiftered from urban sewers and siphoned into vats where it's cooked to kill most of the viruses and bacteria. The result is a thick black muckish sludge that's loaded into trucks and driven to composting sites, landfills or Central Valley farms.

In an effort to fight the "sewage farm" perception, Kern County enacted an ordinance to heat all but the most highly treated, cleanest shudge by 2003. Any shudge used in the county after that will have to be composted with so-called green waste such as tree trimmings or lawn clippings.

But composing adds costs and reduces the studge's usefulness as a soli treatment or fertilizer.

SLUDGE ON HIS LAND

CALIFORNIA - KERN COUNTY - NOV. 2000 - FARMER PAID \$25 A TON TO DUMP

To protect their studge program, Orange and Los Angeles counties, the city of Los Angeles, the California Association of Sanitation Agencies and a handful of farmers who dump the studge sued Kern County. "We don't like being in fights with other county agencies. We only did it as a last resort," said Bob Horvath, chief of technical service at Los Angeles County Samitation District No. 2. "It's a difficult situation if one county after another wants to set up a whole new set of nules or adopt bans." In response, Kern County and a group of farmers filed a countersuit claiming the county abould have the right to make its own land-use decisions without undue influence by outside agencies of governments.

"There's a number of scientists who don't believe it's safe, who don't believe the current rules are adoptate to protect the hand, water or air," said Jeff Green, a lawyer for the organizally operated Grimway Farms, one of the nation's largest carrot growers and a plantiff in the counteraut.

"If you're not sure if it's safe, it's best to be conservative," Green said.

Kern County takes more shudge than any other county -- about 30 percent of the shudge generated statewide, or roughly 250,000 tons a year, Price said.

Some of the remaining sludge is sent to farmland in Kings County, some is composted and sold to the home gardening crowd and some is simply buried in landfill sites around the state.

Fresso County, where no studge is currently being dumped, is considering a ban similar to Kern's; Kings County wants to tighten regulations; and Tulare County's application process is no complicated that farmers say it keeps poople from even trying to dump sludge there. All of the counties are anxiously awaiting the results of the legal battle over Kern's ordinance. A preliminary ruling issued by a Tulare County judge uploads the Kern rules. A final decision is expected within the next few weeks.

If the ordinance stands, Southern California officials despair of finding another location for what they see as an efficient waste recycling program.

"There's an integrated relationship here -- food comes from the valley to L.A., it gets converted back into sevage and there you go, there's perfect recycling. It gets sent back to the farms were it originated," Horvath said.

As far as the health and safety issue goes, farmer Magen is confident the studge isn't going to hurt anyone. "There are many regulations right now that stop you from putting on biosolids where the water table would be contaminated. It's a very safe product -- I've been fussing with it for 15 years and I've never soon anyone get sick," Magen said.

### CALIFORNIA - WINCHESTER - BLOODY NOSES, SEVERE BACTERIAL INFECTION, THROAT BLISTERS, POSSIBLE NEUROLOGICAL IMPAIRMENT, NAUSEA, HEADACHES, BREATHING DIFFICULTIES, SKIN LESIONS, THICK, HEAVY MUCUS, SEVERE FATIGUE

### STATEMENT OF SHELLY PFEIFER, 28925 MEMORY LANE, WINCHESTER, CALIFORNIA 92596 909-926-1298

We were first exposed to sludge when they spread it in fields near us about 2 years ago. It is less than 200 feet from my mobile home. We weren't aware of what was going on until the trucks starting coming into the fields in the middle of the night.

We are down wind. They were stockpiling it. My windows were open. I woke up with my nose burning and my eyes watering. It was like putting my nose over a bottle of ammonia. The smell stayed in my home ... we were gasping and trying to breathe. I thought about opening the refrigerator door just to get a breath of air!.

We had to keep all our windows shut. It got so bad I went to live at my son's house for a while. When we returned, we washed our mobile home, filters, fence, everything - in bleach.

My grandson is 4, almost 5 years old. He lived with me when he was first born. He was on a heart monitor -- he suffered from unexplained apnea. They did all kinds of testing but could find out what caused it or why he stopped breathing. I care for him now while his parents work.

After they spread the sludge, I explained to the manager about my grandson's health problems. He said since I was a nice lady, they would move the sludge stockpile to 1000 feet away from my home. But when I came home, the fields were totally covered with sludge -- it was coated over everything. They spread sludge there from August 2000 until about November or December 2000.

I am presently on the Biosolids Committee with the County Board of Supervisors. There are 4 property owners (I am one) up against 15 EPA/waste industry people -- all the people who are getting paid to endorse sludge spreading .... the county health officer, environmental officials, Riverside County agricultural commissioner -- all the top people.

At the first meeting I asked about the amine gases. Everyone sat there and went blank. There were no responses. I pulled out an  $8 \times 10$  pictures which I took in November 2000, showing the cloud over the sludge. There is a mountain behind the field and the sun tends to show it up more at certain angles in the morning and evening.

When I asked the EPA person about the amine gases, all I got was a blank stare. I told him I lived in Winchester for 23 years and I have never before seen this white cloud which hangs over the field.

A retired professor from Riverside College is on the committee. He said it looks like vapor or moisture release. I said this is different from a mulch pile which might steam on a cold morning. This white cloud appeared in August when they first started applying the sludge. The pile was sitting out there for 30 days or longer. They came in the middle of the night to add sludge to the pile.

In January 2001, my husband went outside to work on fencing for the property line. There was a pile of humber for the fencing ... residue which had been there for the past 2 years and had not been washed off. After a couple of hours of working with that humber, his throat started feeling thick. By the next day, the right side of his tongue was swollen and there were blisters on the back of his throat.

My husband said the right side of his head felt like it was swollen and tingly. My husband is never sick -- he hasn't been to a doctor in 28 years. After a week, I took him to the clinic. The doctor didn't know what was wrong with him and gave him antibiotics.

My husband got a sliver in his finger when he was out working on the pile of wood which had been sitting there for 2 years. He may have ingested a virus or bacteria if he put his hand in his mouth to try to get the splinter out.

(I told Shelly we are hearing from many victims suffering rashes and mouth and throat blisters. We are beginning to wonder if these people are suffering from hand, foot and mouth disease caused by coxsackievirus in the shudge.) Shelly said her next door neighbor had blisters all over his tongue and a real bad cough.

My husband is still coughing. He was knocked down and out. He was a strong man who does masonry work. It took him a couple of months to get better. He still suffers from coughing spasms. He is slowly recovering from the weakness and is started to get his strength back.

My husband, Dan, told the clinic doctor how they were putting sewage sludge next to our house and that it was blowing all over everything. The doctor looked at him like he was crazy and said " They don't do things like that!"

MY GRANDSON has these terrible bloody noses -- so bad it is like a hemorrhage. If he stays away from my house for a week, he doesn't have any bloody noses. But when he comes here, if we go outside, he gets them again. My grandson doesn't even want to go outside any more because of the smell. I sprayed all his toys and play gym with disinfectant.

The plastic chairs outside are getting brown stains. Even using bleach, I cannot remove the stains from the chairs.

I am aware of what we are being exposed to from the sludge, so I take vitamins to try to boost my immune system. But that white cloud over the sludge concerns me. I have 2 other neighbors who live within 200 feet of the sludged field who are home all the time. They both say the same thing -- it is hard to explain -- but when we breath those amine gases, it makes you lethargic. It interferes with our memory and concentration. We forget what we went into a room for ... what we were going to get .... it is starting to scare me.

I am a person who likes to get up early and live each day to its fullest. But since the sludge came, it has affected our concentration, memory, we are real tired, we have no enthusiasm for life. I believe our blood stream has been affected....possibly the oxygen level in the brain ... by these chemicals from the sludge which we are breathing.

Two years ago when they spread the sludge, we had an epidemic of cats dying. They got real skinny, they would meow and cry .... they could come over to my yard to die. At least 15 cats or more in our neighborhood died.

I have a neighbor who home schools her children. She though someone was poisoning the cats. She had two cats which were sick. She could only afford testing on one of the cats. The Vet tested the cat and found it positive for feline leukemia and feline AIDS. She had to have her cat put to sleep.

OTHER SYMPTOMS my husband and I have experienced include nausea, headaches, sore and irritated throats, hoarseness, runny noses, burning in the nasal area, shortness of breath and breathing difficulties. My husband suffered thick, heavy mucus and mouth blisters, and we both suffered from severe fatigue.

After the sludge was spread, little bugs crawled on my skin, making welts. My other neighbors also suffered this. (I told her they were probably "no-see-ums".) She said the lesion would scab up but then after a couple of weeks it would start itching again. I went to the doctor for it. He didn't know what it was and he gave me some ointment. We are all more prone to illness since our exposure to sewage sludge.

We own our mobile home outright -- no bills. But we are seriously considering walking away from everything we have to get away from the sludge. We don't want to go -- but our quality of life has been ruined. No person has my permission to expose my property and my family to what we have been suffering. I told each of the county commissioners that absolutely none of them have my permission to do this to us. I told them they cannot tell me there are no health effects.

(Telephone statement taken by Helane Shields on 5/1/01)

Statement by Mary Lima, PO Box 182, Winchester, California 92596 909-926-1208

Synagro first started spreading sludge around here last year. After they spread it I got sore throats and when I was standing outside with the wind blowing, I got so hoarse I lost my voice completely. They intended to put the sludge within 500 feet of my house, but they agreed to move it back to 700 feet because of my reaction to it.

THIS year they put the sludge on the field directly across the street from my house. They applied it right up to the edge of the road so the sludge is 30 feet from my home. A friend came over one day -- but he stayed less than 30 minutes because he got violently sick.

This year, in addition to the sore throats and hoarseness, I have developed blister or canker type sores in the back of my throat. Also, I itch constantly, and when I scratch the itch I get skin irritation. Other health effects I have experienced since my exposure to the sludge include diarrhea with cramps and abdominal distress, breathing difficulties and shortness of breath, burning in the nose and nasal congestion, nausea, severe headaches and fatigue. I have not sought medical treatment because I don't have health insurance. I work for a dentist ... there is only doctor and me ... so I have to go to work regardless of how sick I feel. Also, I know what goes down the drain.

To protect the health of my grandchildren, I don't let them come to my house. It is inconvenient, but I go to their home in Orange County to babysit. I don't have any pets, but the scuttlebut is that there are a lot of sick animals in this area.

Economically speaking, this is a low income area. I moved here after my divorce because it was affordable.

Synagro and the County health officials dismiss our illnesses as "psychosomatic" .... they say we are all a bunch of hypochondriacs. The farmer spreading the sludge says we don't know what our "quality of life" is because we have no quality of life in this area. They are killing us and they do not care.

(Telephone statement taken on 5/7/01 by Helane Shields)

### CALIFORNIA - WINCHESTER - VICTIM SUFFERS SORE THROATS, HOARSENESS, THROAT BLISTERS, ITCHES, DIARRHEA, BREATHING DIFFICULTIES, BURNING IN THE NOSE, SEVERE HEADACHES AND FATIGUE.

### CALIFORNIA - WINCHESTER - VICTIMS SUFFER SEVERE BLOODY NOSES, RASHES, STOMACH PAINS, NAUSEA, HEADACHES, SEIZURES, H. PYLORI.

### STATEMENT OF MARGIE NEWMAN, PO BOX 676, WINCHESTER, CALIFORNIA 92596 909-926-9065

TWO YEARS AGO when they first came to spread the sludge, I asked what it was. They said, "it is steer manure". I said, "my god, we are getting sick". They said, "You cannot be sick on steer manure". I said, "this has a chemical smell".

I live about a half mile from the sludge site. The wind blows in my direction. I have a video showing the sludge blowing right over the tops of the houses.

There is a fog over the field where they spread the sludge. When the sludging was first done, the fog was really blue. They have been sludging this area for 2 years in a row. Now the fog is kind of bluish-gray. When they first spread the sludge we had terrible flies and stench. We can still smell the gases. "When it rains, it is even worse".

We have had a great deal of sickness since they started spreading the sludge. When it first came, I couldn't hardly raise my head out of bed. I have headaches so bad it causes me to throw up.

I am raising 3 grandsons. After they spread the sludge, my grandsons all had rashes, stomach pains, headaches, and bloody noses so heavy they would soak through a hand towel. One of my grandsons has been diagnosed with migraines, which he never had before the sludge was spread.

One day, my grandson Shayne was outside playing. All of a sudden he fell to the ground; his eyes rolled back. We took him to the doctor to try to find out what caused the child's seizure but the doctor didn't know.

My husband had a heart valve replacement. About 2 months after his surgery -- right after they spread the sludge -- he had a grand mal seizure.

I have a swollen spot on the back of my head ... it feels like a bubble. The doctor took an X-ray (which didn't show anything). The doctor should have done a biopsy. It is painful.

I have had H. Pylori three times since they starting spreading sludge. (Helicobacter Pylori -- a bacterial disease which weakens the protective mucous coating of the stomach and duodenum, which allows acid to get through to the sensitive lining beneath. Both the acid and the bacteria irritate the lining and cause a sore or ulcer.)

After they harvested the wheat from the field that had been spread with sludge, they put sheep in to graze for about 3 or 4 weeks. About twenty of the sheep died. They did not remove the carcasses -- they tilled the dead animals into the ground. Also, one trucking company was caught dumping dead animals in the fields. All of a sudden it smelled like a slaughterhouse.

(Telephone statement taken on 4/17/01 by Helane Shields)



County bars sludge use near homes The public health director widens the buffer zone for the fertilizer to a half-mile.

BY LAURIE KOCH THROWER THE PRESS-ENTERPRISE RIVERSIDE

The county's top health officer banned sludge from most farmland effective immediately, the second defeat for Riverside County farmers and sludge distributors in less than a week.

In a letter dated June 7, public health director Gary Feldman increased the buffer zone between sludgefertilized fields and occupied homes, schools and public meeting places from 500 feet to a half-mile. The letter was sent to Synagro, which trucks the sludge from sewage treatment plants to farm fields in Riverside County.

The Board of Supervisors last week called for a ban on using sludge as fertilizer until a national panel of scientists completed its 18-month review of federal standards for safe handling of the waste.

The moratorium is still weeks away because it must go through the county's approvals process, unlike Feldman's order.

Widening the butter means that about 80 percent to 90 percent of the fields will no longer be eligible for sludge spreading, county Counsel William Katzenstein said.

In his letter, Feldman cited concerns raised nationally about whether the federal rules governing the handling of sludge are adequate and concerns that the rules are not enforced by the U.S. Environmental Protection Agency.

He also cited testimony "about perceived health effects articulated by residents living adjacent to blosolid land applications."

### Tuesday, June 12, 2001

Synagro officials responded to Feldman's action in a written statement. The company is unsure how the sludge restrictions will affect its operations, the statement said. The company also questioned Feldman's reversal on the sludge issue. In a report earlier this year, Feldman said sludge is essentially harmless to most people who live near fertilized fields.

For more than a year, residents of rural areas between Hemet and Temecula have complained of mysterious symptoms, including nosebleeds and respiratory problems. The residents suspect that germs and gases in sludge are responsible for their illnesses.

Feldman's wider buffer doesn't go far enough, said Margie Newman, a Winchester resident who has lobbled against sludge.

The stench from sludge can be smelled a half-mile away, she said. "You still can't have a barbecue."

Farmers who use sludge on crops want to keep using the material, which they get free from Synagro.

The wider buffer zone will be troublesome for farmers because some fields aren't that wide, said Darrell Connerton, executive director of Save Our Area Farming Environment.

He said county officials are bowing to sludge critics and driving farming out of the county.

"Basically, it's a knee-jerk reaction to a few people," he said.

Laurle Koch Thrower can be reached by e-mail at <u>thrower@pe.com</u> or by phone at (909) 248-6130.

CALIFORNIA - RIVERSIDE COUNTY HEALTH OFFICIAL WIDENS BUFFER BETWEEN SLUDGE AND HOMES, SCHOOLS AND PUBLIC MEETING PLACES TO HALF MILE - CITES HEALTH EFFECTS ARTICULATED BY RESIDENTS LIVING NEAR SLUDGE SITES June 18, 2001

Supervisor Jim Venable, Chairman Riverside County Board of Supervisors 4080 Lemon Street Riverside, CA 92502-1486

Dear Mr. Venable,

I am writing in regard to the proposed ordinance for Riverside County addressing sewage sludge land application. I have been contacted by John Watkins in the County Dept. of Environmental Health which has prompted me to send this letter.

It is interesting to note that the reported illnesses in Riverside County bear a strong similarity to those reported at a number of other sites across the US. There have been no epidemiological evaluations of the reported incidents of illness around the US. These are difficult and expensive studies to mount. To date there have been no significant investigation of any kind into these incidents. Investigations performed on such cases have been very cursory. They have not collected or analyzed data. They have also been undertaken by EPA or the Water Environment Federation, both of which have a "point of view." There is a real need for a credible and objective examination of these incidents. One suggestion your county might make would be to request that the CDC undertake such work.

I also think it is important to clarify that the risk assessment work done to date, as well as the previous National Research Council report (1996), do not address airborne exposure of neighbors to pathogens and toxicants. Thus, whether or not one agrees with the risk assessment (and a review of "The Case for Caution" which I co-authored makes it clear that there are a number of questionable conclusions in the EPA risk assessment), the risks posed by potential transport of pathogens and toxicants via air to site neighbors remain unassessed. The previous NRC report addressed the use of sludges in food crop production, they did not significantly examine neighbor/health issues. So the conclusions of that report are not helpful in assessing those risks.

I am enclosing a recent journal article which conducted a modeling study of off site movement of viruses and bacteria. The results suggest those living miles away are at low risk, but those living even 1000 meters from a site have a significant risk of disease.

Please feel free to contact me if I can provide any additional information that might be useful in your deliberations. The work conducted at Cornell in the area of land application of sludges over many years has led a group of us to conclude that a cautionary approach is warranted in order to protect health, agricultural productivity and the environment.

Sincerely,

Ellen Z. Harrison Director

ELLEN HARRISON, DIRECTOR, CORNELL WASTE MANAGEMENT INSTITUTE AND MEMBER OF NATIONAL ACADEMY OF SCIENCES/NATIONAL RESEARCH COUNCIL SLUDGE/BIOSOLIDS COMMITTEE SUGGESTS CDC INVESTIGATE HEALTH RISKS OF JUDGE EXPOSURE.

### OCREGISTER.com

### LOCAL Kings County rejects O.C. sludge

December 20, 2001

The Orange County Register

Orange County will have to stop sending its sewage sludge to Kings County.

The Kings County Board of Supervisors voted unanimously Wednesday to end the shipments in one year - unless the Orange County Sanitation District decides to deliver a higher grade of sludge. The district had asked for an eight-year extension.

The district is looking at various options, said Lane Baroldi, a district regulatory specialist. One of them is sending the sludge to Colton for processing into higher-grade "class A" sludge.

The "class B" sludge the district produces can be used on nonfood crops as fertilizer. But an ordinance passed by Kings County in January requires that class B sludge, which contains some diseasecausing microbes, be removed from all farmland by 2003. Kern County, another destination for Orange County sludge, has passed a similar ordinance.





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### CALIFORNIA - KINGS COUNTY - CLASS B SEWAGE SLUDGE BANNED AS OF 2003 KERN COUNTY HAS SIMILAR BAN

## (ings Co. biosolids rule upheld

ack of environmental review spurred armer to file a lawsuit. y Kerri Ginis he Fresno Bee "Jublished Wednesday, December, 5, 2001 07AM)

[ANFORD -- A Kings County judge ruled an ordinance banning certain types of ewage sludge from farmland did not need an environmental review before it was dopted by the Board of Supervisors in January.

udge Peter Schultz's ruling came in response to a lawsuit filed by farmer Shaen Magan, who maintained the ordinance was illegal because it was not subjected to an invironmental review required under the California Environmental Quality Act, or ZEQA.

The county claimed the ordinance was exempt from CEQA because it was enacted to protect the environment.

In his Nov. 27 ruling, Schultz agreed with the county's argument: "The record contains substantial evidence to support the Board's determination that the ordinance was adopted to protect and preserve the environment and was exempt from CEQA ..... [Magan] has failed to produce substantial evidence to support any exception to this exemption."

Magan, who fertilizes 1,800 acres with sewage sludge trucked in from Orange County, plans to appeal the decision, said his lawyer, David Doyle.

"We think the court's taken a very narrow view of CEQA," he said. "This is a very highly technical issue. The board decided in a 22-day period that it was exempt from CEQA."

Board Chairman Tony Oliveira said the judge's ruling was fair.

"He basically said there was nothing to substantiate Magan's claims," Oliveira said. "I think that was the only conclusion to make because the ordinance increased the safety and quality of life for people in Kings County."

Under the Kings County ordinance, only highly treated sludge can be applied to farmland. The board drafted the ordinance after months of debate and public testimony regarding the health risks associated with using sewage sludge as farmland fertilizer.

It was a move that followed several other San Joaquin Valley counties that also banned certain types of sludge.

Magan also filed a \$1 million claim alleging his constitutional rights were violated when the county passed the ordinance. Kings County denied that claim in August. Magan now has the option of filing a lawsuit.

Before he proceeds with another lawsuit, Magan is waiting for the outcome of an appeal filed by the Orange County Sanitation District, Doyle said.

Orange County is seeking additional time to apply Class B biosolids to the land it bought from Magan for \$3.75 million.

Under the ordinance, it has only two more years to apply Class B biosolids, which may contain pathogens or disease-causing microorganisms.

The reporter can be reached at kginis@fresnobce.com or 622-2417

## **ENVIRONMENT**" --SAYS "... ORDINANCE WAS ADOPTED TO PROTECT AND PRESERVE THE CALIFORNIA - KINGS COUNTY - JUDGE UPHOLDS (CLASS B) SLUDGE BAN

, DEAD HORSE, CALVES DIE FROM HEPATITIS	DINATE NUMBER OF FLIES DEAD DOG
There are two types of biosolids. Class A is virtually pathogen-free, and is sold as fertilizer, while Class B biosolids are semi-treated, and spread on farmland, golf courses, forests and tree farms to complete their decomposition.	ity decided to recommend that county officials suspend the application of biosolids try's unincorporated areas, which occurs almost exclusively near Rio Vista.
The 1972 Clean Water Act banned dumping solid wastes into rivers or oc <b>eans</b> , which helped pave the way for a 1993 EPA regulation for biosolid <b>application</b> to land.	is the conclusion of a number of Rio Vista residents. Ista City Council conducted a two-hour town hall meeting this week and
"Because landfilling and incineration each have health and environmental drawbacks and offer none of the potential benefits of recycling. EPA policies express preference for land application," said a 1999 industry article.	ieral regulation banned the previous practice of dumping the sludge into the ocean. he biosolids have been regulated to be applied to land, and as a reality, must go r.
The remainder is disposed via landfills, incineration and other means. Those methods are not the complete answer, according to biosolid industry information.	from households, hospitals, gas stations, heavy industry and more. Biosolids are contain pathogens and heavy metals.
More than half of the 5.6 million tons of sewage sludge generated each year in the United States is now turned into the soil, according to a National Research Council report.	- culled from everything that's poured down drains and flushed down toilets -
remain by the thousands of tons, and they must be disposed.	c's no question that biosolids put nitrates - an important ingredient of Retilizer - into the controversy arises over the risks of what else they put there.
Sewage treatment plants involve a separation process that pulls liquid waste from solid waste. The fiquid waste is highly treated and released as effluent into nearby waterways. Solid wastes	300 acres of Solano County's farms this season. Biosolids are seni-treated wastes on sewer plants all over California to be recycled into the soil.
•••• Biosolids are the most practical of problems. They are the inevitable byproduct of wastewater treatment plants, which process nearly all of society's waste. One person generates an average of 47 pounds of biosolids per year.	suc-unspossi practice. Road, Stokes filed a protest to keep sludge from being spread in a nearby field. Age, or biosolids, has into the carth by the ton
"It's pretty unequivocal," she said of the study. "It doesn't say one way or another (that biosolids are dangerous,) but it does say (the scientific community) is uncertain."	a controversial farming farmers creating and the second se
Rio Vista Mayor Marci Coglianese said the report was a large factor of the council's decision to ask for a local suspension of the practice.	ares and rangelands avis Air Force Base and
A 2002 report issued by the National Academy of Sciences, commissioned by the EPA, questions some of the studies that went into crafting a federal regulation managing biosolids.	ncern spreads
In some people's view, the policy behind the application of biosolids has never been on shakier ground.	g Question: Are
The Board of Supervisors will undertake Tuesday an extensive review of its ordinance - passed in 1997 - that regulates the application of biosolids. Representatives will be on band from the U.S. Environmental Protection Agency, the California Water Quality Control Board, the National Science Foundation and the biosolids Industry.	where needed Las Fish np Gold Sox
There were odors that were sickening people - actually making people ill - that's what we heard," he said.	Durstion: Are Biosolids Safe? Internet of the second secon
Biosofids had been dumped recently in a nearby field, and even the city didn't know about it.	· ·····
last year about a terrible stench and the presence of an unusual number of flies around their homes, said Guy Manager Joe Donabod.	2002

AI Mcdwitz, a Rio Vista farmer, said that Solano County should suspend biosolid application until there is more scientific proof it is not harmful to people.	"The (EPA) regulations are flawed. There needs to be stricter regulations than there are now," It is said. "Let's suspend this stuff until we have additional science to make it asfe."	••• In its report to supervisors for Tuesday's meeting, the county's environmental management department said it sees no reason to suspend permits for the county's 13 registered biosolids sites, which total 14,000 acres.	In one controversial area, heavy metals, Solano County farms came well under the ceiling the EPA has set, according to the report. "All information and testing to date shows that Class B biosolids annihed to land in Solano.	County are well below the maximum ceiling concentrations for metals established by the Part 503 rule for exceptional quality Class A biosolids," it said. The report states that the National Academy of Sciences study that reviewed federed	regulations of biosolids mentioned "there is no documented scientific evidence that the Part 503 rule has failed to protect public health."	That report, however, does call Part 503 into question. For instance, dioxins, a class of organic chemicals in biosolids, has never been regulated as a risk to public health. A current study is attempting to document the potential for so-called "bio-zerosols" that might spread pathogens from biosolids to other arens via the wind.	"If you read this report, it's a scathing indictment of the 503 regulations," said Medvitz. "It talks about incomplete data and problems with the data.	The supervisors will meet on the biosolids issue at 2 p.m. Tuesday in the Old County Courthouse at 580 Texas St. in Fairfield.					EPA) REGULATIONS ARE FLAWED. THERE NEEDS READ THIS REPORT (NATIONAL ACADEMY OF DICTMENT OF THE (EPA) 503 REGULATIONS."
Class B sludge, hear-treated at sewer plants, is known to include salmonella, hepatitis A. giardia, parasitic worms, organic compounds and heavy metals, such as lead.	According to EPA statistics, raw sewage typically contains about one billion fecal coliform bacteria per 100 milliliters of sewage. The semi-treated biosolids range from 30,000 to six	million bacteria per 100 milliliters. "Class B solids have been processed to reduce significantly, but not eliminate, pathogens." according to EPA literature.	••• McCormack Road resident Pat Stokes returned to her rural home near Highway 113 and Highway 12 after attending her first biosolids protest meeting in April to find a calf dead on her property. Now another calf has died there, as well as her son's dog and a neighbor's hors.	Starting several years ago, biosolids were applied to a pasture on the Duncan McCormack Ranch, right across the gravel road from her home. The smell from the wastes was somewhat of a nuisance, but Mark Stokes didn't have a problem with it at fust, he cxplained.	"We watched the grass grow and watched these people get more tornage from their hay," he said.	The Stokes' perception of biosolids began to change after the smell became worse, and there were an inordinate number of flies in the area.	It completely reversed after a necropsy performed at U.C. Davis determined that one of the Stokes' calves had died from hepatitis, and the other died from another pathogen. The doctor, in fact, told her to move if another animal died on the property.	"Of course, we can't prove what happened," said Pat Stokes. "I've never lost a calf that was on its mother before."	A 2002 protest by Pat Stokes led to removal of biosolids from the nearby McCormark pasture. It was the latest in a series of complaints made that have shaped the 1997 county ordinance that regulates biosolid.	Solario is one of four California counties that provides an oversight to biosolid application.	The ordinance restricts biosolid application to spring and fall, and provides rules for buffers to adjacent properties, as well as notification to inform nearby residents. Most importantly, sites that have taken biosolid loads are monitored.	The vast majority of the state, however, has no local regulations on biosolids. Some agricultural counties, such as Freston and Riverside, han Class B sludge entirely. Contra Costa, Glenn, San Bernardino and a few other counties require an environmental report for each biosolid permit issued.	AL MEDVITZ - RIO VISTA FARMER: "THE (I TO BE STRICTER REGULATIONS IF YOU SCIENCES, JULY 2002), IT IS A SCATHING IN

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### CALIFORNIA - SOLANO COUNTY - AUGUST 2002

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### County looks at sewer sludge

By Barry Eberling

FAIRFIELD -- Rio Vista wants Solano County to stop farmers from using treated sewer sludge as fertilizer until further nealth studies are completed.

The Board of Supervisors will revisit the long-running sewer sludge issue on Tuesday during its afternoon session. It meets at 580 Texas St

Rio Vista resident Irene Hempstead has such ailments as shortness of breathe and a thyroid problem. She blames it on treated sewer sludge - called biosolids - spread on nearby farms.

"We're fed up," Hempstead said, volcing the sentiments of a large number of Rio Vista residents. More than 100 residents signed a July petition asking the county to ban the practice and another, larger petition is forthcoming.

The Rio Vista City Council held a 2.5-hour meeting on the topic Tuesday. It voted to ask the county to stop allowing biosolids applications pending national health studies.

"The bottom line is whether this material is safe to humans in the vicinity." City Mariager Joe Donabed said Friday.

Using biosolids as a fertilizer is common in the United States. About 60 percent of the 5.6 million tons of sewage studge disposed of annually is spread on land, according to the National Academy of Sciences

The sludge starts as sewer waste from homes and businesses. This waste can contain pathogens such as bacteria, viruses and parasites that can cause diseases.

But if treated to certain standards, it can legally be put on farms. The federal Environmental Protection Agency in 1993 proclaimed the practice safe.

 $rac{1}{2}$  Sludge treated to especially high standards can even go on parks and lawns.

Solano County started allowing biosolids as fertilizers for farms in the mid-1990s. Farmers,

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### SLUDGE VICTIM SUFFERS SHORTNESS OF BREATHE, THYROID PROBLEMS

who can get biosolids for free, are regulated by the county, federal EPA and state.

Yet using biosolids as fertilizer never gained widespread public acceptance. In California, nine counties banned using it and four banned using all but the most highly treated sludge.

"Rublic health concerns regarding the use of biosolids are growing, especially from citizens living near application sites," the National Academy of Sciences said in a recent press release.

So the federal EPA asked the National Academy to take another look at the practice. The Academy released its report in July.

There is uncertainty about the potential for human health problems caused by exposure to biosolids, the Academy concluded. To assure the public and protect public health, further study should be done, it said.

Since 1999, Solano County has had 42,000 dry tons of biosolids applied to 9,300 acres. The biosolids have come from such places as Burlingame, San Francisco, Windsor, West , Sacramento, Mariposa and Grass Valley.

County Health Officer Thomas Charron in an Aug. 16 letter said he is unaware of any documented cases of illnesses resulting from biosolids use in Solano County

"As the county health officer, it is my opinion that the potential for public health impact from the use of biosolids is extremely low if properly applied." Charron said.

The Department of Environmental Management routinely inspects farms that are getting biosolids, he wrote

Also, farmers in March told the county Board of Supervisors that biosolids help them

"We've had amazing results with it." farmer Duncan McCormack told the board. "It's been very beneficial."

But Rio Vista residents in summer 2001 became alerted to the biosolids issue when the wind brought a strong odor to the town.

"We were infested with millions and millions of flies and the smell was so bad, you couldn't go outside," said Hempstead, who lives on a farm along Highway 12.

She's afraid the biosolids might pollute the groundwater feeding her well. She thinks the winds that bring the smells could bring illnesses as well

"I was nealthy when I moved out to this place," Hempstead said.

The county Board of Supervisors in March prohibited farmers from spreading biosolids within two miles of a city if the wind is blowing faster than 25 miles per hour

But some Rio Vista residents want the board to go a step further and ban biosolids as fertilizer.

### "WE WERE INFESTED WITH MILLIONS AND MILLIONS OF FLIES AND THE SMELL WAS SO BAD, YOU COULDN'T GO OUTSIDE."

# Web centre THE GLOBE AND WALL Fortunes LReview Forums

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## CONTAMINATED WELLS, NAUSEA, STOMACH PAINS AND IN THEIR HOMES BY STENCH-SUFFER DECREASED PROPERTY VALUES, CANADA - ONTARIO - AUGUST 7, 2000 - SLUDGE VICTIMS TRAPPED SORES IN THEIR NOSTRILS

# Human waste ends up on rural

land

/elcome to rural Ontario.

Hundreds of millions of litres of recycled human waste will be dumped on rural land this year, and that volume is on such a precipitous rise that residents are worried the province's bucolic backyard is fast becoming its outhouse.

Mount Albert farmers Tim and Terri Boadway can see used condoms and soiled sanitary napkins sprinkled on four hectares bordering their property.

Residents of a subdivision near Milbrook suffered from open sores in their nostrils and complained of stomach pains, after human waste was sprayed on nearby farm fields this spring.

And Frank Tersigni's young family and in-laws, who live across from a gravel pit in rural Puslinch, don't open their windows if the breeze is blowing in the wrong direction -- the smell of the septic-tank waste dumped there is so strong. The tragedy of contaminated well water in Walkerton has made Canadians painfully aware of the massive

amounts of animal excrement generated and spread on land by intensive hog and cattle farming. But if that's not bad enough, a growing proportion of

human excrement originally flushed down Ontario's toilets and mixed with chemical and industrial wastes.

KRISTA FOSS Health Reporter Monday, August 7, 2000

is also being spread on the land.

It comes with its own potential stew of viruses, bacterium, parasites and heavy metals.

The practice is legal and it's growing

"I moved next to a farm, not a sewage dump. <u>The</u> <u>smell makes you nauscous</u>" said Vickie Heard of Millbrook. a mother of two young children whose family lives across from a farm using recycled human waste to fertilize an animal feed crop. "I don't want to have people over. It's <u>embarrassing</u>... and I'm <u>worried</u> about my house value."

There are two types of recycled human waste being spread on rural land.

Sewage sludge is leftover waste from sewage-treatment plants that's increasingly recycled as a farm fertilizer. Septage is the sewage that's pumped from septic and holding tanks and can include waste from animal slaughterhouses. It is dumped on land without treatment or tests.

According to the Canadian Water and Waste Water to Association, there are approximately 600 in sewage-treatment plants in Ontario through which a 4.9 billion litres of waste water or sewage pass each is

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Before the water is purified and returned to lakes and rivers, those plants screen out large items that go to landfill. What's left is called sewage sludge -- the solids of human excrement and remnants of industrial waste that get through the screening process.

If that sludge meets Ministry of Environment standards for heavy-metal content and feeal-coliform counts, or if it is kept for minimum periods in large composters, it is given a new name -- a biosolid -and it can be applied to land as a fertilizer.

Last year, the province's largest municipality -- the city of Toronto -- produced about 80,000 tonnes of sewage sludge. A third of it -- or 25,000 tonnes -ended up being applied to land in rural Ontario. The city has plans to eventually dispose of all its sewage sludge in this manner because incinerating it has become a political hot potato and burying it in landfill sites is too expensive.

But that's not the only source of human waste hitting the countryside. According to a 1998 Ministry of Environment reference document, up to 1.75 million cubic metres of sewage is pumped from more than a million septic tanks in Ontario each year. That waste is added to unknown volumes pumped from holding tanks and the portable-toilet business -- whose refuse is often mixed with formaldehyde -- and the water and muck from abattoirs where pigs and cows are slaughtered.

	MOE officer Dave	
t can be dumped directly	Fumerton confirmed that Brent Brethour recently	Anne-Marie Scheuneman, a 30-year resident of the
avy-metal count or	filled out an application that would allow him to	area, said that soon after the spraying began in May
	dump more septage on the same land. No soil tests	of this year, she developed open sores inside her
- :	have been done.	nostrils. So did her two teenaged children and her
get paid to pump it and		71-year-old mother who lives next door.
ertificate of approval	Toronto environmental consultant Maurcen Reilly,	
ament to dump on	who is an expert on the disposal of industrial and	The smell was also so bad this year that Ms.
rtificate lays out how far	human wastes, can't decide which is the bigger threat:	Scheuneman has used a perfumed pillow over her
tial areas the sewage	sewage sludge, which contains industrial wastes but	face in order to get to sleep.
ing before the	has to pass some standards before being applied to	
t before it can be used to	land, or septage which can be dumped without any	Neighbours in her area tested their well water, and
graze cattle (six months).	testing.	about a dozen came back with positive results for
		contamination.
and air tests done on	According to her, it doesn't matter how it gets there	
here the practice occurs?	putting human waste on rural land isn't being	Jamee Chatten was one resident whose well was
	watched carefully enough by the Ministry of	contaminated. Even if her well was clean, Ms.
Ministry of	Environment. And there are safety concerns.	Chatten said she would be worried about what's
ger for Guelph. In his		happening at the Allin farm.
half-dozen rural sites	"If there is no inspection and nobody is out there	
ped, including the	inspecting and enforcing, then it is an unregulated	"Most of us here have been raised on farms or have
om the Tersigni family	activity," Ms. Reilly said. "What's dangerous about it	lived in farming communities," she said. "Amimal
	is that nobody knows what's going on."	waste is spread on the land all the time we know
		that there is an odour. But human waste has come
: Service started to dump	For the residents of a 30-year-old subdivision in	about in just the last 10 to 20 years. Where is the
before it had even been	Cavan Township outside of Millbrook, the use of	documentation showing that spreading animal and
so. According to Mr.	human waste on farmland has become a double	human waste is safe? Nobody can tell us."
eber a total of \$510 for	whammy they already live with the smells of animal	
er that, Weber's	manure.	Bruce Hancock, district manager for the Ministry of
into the pit was		Environment in Peterborough, suspects that people
	Nearly 150 homes are within a quarter of a kilometre	have developed a "heightened awareness" since
	of an intensive hog-farming operation owned by	Walkerton.
fr. Tersigni, a father of	Hugh Allin. This year, about 36 hectares of the farm	
s home. "And sometimes	used to grow corn to feed the hogs were sprayed	"Everybody is more sensitive about water," he said.
white."	with recycled sewage sludge from the Peterborough	•
	sewage treatment plant.	He denies that the odours from the Allin farm are any
trucks come at every		worse than usual, though he admits he hasn't visited
ncluding weekends, to	The sewage sludge or biosolids is a cheap	the subdivision himself.
	alternative to fertilizer. It has been demonstrated to	
	raise the level of phosphorous and nitrogen in the	Yet bad smells may be the least troublesome result of
me story.	soil. Farmers such as Mr. Allin get it for free. This	spreading human waste on farm land.
	year the Allin farm applied it on its corn crop using	
ay has recorded about 200 Learning had by Breat	spray irrigation instead of mixing it into the soil.	
יוויזינו העדפו אוחטוניו		

It's all called septage -- and it can be dumped direct onto hand regardless of its heavy-metal count or pathogen levels. Private sewage haulers who get paid to pump it ar cart it away merely need a certificate of approval from the Ministry of Environment to dump on approved rural land. That ccrtificate lays out how back from roads and residential areas the sewage must be durmped, and how long before the sewage-soaked soil has to sit before it can be used grow crops (12 months) or graze cattle (six month Are there regular soil, water and air tests done on and around the properties where the practice occur

"No," said John Mayes, the Ministry of Environment's district manager for Guelph. In I district, there are close to a half-dozen rural sit where septage is being dumped, including the Puslinch gravel pit across from the Tersigni far home. Breslau-based Weber Septic Service started to du sewage in the pit in March, before it had even bec approved by the MOE to do so. According to Mi Mayes, the ministry funed Weber a total of \$510 f two provincial offences. After that, Weber's application to spray sewage into the pit was approved. "The stuff just flies," said Mr. Tersigni, a father of two, who can see it from his home. "And sometim it's black and sometimes it's white."

Mr. Tersigni said the septic trucks come at ev hour of the day and night, including weekend spray their sewage.

In Mount Albert, it's the same sto

Since January, Ms. Boadway has recorded about 26 loads dumped on her neighbour's land by Brent Brethour Septic Tank Pumping Inc. She has asked for soil tests and for the ministry to monitor how much is being spread on the land.

### CANADA - ONTARIO - -- PREVIOUSLY HEALTHY RETIRED COUPLE BOTH SUFFER MALIGNANCIES SHORTLY AFTER EXPOSURE TO SEWAGE SLUDGE --WELL CONTAMINATED WITH E COLI

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Stanley and Beatrice Bara are an elderly couple who looked forward to spending their retirement years in the country.

When we learned of the dangers of airborne pathogens, especially those with weakened immune systems, we immediately remembered Stan and Beatrice watching in horror as Terratec dumped that foul smelling sewage waste 750 feet away from their home.

We remembered how Beatrice stood in the street with flies swarming around her as she furiously told Terratec not to dump in Cedarville. And we remembered how she had told us some weeks later that she was a cancer survivor ....that her Lymphoma had been in remission for some 7 years.

We were assured by the Township and the Ministry of Environment (MoE) that she was in no danger. We are always told, "there is no danger."

ON JULY 26, 2000, our well was tested for E Coli. There was none.

The sewage sludge was dumped 600 feet from our well on August 31, 2000. ON SEPTEMBER 13TH, we were notified our well was polluted with E Coli.

The Township and Terratec say this is a coincidence.

IN JULY 2000, Beatrice Bara had a Lymphoma check up. She was given a clean bill of health.

The sewage sludge was dumped 750 feet from her house on August 31, 2000. ON CHRISTMAS DAY, four months after the sludge dumping, Beatrice was taking a shower when she found a lump in her neck. The doctors found a tumour. After 7 years in remission, her Lymphoma was back.

By the time she could get an operation, three more tumours appeared. She is now awaiting chemotherapy. The Township and Terratec say this is ALSO a coincidence.

AND I SUPPOSE they will tell us that it is a coincidence that Beatrice's formerly-healthy husband, Stanley, ALSO found a tumour just before Christmas -- three and a half months after he stood in the warm morning wind, inhaling whatever Toronto shipped out to us in its putrid sewage sludge.

(Excerpted from statement dated March 30, 2001, by Glenn Norman, Cedarville Manse, Box #5, RR #3, Conn, Ontario, Canada - NOG 1N0 519-323-2713

The issue has become increasingly controversial in the United States where at least two deaths have been linked to sewage sludge on farms. In 1994, an 11-year-old Pennsylvania boy died within days of

riding his motorcycle over a sludge-drenched field. The next year, a 26-year-old New Hampshire man died after sewage sludge was applied on a farm field that was 45 metres from his home. His family launched a wrongful death lawsuit against the waste management company that delivered the loads.

On July 28, the U.S. Centers for Disease Control put out a hazard-identification warning for Class B biosolids -- the same kind of sewage sludge being applied to Ontario land -- after it investigated a rash of illnesses at an Ohio sewage-sludge facility.

The CDC report said that workers involved in the handling or spreading of sludge "may be exposed to disease-causing organisms" including E. coli, salmonella, shigella, campylobacter, cryptosporidium, giardia and viruses, protozoa and parasitic worms.

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According to the report, the biosolids sampled were releasing bacteria into the air during land application and storage.

Ontario's rural residents are getting wise to the risks in their community. Last month, residents of Hillsburgh, just outside of Guelph, successfully battled against a local businessmen's proposal to dump 600,000 litres of waste from his portable-toilet business on four hectares of his family farm. His property slopes downward into the residential homes, the headwaters of the Grand and Credit Rivers and the springs used by bottled-water manufacturer Aberfoyle Springs.

> Aberfoyle Springs recently purchased the farm. President Bob Elliott said he bought the property to "protect" his business.

Not everybody can afford such protection. This week, Ms. Scheuneman watched a car park alongside a cornfield that had been sprayed with sewage sludge. A 10-year-old boy got out and trounced through the cornfield.

"It occurred to me they must not be from around here," she said. "They wouldn't know it's not safe." TOMORROW Mark MacKimon vision

Mark MacKinnon visits a reserve where many are claiming that the drinking water is making them sick.

### CANADA - AMARANTH - JANUARY 17, 2001 WELLS CONTAMINATED WITH COLIFORM BACTERIA AND E. COLI AFTER SLUDGE SPREAD.

Threatur com > GTA

Jan. 17, 2001. 12:54 AM

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### Raising a stink

### Politicians furning over waste decision

Wes Keller SPECIAL TO THE STAR

Dufferin-Peel politicians and residents are furious after the province quietly dropped a clause that gave the municipalities a choice of whether to accept human-waste sludge from Toronto.

The sludge is hauled from

Toronto to North Wellington, Dufferin and

Grey counties by

e Qu by ins

FRANK CALLEJA/TORONTO STAR

ODOUR EATERS: These enclosed geodesic domes prevent the escape of odours from sewage.

The local councils say they

Hamilton-based Terratec Environmental Ltd.

were not consulted when the clause in Terratec's certificate of approval was deleted last November and didn't become aware of the change until later.

The heads of several Dufferin townships are slated to meet next Tuesday with environment ministry officials.

Amaranth Reeve Bob Currie plans to attend next week's meeting but isn't pleased that it's being held in Toronto. He would prefer to have ministry officials come into the area to get a better understanding of the concerns about sludge, such as: the pollution of private wells, pathogens migrating down the waterways to urban users or going through cracks in the bedrock to the aquifer. Currie, who is also a farmer and real estate broker, says he would not apply sludge to his own land, not only because of the risks he perceives but because he believes it ultimately will affect property values.

There may be a nutrient value to sludge, Currie said, but "it's short-term gain for long-term pain."

He said some banks are asking about sludge when issuing mortgages.

Last summer, a group of wells in Amaranth tested positive for various coliform bacteria, as well as a strain of E. coli. Currie said a well that had tested clear had become contaminated shortly after there had been a sludge spill near the property.

"It's only since the spread of sludge that any wells have tested positive (for coliform)," he said.

Supporters of sludge say it's only since Walkerton that the wells have been tested. They say the contamination has always been there.

Southgate Mayor Don Lewis will attend. He would not say whether he favours the spreading of sludge as fertilizer, but admitted he is happy that ``the problem has been taken out of our hands."

Recently, a local farmer had invoiced Southgate for \$96,000, representing an amount he said he would lose on his 485-acre farm after the municipality issued a moratorium on sludge.

The invoice has since been withdrawn, Lewis said, but it demonstrates the present plight of farmers.

"It's pretty tough sledding. They pay through the roof for fuel and fertilizer," Lewis said.

He described opposition to using sludge as fertilizer as ``a group on a bandwagon."

At the ministry, quality control supervisor Andy Dominski said there was no need to consult the municipalities as sludge is a provincial program.

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### TORONTO, CANADA - NOVEMBER 2000 - SLUDGE VICTIMS SUFFER STOMACH-CHURNING STENCH, RED AND STREAMING EYES, SWARMS OF FLIES AND E. COLI IN WELL WATER

### Toronto sewage ends up on farmers' fields

November 4, 2000 By Michele Landsberg

WHEN GLENN Norman and Michelle Goodeve were yanked awake, one August morning, by a terrible, stomach-churning stench coming in their window, their first thought was that there had been some terrible mistake.

l interviewed them in the cosy living room of their century-old preacher's manse in the tiny village of Cedarville, two hours northwest of Toronto.

"We thought, 'Oh, we'll phone the township right away to report this disaster and they'll do something,' "Goodeve said. Norman and Goodeve - who have lived in the house for 13 years - were about to learn more about small-town politics, the Ministry of the Environment and Toronto poop than they had ever thought possible.

Yes, Toronto sends more than just its rotting orange peels to distant dumps. It sends its sewage sludge as well - half of what Toronto flushes down its toilets finds its way to Ontario farm fields, after brief treatment and ``dewatering" at Ashbridge's Bay.

The system, according to the Ministry of the Environment, is safe. Farmers who get a permit for spreading sewage - eight tonnes per hectare over five years - say that it saves them a hefty \$100 an acre in the costs of tilling and fertilizing.

Norman and Goodeve don't blame the farmer who spread the stuff on the field that butts right up against their backyard. "He's been assured by the Ministry of the Environment that this stuff is safe, and he believes it," Norman said.

The couple, however, aren't so sure. The day of the spreading, they were swarmed by flies and their eyes were red and streaming. Because of Walkerton, they got nervous about their well. Rightly so. Within days of the sludge spreading, their water - which had recently tested zero for E. coli - now tested positive (4 parts per 100 millilitres). Eight days later, the E. coli count had jumped to 24. Neighbours' wells were unaffected.

"I can't make any conclusive link to the sewage sludge," Norman told me after spending over \$1,000 to install a water purification system. But he and Goodeve, dedicated pilots, went up in their open-cockpit plane and photographed a nearby sludge-darkened field, clearly showing a watercourse running through it.

"And that water links up with the Saugeen River," Goodeve said meaningfully. "Walkerton is 30 miles downstream."

1/21/01 12:4:

1 of 3

They also filmed the spreading operations. The stuff is called "biosolid" but it isn't solid: It comes out of the chute in long, slimy globs and ropes of ooze. "We could smell it at 1,000 feet up," Norman remembers grimly.

Every household in Cedarville, farmers included, eventually signed a petition to ban the spreading. Township officials were rudely dismissive at first, but finally voted not to issue any new permits for now, though existing ones are good for five years.

Politics is rough and ready in small towns. Farmers who benefit financially from the sewage sludge also hold seats on council, and "conflict of interest" is neither as clear-cut nor as damaging a charge as it seems in the big city.

Kiyoshi Oka, a senior engineer with Toronto's water pollution control unit, assured me that industrial effluent forms only 5 per cent of Toronto's waste water, that there are stringent city by-laws preventing toxic dumping into sewers, and that Toronto's biosolids consistently test under the federal legal limits for pathogens and heavy metals. In fact, Toronto's sewage sludge is so beneficial that there isn't enough to fill the demand, he said.

I wonder why, in that case, Toronto pays contractors to give the stuff free to farmers? And why is it, even post-Walkerton, that anyone who protests the way we deal with waste gets labelled ``hysterical" or ``misinformed"?

So far as I can tell, no one is out there watching the contractors spread sewage sludge on agricultural land, and no one is enforcing the existing safety guidelines. "The contractor is responsible for adhering to the guidelines," said Oka.

Little red flags of caution have been raised in the U.S., where environmental groups report on high levels of toxins and low levels of government inspection of sewage sludge. Biosolid workers are said to be at risk of exposure to salmonella, shigella, campylobacter, cryptosporidium, giardia and enteric viruses. The Journal Of Animal Science noted that sheep eating cabbage grown on sludge developed lesions of the liver and thyroid gland, and pigs had elevated levels of cadmium.

The sufferings of Walkerton mean nothing unless politicians and bureaucrats, from the tiniest rural townships to Queen's Park, start listening seriously and answering questions. That doesn't let us off the hook: Ultimately, each citizen must hold politicians accountable for the way we deal with the waste we create.

Questions:

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- 1. What is biosolid?
- 2. Can the ecoli bacteria in Goodeve and Norman's house be linked to the biosolid? Explain your answer.
- 3. What evidence is there that the biosolid in Cedarville was ending up in fresh water?
- 4. What does the article mean by the fact that there is a conflict of interest on Cedarville council?
- 5. What evidence from the United States is there that we should be very cautious about using biosolid as a fertilizer?

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### CANADA - ONTARIO - VICTIM HOSPITALIZED - SUFFERED GIARDIA LAMBLIA, RASHES, TERRIBLE HEADACHES, SEVERE FATIGUE, DIARRHEA, SORE THROATS, BREATHING DIFFICULTIES.

### STATEMENT BY GERALD HURKENS, RR 1, Conn, Ontario NOG 1 NO 519-323-4227

I was first exposed to sludge Last July and August 2000. I run a body shop and scrap yard. They sludged 4 different spots near me. The smell was terrible. The sludge polluted my drinking water. I drink a lot of water because it was summer and very hot out . . . and there was also the heat from my cutting torches.

I got so deathly sick from drinking the water, I could hardly walk. I had chills -- it was 82 degrees and I am standing in my insulated coveralls, shivering. 15 minutes later I was sweating so bad I smelled like dead meat. They put 3 IVs in me at the hospital. They said I had "beaver fever" (giardia lamblia)

I suffered severe fatigue - no strength whatsoever. The other people working here with me had the same symptoms. I got a rash on my arms and on my neck just above the shirt collar and the other gentleman working with me also got a rash on his arms.

The sludge is being put on rental farms in the area, but the people admit they would not put it on their own farms. The environmental people tried to tell me it was my barn fire that contaminated my water. I had the water tested and the results showed it contained bacteria and human waste. A lady around the corner also tested her well and it was found to have bacteria and human waste in it.

I know another place where they spread sludge. The people had a pond. It rained 3 or 4 days after they spread the sludge, the sludge ran into the pond and killed all the trout.

They spread 300 acres northeast of my place. The sludge was so thick the tractor couldn't plow it under. They left it laying on the top of the land. When the tractor left the field, over 1 1/2 miles of road were splattered with sludge from the plow and tractor

Other symptoms I suffered were terrible headaches so bad I had to have a pillow over my head with my eyes closed; sore throats and trouble swallowing; hoarseness and burning eyes, burning in the nasal area; breathing difficulties, wheezing and shortness of breath. (I have a bad lung from pleurisy. The sludge made me so weak I couldn't walk more than 200 feet without getting completely exhausted.) I experienced severe nausea, abdominal distress, cramps and diarrhea.

All this illness from the sludge seems to have weakened my immune system. I had

colds all last winter. Before this I was always strong and healthy. I got so sick I couldn't work my barn burned down and I had no insurance - I got behind on my mortgage payments because I was unable to work and I was forced to sell my farm last week.

Cows drink a lot of water. After my cows drank the contaminated well water they experienced severe weight loss. My dog also got sick from drinking the water and he lost a lot of weight.

My friend Jan was staying with me last summer when the sludge was spread. She suffered bad nosebleeds and she, too, got a bad rash --it was like hives. Jan brought her two grandchildren to the farm to stay. They drank some of the water and got severe diarrhea and vomiting. They also developed bad rashes on their chests, backs, arms and legs.

Jan told the doctor about the sludge spreading near us and the fact that I ended up in the hospital. The doctor was so disturbed by the impact on our health from exposure to sludge that he wrote an article in the local newspaper on this issue.

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COWS AND DOG DRINK SLUDGE CONTAMINATED WELL WATER -- ALL SUFFER SEVERE WEIGHT LOSS ... SLUDGE EXPOSURE CAUSES NOSEBLEEDS AND RASH IN FRIEND ... GRANDCHILDREN SUFFER SEVERE DIARRHEA, VOMITING AND BAD RASHES ON THEIR CHESTS, BACKS, ARMS AND LEGS

### EMAIL DATED MAY 15, 2001, FROM VIRGINIA KOSTIUK, 324 CAMPBELL ROAD, R.R. 31, CASTLETON, ONTARIO TO DR. ROBERT JIN, MINISTRY OF HEALTH, ENVIRONMENTAL HEALTH AND TOXICOLOGY UNIT, ONTARIO, CANADA

Dear Dr. Jin: Both my husband and I suffer from asthma. Myself more so than my husband. Approximately one hour after they began spreading biosolids on the field across from our house, I began to experience respiratory problems, including wheezing and tightness in the chest.

Last night, I was unable to sleep due to severe tightness in my chest, which is the result of bruising in my chest cavity from my lungs overexpanding and the muscles being stretched. At that time, I did use the Pulmicort inhaler, which provided temporary relief lasting about one hour.

At the time of this writing, my lungs are making a lot of "squeaking" noises, the pain has not ceased and both myself and my son are experiencing burning in the throat and eyes, runny noses and frequent sneezing.

I am writing you to ask that the spreading of biosolids cease immediately due to health concerns for my husband, our four year old son and myself. The spreading is occurring on the fields at Lots 19 and 20, Concession 9 in the Corporation of the Township of Cramahe.

Your kind attention and assistance in this matter would be greatly appreciated. Yours truly, Virginia Kostiuk Tel: 1-905-344-7752 Fax: 1-905-344-8385 Email: wlowe@eagle.ca

Cc: Mr. Phil Sidhwa, Azurix North America psidhwa@azurix.com
Dr. Monica Campbell, City of Toronto mcampbe2@city.toronto.on.ca
Mr. Jack Layton, City of Toronto jack@jacklayton.com
Mr. Bob Pickett, City of Toronto bpickett@city.toronto.on.ca

### CANADA - ONTARIO - MAY 15, 2001 - VICTIMS SUFFER ASTHMA, WHEEZING, PAINFUL TIGHTNESS IN CHEST, RUNNY NOSES AND BURNING IN THE THROAT AND EYES.

### STATEMENT BY MIKE MCCALLUM ON BEHALF OF HIS FATHER, BILL MCCALLUM - RR #2, York, Ontario, NOAIR0 - 905-692-0638

My father, Bill McCallum was first exposed to sewage sludge when Azurix spread it within 120 feet of his front door in August 2000. Prior to that time, he was always a healthy man.

About 12 days after the sludge was spread, my father started experiencing severe adverse health effects. He lost 12.5 kilograms (about 25-30 pounds.) He suffered sweats, nausea, vomiting, diarrhea, chills in the middle of summer, constant headaches, lethargy -- basically he was confined to the sofa.

My father finally went to the doctor. It took them about 6 days to figure out what was wrong -- they had to call in a specialist. They said my father was suffering from "beaver fever" (Giardia Lamblia). The doctors treated him . . . it took him a long while to recuperate.

Other symptoms my father, Bill McCallum, experienced were sore throats, nasal congestion, shortness of breath and heart palpitations, fierce headaches, sinus congestion and extreme fatigue. My father also suffered red rashes on his forearms, the front of his throat and on each side of his nose.

Shortly after my father was stricken with these illnesses, he suffered a series of strokes which has totally incapacitated him. We do not know if the strokes were related to or caused by the sicknesses he suffered from exposure to the sludge.

Just incidentally, the sludge was spread within 60 feet of our pond, and sludge run off entered the water and both our Japanese Coy fish died.

(Telephone statement taken on 5/7/01 by Helane Shields)

### CANADA - ONTARIO - VICTIM SUFFERS GIARDIA LAMBLIA, SORE THROATS, SHORTNESS OF BREATH, FIERCE HEADACHES, EXTREME FATIGUE, SKIN RASHES



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### Quebec community suspends use of biosolids

### Karina Roman The Ottawa Citizen

A rural Quebec community in the midst of a water contamination crisis has temporarily banned the use of sewage sludge on their farm fields.

The motion was passed at a council meeting of the rural municipality of Clarendon.

If the provincial ministries of environment and agriculture cannot convince residents that biosolids are safe, the council might consider a bylaw to permanently ban their use, said acting mayor Tom Fahey.

Outaouais Health Department officials issued warnings to households in Charteris to drink bottled water until further notice after four people in the community complained of nausea, diarrhea and other gastrointestinal problems. Officials suspect colliform bacteria.

Quebec's Ministry of Environment says it's possible two wells were contaminated after a farmer spread biosolid waste on his fields too close to the wells. The sludge is made from industrial waste from a pulp and paper mill and human waste.

At the council meeting, residents expressed their concerns, said Mr. Fahey. "A lot of the ratepayers were asking for a bylaw to stop the use of it permanently and I guess that's still on the table," he said.

"But there were a few farmers who voiced their feeling that it's a good product, a safe product and that it's beneficial to them and to the soil."

Chris Judd, president of the farmer's union for the Pontiac region, agrees

with the temporary ban, at least until the water-sample test results come back. Those results are expected today or tomorrow.

"We're all really concerned and I'd be surprised that there's anyone who would want to use the stuff until this whole thing is sorted out," he said.

Jim Poushinsky, chairman of Ottawa Citizens Against Pollution by Sewage, said it's about time that the link between human waste in sludge and illness is made.

"This is the first time it's ever been publicly admitted that human sewage being spread on agricultural land may be implicated in contamination and health problems," he said.

Mr. Poushinsky said the biosolid industry usually points to the possibility of other sources of contamination, such as when the water went bad at Lynwood trailer park in Osgoode Township last summer. Septic tank spillover was blamed.

"If sludge has human waste in it, it potentially has every disease, every virus, every bacteria that affects human health, plus all the parasites," he says. "But for 20 years, they've claimed there's never been a problem from it."

Dr. Carol Legare, a physician with the Outaouais public health department, says if the water test results come back positive for coliform, it could be weeks before people can drink from the wells. The wells have to be disinfected and then subjected to two follow-up tests over the following month. Only then is the water deemed safe.

MAY 10, 2001 - CANADA - QUEBEC - COMMUNITY SUSPENDS SLUDGE USE - - FOUR VICTIMS OF CONTAMINATED WELLS SUFFER NAUSEA, DIARRHEA AND OTHER GASTROINTESTINAL PROBLEMS.

### Subject: Radio News - bealth officials react to paper sludge in Quebec community

Date: Tue, 08 May 2001 19:19:32 -0400

From: Maureen Reilly <maureen.reilly@sympatico.ca>

To: Helane Sheilds <a href="https://www.shields@worldpath.net">https://www.shields@worldpath.net</a>, Charlotte Hartman <chartmannsa@taconic.net>, Charlotte Hughes <achughes@shentel.net>

pfeffer-sludge 06:30 PFEFFER, AMANDA CBC

Residents of Clarendon are expected to bring a petition to tonight's council meeting calling for a ban of toxic sludge used in fertilizer.

A Public Health doctor in the Outaouais says the Quebec Environment department needs to inform health officials faster when it finds out about problems with well water.

Dr. Carol Legare made the comments as her department issued a drinking water warning for a small community in the Pontiac, yesterday.

The environment department had been checking the wells in the community of Charteris, north of Shawville since April.

Amanda Pfeffer has the story.

Two farmers in a small community called Charteris, just north of Shawville, have permits to spread a sludge as fertilizer on their fields...

The sludge is made up of effluent from the pulp and paper industry, as well as sewage waste ... High colliform levels in the sludge have led to strict rules about how close and how much of the material can be spread near drinking wells.

In April, the quebec environment department checked a local well, on a complaint from a resident... they found the farmer had followed rules... but the department also discovered a third farmer was spreading the toxic chemical... without a permit. but The environment department contacted the health department last wednesday, about the possibility of well contamination ...

By that time four opeple had reported diarrhea and nausea. Yesterday, Dr. Carol Legare warned residents

in the areas where sludge had been spread... to avoid drinking the water.

"but when people involved in looking after this, let us know when there's a problem, then we can act on it, and we want to make sure we keep those lines of communications open with our partners."

Leon Martin is with the quebec environemnt dept. he says the department acted as soon as it found out there was a health hazard. This week, they're testing the water at the wells.

"well we'll go and take water sample and make sure, if they're spread within 90 metres, we'll take water sample of the well and we'll have result between now and at the end of the week."

Meanwhile, people are warned to avoid drinking the water at their wells, and to call the doctor if they're feeling nausea or diarrhea. amanda pfeffer, cbc news, west quebec.

It comes in the wake of a warning

from Quebec public health officials yesterday telling residents in Charteris, not to drink their well water. Officials warn the water could be

contaminated with fertilizer from local farms. As Amanda Pfeffer reports, some researchers

say this particular fertilizer should be banned.

Health officials have received four complaints about nausea and diarrhea over the last week...

Yesterday, they issued a warning about well-water which borders on fields that have been treated with a bio-solid sludge made from effluent from the Thurso pulp-and-paper mill.

It's the same sludge Maureen Riley helped ban from being transported into Ontario last year.

Riley is an expert on sludge. She is contributing a backgrounder to the walkerton water inquiry on the subject.

This sludge, she says, is particularly foul, because it contains human sewage.

"there's a problem when you do that, bec. there are disease causing agents present in sludge, and put down in high rates. so the people who come into contact with sludge that the disease causing agents can be transferred to aroudn the community"

Riley says pulp mill fertilizers with sewage should be banned.

But Luc Lapointe disagrees there's a problem in his area.

He raises horses in Charteris. He's one of the farmers experimenting with the pulp mill sludge.

he says there is still no proof that there is any contamination to wells.

"i think people are just blowing it out of proportion.

And while it's true some peopel have phoned

in complaints of illness to health officials, no one has actually found coliform

contamination ... yet. Samples of the Wells close to fields

still have to be analyzed. meanwhile tonight residents will bring the  $\gamma$ concerns to a municipal meeting in Clarendin.. and a petition calling for a ban of this

fertilizer in their area. Amanda Pfeffer, cbc news, west quebec.

### **CANADA - QUEBEC - CHARTERIS/SHAWVILLE - PAPER** MILL SLUDGE MIXED WITH SEWAGE CONTAMINATES WELLS – FOUR VICTIMS SUFFER DIARRHEA AND NAUSEA.

CIDS SCMI

### THE CANADIAN INFECTIOUS DISEASE SOCIETY LA SOCIETE CANADIENNE DE MALADIES INFECTIEUSES 504-2197 promenade Riverside Drive, Ottawa, Canada K1H 7X3

Tel.: (613) 260-3233 Fax: (613) 260-3235 E-mail / C-elect.: cids@magma.ca

June 1, 2001

To Whom It May Concern:

On May 31, 2001 the Canadian Infectious Diseases Society (CIDS) was approached and asked to state its position on the spreading of sewage sludge on agricultural lands. At that time, the chairperson for the Public Relations Committee of the Society issued the following statement:

"Until further detailed studies regarding the spreading of sewage sludge are available, the Society would request that a moratorium be placed on such action in the Ottawa area. This would entail that the sludge be entombed at a sanitary landfill site. The position of the Society is that the health of Canadian citizens must be protected against potential infectious agents until there is clear cut evidence that such actions will not lead to any potential public health hazard."

The Society would like to emphasize that non-decontaminated sewage, waste sludge, and other biomaterials (solid or liquid) pose theoretical risks to human health. This is especially true if this material is placed into contact with the population's immediate environment, foodstuffs such as vegetables and plants for human consumption, or in close proximity to the water supply. Many human pathogens found in such bio-materials can withstand, and survive in, harsh environmental conditions and remain pathogenic to humans and domestic animals for long periods of time. Recent outbreaks of bacterial diseases (i.e. *E. colt* 015 7/H7 in Ontario) and parasitic diseases (i.e. *Cryptosporidium parvum* in Saskatchewan) show how fragile the barriers are, which currently exist to protect humans from waste-producing disease. Therefore, CIDS remains steadfast that the disposal of all bio-materials be done in a safe and efficient manner, and that studies be undertaken to ensure that current disposal/spreading techniques are safe for the human population. The fact that certain practices "have always been done like this" does not mean that they are necessarily safe in the present-day context.

The Society regrets that the city of Ottawa was specifically mentioned in the recent position statement, since CIDS has no knowledge that the city of Ottawa's practices regarding bio-materials is any more or less dangerous than any other municipality in Canada. The Society would like to see further assessments of the safety of bio-materials as they are used in Canada, in order to limit their use to what is known to be safe. A moratorium on their use is certainly in order where insufficient data exists regarding safety to the Canadian population.

The Canadian Infectious Disease Society is a non-profit organization, composed of medical and scientific professionals involved in the fields of Infectious Diseases and Medical Microbiology. We provide educational, professional, and research support to individuals in these fields.

Further inquiries about this statement or the Society may be obtained from Mr. Richard McCoy,

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Executive Director, at the numbers listed on this letterhead, or from Dr. Mark Miller, the President of the Society, at his office in Montreal (\$14-340-8294).

	CANADIAN INFECTIOUS DISEASE
Mark Miller, MD, FRCPC	SOCIETY CALLS FOR MORATORIUM
President	ON SLUDGE SPREADING



http://www.pulsus.com/Infdis/12\_04/reil\_ed.htm

### The Journal of the Canadian Infectious Disease Socia

### **COMMENTARIES**

July/August 2001, Volume 12, Number 4

The case against land application of sewage sludge pathogens

### Maureen Reilly BA

University of Toronto, Toronto, Ontario

There is currently a public debate about whether health, agricultural and environmental authorities should continue to allow sewage studge to be spread on farmland. Some of the concern in the debate is about the pathogen content of sewage studge. This concern was heightened by the tragedy at Walkerton where *Eschericha coli* 0157:H7 and other pathogens contaminated the drinking water supply of this Ontario town. The Canadian public were reminded how vulnerable they can be to disease when agricultural practices ajoin population centres without adequate health and environmental controls.

But pathogens are not the only contaminants of concern in sawage studge. Sewage sludge also contains potentially harmful levels of toxic metals and environmentally persistent chemicals such as polychionnated biphenyls and dioxins (1).

in the past, farm application was often not the favoured method of disposal. Sludge was incinerated or landfilled, and only a small percentage was applied to farmland. With air quality concerns increasing and landfill capacity at a premium, municipalities have moved to farm disposal of these waste sludges, especially in Ontario, where almost all wastewater sludges are applied on farms.

Have the risks to human health been adequately evaluated? Should government promote the transfer of these wastes to the countryside? Is t reasonable to ask rural residents to live next to sites where human excrement mixed with industrial waste is stockpiled and spread on the .and?

### Background

Flush toilets were invented almost 200 years ago, yet we as a society are still trying to manage the health and environmental impact of our pm waste. The whole idea of 'public health' developed in response to . e contagion created by allowing urban streets to flow with septic astes. Eventually, the crises in pests, disease and plagues led to the reation of an infrastructure of sewers to remove these wastes and onfine them away from the public in a sewage treatment plant.

Wer the past 20 years, with the public desire to protect surface waters orn sewage contamination, sewage treatment plants (accurately manned wastewater treatment plants) are designed to separate the ater in the sewer system from the solids and contaminents, and return ie water fraction the lake, river or ocean in a relatively purified form, ewage sludge, sometimes called 'biosolids', is the solid fraction of this raste. Wastewater treatments plants are not designed to treat the the udge effectively; they are primarily designed to clean the water action.

### /hat 'treatment' is required?

he industries that promote the placement of sewage on rural and gnoultural land like to speak of 'treated' sewage, 'treated' sludge or «osolids'. However, there is little in provincial statutes that sets out what 'treatment' may be required before sewage is placed on land. Requirements for sewage treatment vary from one wastewater facility to the next and may or may not be detailed in a Certificate of Approval or permit from the provincial Ministry of the Environment.

In Ontario, septage, which is untreated sewage waste pumped out of septic tanks and abbatoir waste, is also allowed to be spread or sprayer, on rural land. No treatment is required.

Often, the Ontario government adopts the American requirement for Treatment' that the sludge should contain less that two million fecal coliforms colony forming units/g. However, not all sewage treatment plants achieve this level. The Ashbridges Bay Treatment Plant in Toronto, Ontario processes sludge for about 1.7 million people. There are not enough digesters to allow for the recommended minimum 15 to 30 days of digestion of sludge in anaerobic tanks. Therefore, Toronto sewage sludge may receive as little as eight to 10 days of digestion (personal communication, Interim Compliance and Monitoring Committee, City of Toronto, Toronto, Ontario). The Ontarlo Ministry of the Environment has facilitated the spreading of this sludge with elevated pathogens by allowing the City of Toronto to average the test results according to a specific formula, so rural residents have no assurance that specific standards of disinfection have been met by sludge delivered to farms.

The fecal coliform levels in the City of Toronto sewage sludge have often exceeded even the above permissive standards. In 1999, levels of fecal coliform exceeded two million colony forming units/g, even when the city was allowed to average the test results over several weeks.

Toronto sewage has been trucked to a facility in Halton, Ontario where it was stored in an open pit the size of a football field. Neighbours of this facility have protested because foul odours have stopped them from being able to leave the house or open the windows. Residents near the facility have become seriously ill with enteric viruses, which they are concerned may be the result of their exposure to the sludge (personal communication, Laura Eagles).

### Do wastewater treatment plants 'treat' sludge?

Scientists at the University of Ottawa Faculty of Medicine prepared & research report for the City of Ottawa on whether the Ottawa Pickard Centre sewage treatment plant was effective in reducing pathogens in Ottawa sewage sludge (2). Their report concluded that "it is clear that the pathogen content of biosolids from the Pickard Centre may be relatively high...". The report also concluded that there was no reduction on glardla cyst levels, only a 49.9% decrease in cryptosporidium occyst densities and only slightly reduced levels of somatic collphages, suggesting a similarly small reduction in enteric virus loading in the land applied sewage (3).

A more detailed report on the health risks from pathogens associated with land application of sawage sludge can be found in "Hazards from pathogenic microorganisms on land-disposed sawage sludge" (4), whic outlines the range of pathogens found in sludge and their longevity in the soil.

A study of sewage workers at the Toronto Ashbridges Bay Treatment Plant showed increased incidence of disease com-pared with a similar group of workers not exposed to biosolids (5). The United States National Institute for Occupational Safety and Health has posted a health alert for those who work with biosolids (6). The Journal of Agromedicine also published a report linking odours with health risks (7). The research has implications for those workers, farmers and rural residences who are exposed to sewage sludge

### ICKS FROM SEWAGE SLUDGE

enues for pathogen transfer: Land application of sewage sludge can ad to the transport of pathogens through bioaerosols downwind of udge storage or spreading sites, through contamination of ground ater, drinking water wells, stockponds and surface waters, or through od contamination from eating food grown in sludge spread land, athogens can be transported to humans who walk through sludge xead fields. Wild animals, farm animals, birds, rodents and pets may scome infected by or transmit sludge pathogens. There is no quirement to post signs that sludge has been spread or stored on ads in Canada. Therefore, children, family members and others may scess and traverse sludge spread sites unknowingly.

loaerosol risk: A recent study from the University of Arizona (8) nows that the risk of windborne pathogens is significant within a 10 km idius of a sludge spread field. In Canada, the relatively cooler and etter climate may make this risk even higher.

isk to water: Sewage sludge contains a high concentration of wastes; deed, a 100-acre spread of sewage sludge represents the annual cal output of approximately 1400 people plus the industrial waste imponent. To compare sludge with manure, a field of similar size puld support 100 cattle.

ome provinces have 'guidelines' or other criteria that are intended to ldress the environmental and health issues related to the land opication of sewage sludge. However, these 'guidelines' are not the most detailed documents on the land application of sewage udge and other organic waste. However, the *Guidelines for the Use of* osolids and Other Wastes on Agricultural Land (9) are only a udelines'. They are not statutes or regulations, in Ontario, even after a Walkerton tragedy, reductions were allowed in the the separation trances between sludge spreading sites and drinking wells, lakes, ers and surface waters. Ottawa and Toronto are currently allowed to read sludge as close as 15 m to a drilled drinking water well and as use as 15 m to surface water despite provincial law that stipulates eater, more protective distances (10).

sk from food: The Ontario Ministry of the Environment and the nistry of Agriculture recommend that farmers observe a waiting nod between sludge spreading and the harvesting of some crops, d recommend that farmers restrict farm animals from fields recently read with sludge. These recommendations are not enforceable under rent legislation. Therefore, sludge spread fields can be used to grow all fruits such as strawberries or pasture livestock, and thus expose consumer to contaminated produce and meats.

imal transfer: Farm animals and pets such as cats and dogs can be bected to continue to travel through fields, even after the fields have an spread with sludge, and return to their owner's homes, spreading vage sludge to the family home. Birds may also visit sludge spread ds, and spread viruses, bacteria and parasites in their subsequent ppings.

### ues of concern

:k of research: The Environmental Protection Agency in the United tes, the Ontario government and the Water Environment isciation of Ontario have all acknowledged that pathogen risks from 3 application of sewage sludge have not been adequately evaluated, oth Canada and the United States, policies concerning land dication are under review for this reason. In the United States, the ional Academy of Science is conducting a risk assessment on the 1 application of sewage sludge. In Ontario, just a few months after likerton crisis, the Ontario Ministry of the Environment announced a ew of the regulations concerning the land application of sewage lige, septage and all biosolids. Lawsults in the United States: It is thought that several deaths in the United States have been attributed to the land application of sewage sludge, and lawsuits have been brought (11). One of these cases, concerning the death of Shayne Connor, who lived adjacent to a sewage sludge spreading site, is currently making its way through the New Hampshire courts. Other lawsuits involving livestock deaths have also been filed in Georgia.

**Regrowth:** A study conducted in Australia in 1997 looked at pathogen regrowth in soils that had been spread with sewage biosolids (12). Researchers found that during hot, dry months, there were reduced levels of pathogens (fecal coliforms and salmonellae) in stored and spread sewage sludge, but that the concentrations of pathogens rose during the wet cool months that followed. In some instances, the pathogen regrowth was to levels higher than found in the initial tests.

No informed consent: Farmers and rural residents are told that the subgets updated or pathogen reduction, there is no requirement to explain the health risks to farmers or those who live near sludge spreading or storage sites.

Occupational health and safety issues related to sewage sludge are starting to be addressed with the recent Health Alert from the National Institute for Health and Safety. Documents like the Safety Alert issued by the Spokane Regional Health District in the State of Washington are increasingly common in the United States and Great Britain. (13). However, action on public health education on sludge lags behind the occupational health and safety requirements for sludge handlers. The public needs to be informed of the pathogenic risk posed by sludge transportation, storage and soreading.

No storage: When rainy weather makes sludge spreading particularly risky for runoff and ground water contamination, most municipalities do not have adequate disposal alternatives for sewage sludge. The City of Toronto sludge has been evicted from the Halton storage facility, and the City of Toronto hauler is now storing sewage sludge in open piles in Ontario farmfields. The Ontario Ministry of the Environment has allowed the Toronto sewage sludge to be stored in huge open piles on farmfield in Northumberland County near Warkworth (14).

### CONCLUSIONS

Open field storage of sludge and sludge spreading near wells and surface water, increase the risk that sewage sludge pathogens will be transported to workers, farmers and neighbours, and increases the environmental risks of this wastedisposal practice. It seems unreasonable to offer the farm community 'free fertilizer' and promote its use when the public health risks associated with the land application of sludge have not been addressed. The case against land application does not stop with the issues posed by pathogens; other heath risks are associated with the elevation of heavy metals in the soils and foods, the release of mercury into the atmosphere from sludge spreading and the presence of priority pollutants in the land-applied sludge.

We seem to have forgotten the public health lessons of the 1800s and the underlying reason for sewage treatment plants themselves. The pathogen levels in sewage sludge are high and can even increase over time once the sludge is stored or applied to land. Land application allows sludge pathogens to be transported by weather events, and facilitates the spread of diseases to animals and humans. It is unreasonable to expect rural residents to tolerate exposure to these diseases in land, air and water. The Canadian Infectious Disease Society should be applauded for its call for a moratorium on sludge spreading until the risks to public health and the integrity of food are thoroughly evaluated.

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### TORONTO STAR - WEDNESDAY, JULY 11, 2001

### A real stinker

### Family sues municipality over odours wafting from dump site

### By THANE BURNETT

OAKVILLE - Back in the shade, aging dog Max chews on an old bone, hiding from a midday sun-

Overhead swings loop down from the tall willow trees of Allan and Laurie Eagles' rural property.

Near a back fence, a line of horses slowly march riders toward a neighbouring farm and a likely lunch.

But there's something in the air.

Something not quite right.

Something the Eagles have never gotten used to.

There are days, especially when the nearby fields of corn are harvested and there's no breeze, that the Eagles say you can hardly stand to be out in this country yard because of the stink.

And so it's all hit the fan over the Halton municipal sewage sludge and biosolid station, built just beyond the nearby treeline – an estimated 700 metres from where Max chews on his bone.

Laurie, 44, a nuclear medicine technologist at the Brampton Hospital, and Allan, 50, a Toronto police officer, have launched a \$2-million lawsuit against Halton Region and some Hamilton companies, including Azurix North America (Canada) Corp., contracted to manage the W.A. Bill Johnson Biosolids Management Centre.

The legal fight is starting just as Halton Region decided to renew a contract with Azurix to continue running the site.

Secluded, with only a few other homes to the west, the Eagles' property should be a haven. But the suit alleges for years they've been under siege from odours from the nearby biosolid centre.

"Our children have had to stand, waiting for the school bus, plugging their noses so they don't throw up," says Allan, looking toward the distant domes of the plant, which create biosolids – nutrient-rich organic material used as fertilizer – out of sewage. "It'll drop you to your knees."

On this day, unless you draw in deep, you hardly notice a thing. "But when you invite people over, it's ... Russian roulette with the stench," explains Laurie.

The couple's children, 12-year-old Tara and 10-year-old Jack, are also named as plaintiffs – say they have been held prisoners by the foul odours that, depending on the elements, push into their backyard.

They've owned this land since 1983 - three years before the containment facility went on line.

The suit describes the material as a stew of organic and inorganic materials, including human and animal fecal waste and a variety of heavy metals and chemicals. While court documents allege the centre was a source of a moderate level of odour since it opened, and began storing sewage material from the region, things allegedly got really bad soon after they started to store Toronto waste in an apparently unlined and

7/11/01

uncovered lagoon in late 1998. Officials used straw on top of the gunk to help control the stench.

"As the amount of material in the lagoon increased, so, generally, did the stink and odour," the suit reads.

In 1999, officials – according to the Eagles' suit – agreed to store even more Toronto waste in the lagoon. Things went from bad to worse.

The family believes, and the suit alleges, that as well as the sickly and possible noxious smell, the facility overfilled the lagoon to the point where it may have contaminated surrounding lands and water sources, notably the 16 Mile Conservation Watershed and aquifers feeding the wells of local residents.

"The plaintiffs' quality of life and health has been so severely compromised that the plaintiffs are no longer able to tolerate conditions in their home," the suit reads in the last line.

A spokesman for Azurix said it plans to fight the suit, but couldn't say anything more because of the pending action. While the municipality has also notified the Eagles that it will be defending itself, an official could not be reached yesterday to say more.

However, recently, the region announced that an internal audit found the site complied with provincial guidelines. But that doesn't smell right to the Eagles, who say this backyard should be a retreat, instead of having to retreat.

Local politicians, Alian argues, have let his family down.

During a speech to the municipal board, when she opposed the recent re-licencing of the facility, Laurie told the counciliors: "This is my backyard, and maybe the outcome ... would be different if this was in your backyard,"

### CANADA - SLUDGE VICTIMS SUE CLAIMING QUALITY OF LIFE AND HEALTH SO SEVERELY COMPROMISED THEY ARE NO LONGER ABLE TO TOLERATE CONDITIONS IN THEIR HOME.
#### STATEMENT REGARDING HEALTH EFFECTS SUFFERED BY LAURIE AND ALLAN EAGLES AND THEIR CHILDREN - 2363 BURNHAMTHORPE ROAD WEST, OAKVILLE, ONTARIO L6J 4Z3 905-827-8422

Our home is located approximately 700 -750 meters from a sewage lagoon for the storage of Toronto sludge under a contract which began in 1996. The lagoon is an unlined pit about 26 feet deep and located 200-300 meters from a major watershed. The lagoon was originally licensed for 12,000 tons of sludge, but the quantity has been increased so that there is now about 30,000 tons of sludge in the lagoon as of one month ago.

Our health problems began in 1997. Symptoms suffered by my husband, son - age 10, daughter - age 12, and me include nausea, vomiting, headaches, sore throat and throat irritation, hoarseness, burning eyes, burning in the nasal area and nasal congestion, abdominal distress including cramps and diarrhea, and thick, choking mucus. My son has developed severe nosebleeds and I have experienced heart palpitations.

Because of the vertigo and headaches I was experiencing, they did CT scans -- but no physiological abnormalities were revealed.

I have lived in this home for 20 years and have been drinking the well water all that time with no problems. However, last summer (2000) our well water tested positive for E. coli. My husband was hospitalized for 10 days last summer with Crohn's disease. He was also diagnosed as having *Clostridium difficile cytotoxin*.

(Telephone and email statements taken by Helane Shields, July 2001.)

CANADA - SLUDGE VICTIMS SUFFER NAUSEA, VOMITING, HEADACHES, SORE THROATS, HOARSENESS, BURNING EYES AND NOSE, ABDOMINAL DISTRESS INCLUDING CRAMPS AND DIARRHEA, THICK CHOKING MUCUS, SEVERE NOSEBLEEDS, HEART PALPITATIONS, CROHN'S DISEASE AND CLOSTRIDIUM DIFFICILE CYTOTOXIC -- LAWSUIT FILED.



#### EDITORIAL, OCTOBER/NOVEMBER 2001 -

Evidence suggests that programs for spreading sewage studge on Ontario farmland are poorty administered to the point of being dangerous. Government officials routinely sacrifice the health and property rights of rural dwellers for expedience in coping with the rising tide of exported city sewage. Strategies once touted as cautious have become a travesty.



The land application of what are euphemistically called "biosolids" has been promoted since the 1970s as a benign

alternative to landfill and incineration. In theory, Ontario's guidelines protect farm fields and groundwater from high concentrations of pathogens plus copper and other metals in sludge. In reality, sludge is not pasteurized to kill pathogens and, in the City of Toronto's case, metals content is averaged annually. Particular batches containing high contaminant levels often end up on farm fields. Sludge is also loaded with dioxin  $\rightarrow$  a suspected carcinogen. There aren't enough environment ministry inspectors to enforce the guidelines so sludge contractors provide their own oversight. Strangely, the legal lequirement to keep sludge 300 feel from water wells is routinely cut to use 50 feet by the environment ministry.

People who complain about odours and health effects are passed from agency to agency with no outcome. Even local medical health officers shrug their shoulders in the face of a strategy that's covered by Ontario's "ngm to farm" legislation, introduced years ago to protect farmers (ironically) from ruisance complaints over dust and noise from "normal" farm operations.

With sludge the legislation has become the "right to harm."

Enid Lipsett knows this firsthand. This summer she and her family – eyes and throats burning – fled their weekend home near Cobourg after sludge was placed on a neighbour's farm. She rushed her 10-month-old granddaughter to hospital in the midst of an unusual respiratory seizure and intestinal attack.

Virginia Kostiuk knows, too. Last May she left her Castleton home with her developmentally delayed 4-year old son shortly after a field was sludged across the street. The sewage, she says, was literally shot hundreds of feet in the air and volatized by sludge-application machines. The family returned when the smell subsided, only to fall ill. To this day her husband <u>Michael sleeps upright in a chair to breathe and control the flow of mucous</u>. When Virginia went to the hospital, the doctor who X-rayed her chest noted that <u>her rib cage was bruised from violent coughing</u>. The <u>gouple feets trapped in their house, which they are unable to sell.</u>

One of the worst stories involves the Smiths (not their real names), a middle-aged couple who bought a 200-acre farm in Marmora Township in 1985. The previous owners raised pigs, so the Smiths acquired a large

#### "THE RIGHT TO HARM"

hog-manure lagoon with their property. After this material was removed, the province used the lagoon between about 1985 and 1995 to store dewatered sludge from the Marmora sewage treatment plant. The Smiths were never paid for this accommodation. Some of the sludge was spread on their fields, uphill from their water well.

Annual tests of the well indicated heavy metals below regulated levels. The strontium seemed high, but the Smiths were told there's no limit for this compound. However, in 1995 Mrs. Smith began to feel ill. Her doctor sent a hair sample to Animol Labs in Concord. <u>Analysis showed that Mrs. Smith had elevated levels of lead and barium in her system, and "enough strontium for 300 people," the doctor said.</u>

Strontium replaces calcium in the human body, turning bones to jelly, it may also affect the liver and hormonal system. The Smiths stopped using their well and switched to bottled water. They later learned that strontium levels in their well were more than four times higher than the provincial safety guideline. The Smiths have severally below-normal hormone levels (akin to people in their 70s) and Mrs. Smith suffers a range of maladies consistent with liver damage.

The province reluctantly performed tests on the Marmora sludge that confirmed high strontium levels. Mrs. Smith sought the help of Dr. Paul Cutler, a physician who specializes in environmental exposures. After reviewing her blood tests he asked her seriously if she lived next to a nuclear waste dump. Her urine contained huge amounts of aluminum and her future health, and that of her husband, remains in doubt.

Laurie and Altan Eagles are also familiar with Ontario's "beneficial use" strategy for biosolids. They live with their two children in rural Oakville nec a biosolids facility owned by Halton Region. The facility contains liquidsewage containers and was expanded in the mid-1990s to include an unlined open lagoon several football fields in size that holds dewatered sludge from Toronto.

Mr. Eagles, a 27-year veteran of Toronto's police force, was shocked when noxious vapours from the sometimes-overflowing pit destroyed his family: quiet enjoyment of their property. The whole family now suffers from asthma-like respiratory problems, nausea, sore throats, nose bleeds and other symptoms they believe stem from the sludge lagoon emissions. Mr. Eagles lost 40 pounds last year and has developed visible tesions on his feet and skin. He has also developed Chrone's disease, a form of irritable bowel syndrome unknown in his family though it's normally inherited. He claims his neighbors have similar mysterious afflictions.

The couple recently launched a \$2-million lawsuit against Halton Region and the contractor for the site. We can only hope that the lawsuit snaps th regulatory authorities out of their stupor. Apparently the deaths of seven people and the illness of thousands from contaminated water in Walkertor Ontario was not enough.

Guy Crittenden is editor-in-chief of this magazine. Send your letters to:

gcrittenden@corporate southam ca

#### CANADA - SLUDGE VICTIMS SUFFER BURNING EYES AND THROATS, RESPIRATORY SEIZURES, INTESTINAL ATTACKS, NAUSEA, SORE THROATS, NOSE BLEEDS, IRRITABLE BOWEL AND CHROHN'S DISEASE, SKIN LESIONS, AND STRONTIUM IN WELL WATER CAUSING BELOW NORMAL HORMONE LEVELS, LIVER DAMAGE AND OTHER ADVERSE HEALTH EFFECTS.

## OTTAWA CITIZEN - MAY 10, 2001 (CANADA)

"Outaouais (Ottawa) Health Department officials issued warnings to households in Charteris to drink bottled water until further notice after four people in the community complained of nausea, diarrhea and other gastrointestinal problems. Officials suspect coliform bacteria."

"This is the first time it's ever been publicly admitted that human sewage being spread on agricultural land may be implicated in contamination and health problems," he said.

#### QUEBEC COMMUNITY SUSPENDS USE OF BIOSOLIDS by Karina Roman, The Ottawa Citizen.

A rural Quebec community in the midst of a water contamination crises has temporarily banned the use of sewage sludge on their farm fields.

The motion was passed at a council meeting of the rural municipality of Clarendon. If the provincial ministries of environment and agriculture cannot convince residents that biosolids are safe, the council might consider a bylaw to permanently ban their use, said acting mayor Tom Fahey.

Ottawa Health Department officials issued warnings to households in Charteris to drink bottled water until further notice after four people in the community complained of nausea, diarrhea and other gastrointestinal problems. Officials suspect coliform bacteria.

Quebec's Ministry of Environment says it's possible two wells were contaminated <u>after</u> a <u>farmer spread biosolid waste on his fields</u> too close to the wells. The sludge is made from industrial waste from a pulp and paper mill <u>and human waste</u>.

At the council meeting, residents expressed their concerns, said Mr. Fahey. "A lot of the ratepayers were asking for a bylaw to stop the use of it permanently and I guess that's still on the table," he said.

But there were a few farmers who voiced their feeling that it's a good product, a safe product and that it's beneficial to them and to the soil.

Chris Judd, <u>president of the farmer's union</u> for the Pontiac region, <u>agrees</u> with the temporary ban, at least until the water-sample test results come back. Those results are expected today or tomorrow.

"We're all really concerned and I'd be surprised that there's anyone who would want to use the stuff until this whole thing is sorted out," he said. Jim Poushinsky, Chairman of Ottawa Citizens Against Pollution by Sewage, said it's about time it's ever been publicly admitted that human sewage being spread on agricultural land may be implicated in contamination and health problems," he said.

Mr. Poushinsky said the biosolid industry usually points to the possibility of other sources of contamination, such as when the water went bad at Lynwood trailer park in Osgoode Township last summer. Septic tank spillover was blamed.

"If sludge has human waste in it, it potentially has every disease, every virus, every bacteria that affects human health, plus all the parasites," he said. "But for 20 years, they've claimed there's never been a problem with it."

Dr. Carol Legare, a physician with the Ottawa Public Health Department says if the water tests come back positive for coliform, it could be weeks before people can drink from the wells. The wells have to be disinfected and then subjected to two follow-up tests over the following month. Only then is the water deemed safe.

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## MAY 10, 2001 - QUEBEC HEALTH OFFICIALS SUSPEND SLUDGE SPREADING AFTER WELLS ARE CONTAMINATED WITH FECAL BACTERIA -"FOUR PEOPLE IN THE COMMUNITY COMPLAINED OF NAUSEA, DIARRHEA AND OTHER GASTROINTESTINAL PROBLEMS".

#### STATEMENT OF CHARLES & JEAN SMITH 974 SHAWVILLE, QUEBEC JOX 2YO 819-647-3935 Telephone conversation, Monday, October 15, 2001

The sludge was stockpiled in April 2001. On April 21, 2001, the Quebec Ministry of the Environment took the first water test and told us our well water was good. On April 28, 2001, the MOE said the water test again showed nothing. HOWEVER, we got the notice from the LOCAL health department on May 4, 2001 not to drink our well water.

I didn't take the MOE's word for it that our water was all right, so I had our well water tested by a private lab in Ottawa. The first test was done on July 17, 2001. It showed fecal coliform. They told me to wash out the well with bleach -- so I put 5 liters of bleach into the well. The next test was done on August 16, 2001, and the lab said the fecal coliform level was a little better. But the third test was done on September 6, 2001, and the lab said the bacteria level was worse than the second test.

Even as of this date, October 15, 2001, we still cannot drink our well water because of the fecal coliform bacteria. We have lived here for 42 years and never had a problem before with our water.

I, Charles Smith, have had 4 heart attacks and previous breathing problem. My breathing problems got worse after the sludge was spread. We experienced headaches, burning in the nasal area, and breathing difficulties including shortness of breath and wheezing.

CANADA - QUEBEC - DRINKING WATER WELL CONTAMINATED WITH FECAL COLIFORM --SLUDGE VICTIMS SUFFER HEADACHES, NASAL BURNING, AND BREATHING DIFFICULTIES INCLUDING SHORTNESS OF BREATH AND WHEEZING.

#### STATEMENT OF PATSY & KENNETH EMMERSON SHAWVILLE, RR 5 - JOX 270 - C884 QUEBEC, CANADA - 819-647-3636 Telephone conversation, Monday, October 15, 2001

We were first exposed to the land application of sewage sludge this year. Health symptoms I, Patsy Emmerson, experienced, included nausea, vomiting, headaches, hoarseness, nasal burning and congestion, shortness of breath and breathing difficulties, and abdominal distress including cramps and diarrhea.

I was out raking the yard on the day they spread the sludge. The next morning I noticed marks on the back of my leg which developed into sores.

I am still suffering headaches since the sludge spreading. I went to the doctor a couple of times after I developed health symptoms from the sludge exposure.

OUR drinking water was contaminated for 3 to 4 months after the sludge was spread. The Quebec Ministry of Environment lady came to test our water, and she told me not to drink it. The lady from the local health department also told us not to drink our well water.

I have diabetes and a compromised immune system. I used to go to a rehabilitation center in Ottawa. I had a sore like an ulcer on the bottom of my toe. The doctor told me if our water was not fit to drink, then do not bath or wash in it because bacteria in the water could enter my body through the open sore.

I, Kenneth Emmerson have a touch of asthma and had been taking medication for my lung problems. After they spread the sludge, my lung and breathing problems got worse. We couldn't sit outside --- we were just smothered by the sludge smell. If people came to our house, they had to leave because of the stench.

We have a little dog. When I took water from the tap, the dog refused to drink it. When I bought bottled water, the dog would drank that. But she wouldn't touch the water from the tap ... she just walked away.

CANADA - QUEBEC - SLUDGE VICTIMS SUFFER NAUSEA, VOMITING, HEADACHES, HOARSENESS, NASAL BURNING & CONGESTION, RESPIRATORY PROBLEMS, SHORTNESS OF BREATH, SKIN RASH & SORES, AND ABDOMINAL DISTRESS INCLUDING CRAMPS AND DIARRHEA.

#### STATEMENT BY ENID LIPSETT, 16 PINE BROOK HOLLOW, UNIONVILLE, ONTARIO L3R 3Z8 705-924-1823

I was first exposed to sewage sludge in July 2001, when it was stockpiled about 1/4 mile from my home. The stockpile area was about the size of a football field and the sludge remained there until about September 21, 2001.

My daughter brought my 10 month old granddaughter to visit after the sludge was stockpiled. The baby was outside in her play pen quite a bit. The child suffered nausea, diarrhea, coughing and respiratory difficulties. We took her to the hospital and contacted our family physician the next day.

My daughter brought the baby to visit again at the end of August ..... and the baby suffered the same symptoms, including bad diarrhea. The baby had been fine before my daughter brought her to my home. After the second instance of illness in August, my daughter and her fiancee did not come to visit me for quite a while because they didn't want the baby to get sick again.

The sludge was spread on September 21, 2001. Our driveway is 250 yards from the road and the sludge was spread directly across the road. I have not been feeling well all fall. Symptoms I suffered include nausea, vomiting, headaches, nasal congestion and constant nasal burning, dizziness, headaches, and abdominal distress including cramps and diarrhea.

Telephone statement taken 12/26/2001 by Helane Shields

CANADA - SLUDGE VICTIMS SUFFER NAUSEA, VOMITING, COUGHING, RESPIRATORY DIFFICULTIES, NASAL BURNING AND CONGESTION, HEADACHES, DIZZINESS AND ABDOMINAL DISTRESS INCLUDING CRAMPS AND DIARRHEA

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LEN LIZUEL CORRE

Your Health Partner for Life! Haibuston, Kawartha, Pine Ridge District

A. Hukowich, M.D., C.C.F.P., D.P.H. · Medical Officer of Health · Executive Officer, Board of Health

March 12, 2002

Mrs. Enid Lipsett R.R. 1 Warkworth ON K0K 3K0

Dear Mrs. Lipsett

Enclosed is a copy of my report relating to your complaint concerning illness in your granddaughter Madison. I have concluded that your granddaughter did suffer from an adverse health effect as a result from the storage of sewage sludge from the Ashbridges plant of the City of Toronto on a neighbouring property. The standard that I have used in reaching this conclusion is the civil standard of a balance of probabilities, in that I have concluded that it more likely than not that she suffered an episode of respiratory distress and that this was a result of the highly offensive odour from the sewage sludge. However, I do not believe that can come to a conclusion that the storage of the sewage sludge was a health hazard as defined within the meaning of the Health Protection and Promotion Act as I believe that I would require a higher standard of objective evidence to conclude that a legally sanctioned activity was indeed a health hazard.

While I have discussed your complaint in general terms with representatives of the Ministry of the Environment as I am required to do under Section 11 of the Health Protection and Promotion Act, I have not provided my specific findings or any of the information containe in the report I have provided to you. With your permission, I would of course be pleased to supply a copy of this report to the Ministry of the Environment.

Since it is my understanding that the neighbouring property no longer has a Certificate of Approval for further deposition of sewage sludge, there should not be a repeat of the circumstances of this past summer. However, in my discussions with representatives of the Ministry of the Environment I have advised them that given the specific circumstances of the strength of odour from the sewage sludge produced by the Ashbridges plant in the City of Toronto, that should the Health Unit receive further complaints of illness attributable to storage or spreading of this particular material, the Health Unit will investigate, and if it is able to find any objective evidence of human illness, I would be prepared to conclude that there was a health hazard within the meaning of the Health Protection and Promotion Act anaissue appropriate orders to reduce or eliminate such hazard. As well, the Health Unit would attempt to evaluate the degree of material discomfort suffered by a panel of persons, including myself, so that I might be in a position to conclude that the material was resulting in an adverse health effect. In such a case I would strongly recommend to the Ministry of the Environment that they make appropriate use of their legislative authority to suspend those activities resulting in such an adverse health effect.

Should you require any additional information or interpretation of my report or conclusions, would be most pleased to discuss this matter with you.

Sincerely, A. Hukowich, M.C., C.C.F.P., D.P.H. - Medical Officer of Health

## CANADA - ONTARIO - MEDICAL OFFICER OF HEALTH CONCLUDES CHILD SUFFERED "ADVERSE HEALTH EFFECT" - (RESPIRATORY DISTRESS) -FROM SLUDGE STORAGE FACILITY

#### CANADA - THE PICTON GAZETTE - February 6, 2002 (ONTARIO)

#### **BIOSOLIDS STOLE MAN'S BREATH**

## RESIDENT DEVELOPED ASTHMA AFTER WORKING WITH SLUDGE FOR THREE YEARS.

#### By W. Brice McVicar, Gazette Staff

The Ministry of the Environment may have recently assured Prince Edward County Council that spreading biosolids on farmers fields is perfect safe, but Brian Marshall of Picton doesn't agree.

For three years, Marshall worked for a company in Ottawa that spread biosolids but had to leave his job due to health problems, problems he never suffered from until he began working for the company. He loaded trucks with biosolids which were then transported to farmers' fields in the Ottawa area where the liquid was spread.

Marshall now has severe asthma and is on a number of medications to help him though he can no longer stand fumes of any type such as diesel fuel, cigarette smoke, and gasoline.

"I was healthy before I worked there. When I worked there I got blotches - sores - on my face. I asked them what was wrong and they told me I just had to get used to the environment," Marshall told the Gazette.

"Three months later the sores started to go away and then my lungs gave out on me. I was called a whiner and all sorts of names." Marshall's "whining" resulted in air quality tests at his place of work. The tests revealed a number of chemicals in the air including ammonia, methyl mercaptan and dimethyl sulfide.

He called the Poison Control upon receiving a report of the findings and was shocked to learn the latter two chemicals are pesticides. The air tests also revealed the exhaust fans at the plant he worked in were not running properly and allowed these chemicals to linger in the air.

"I wouldn't want it around me," he said in regards to biosolids. "If I could go back, I wouldn't have taken that job. I used to say this stuff was safe. I used to think it was okay to put on farmers' fields. I don't think so anymore. I think it'll make everybody sick."

He explained he was once warned about taking his clothes and work-boots home after work. A technologist at the plant told him it was unsafe to wash his work clothes in his home or wear the clothing near his children. Marshall, though he had already been working for eight months, began changing his clothes before going home. "Our life has been turned right around," the father of four and husband stated. "We had plans in life and getting that job was the final thing in my life to make that kind of money. Now I have no future -- I've either got to be retrained or live on a fixed income."

Marshall stressed he can no longer play with his children the way he did in the past. He used to be able to wrestle with his three sons but he no longer has the breath to do any labourious activity.

"In this day and age," he noted, "I can't believe it happened in Canada. I would tell anybody not to do anything which they think might not be safe. I'd rather make \$500 a week for the rest of my life than making \$60,000 a year at that job."

## CANADA - SEWAGE WORKER/SLUDGE VICTIM SUFFERS SKIN SORES AND SEVERE ASTHMA

## CANADA

The Lindsay Post January 29, 2002 by Ben Medd Daily Post Reporter

#### CANNINGTON FARMER DEAN BEATTY STANDS IN FRONT OF THE 'SLUDGE FREE' SIGN HE HAS PLACED AT THE END OF HIS DRIVEWAY. THE FARMER SAID PAPER SLUDGE ON A NEIGHBOURING PROPERTY HAS LIKELY LEAD TO SICKNESS AND DEATH IN HIS HERD OF CATTLE.

Aborted cattle, unusually high mortality rates among a herd of dairy cattle and crippling asthma attacks have reportedly become the norm in the small town of Cannington. The norm, that is, since local councillor Reg Starr began spreading paper and sewer sludge onto his family farm near Cannington.

Starr's neighbour's said they have been in a fight for their lives and livelihoods since the councillor began allowing the spread of paper sludge onto his property, 10 years ago this summer. The sludge issue once again heated up last week, when trucks reportedly operating on behalf of the City of Toronto, lined up at Starr's home to truck away piles of sewage the city had sent to the Starr farm.

The sewage, which had been turned into pellets and sold as fertilizer by Toronto, had been deemed 'waste' by the Ministry of the Environment and its York/Durham office then reportedly ordered the removal of the pellets by late November 2001.

Maureen Reilly, the sludge issues chair for the Sierra Club of Canada, said Starr failed to remove the sewage pellets, despite the MOE order. Reilly stated the MOE then turned to the producers of the pellets, the City of Toronto, and requested the city step in and have the illegal waste removed. This order was complied with late last week, as large transport trucks lined up outside the Star farm in order to move the waste back to the Keele Valley landfill.

While the offending waste has been taken off the property, Reilly said the damage may already have been done, as the sewage pellets, which reportedly contain heavy metals and have been known to spontaneously combust, had been placed near a small creek. Reilly said the leachate from sewage pellets shows the presence of methyl ethyl ketone, pentrachlorophenal and chloroform and could do damage if it were to enter the local water systems.

"The leachate from the sewage sludge and paper sludge is sitting out on tiles in the open air and seeps into the creek which feeds (neighbouring) animals," she said. The same creek flows through Riversite farm, a fifth generation cattle farm bordering on the Starr property. Owned by Dean Beatty, Riversite has been experiencing problems as of late, the sewage pellets being the most recent. Beatty, whose farm has a 'Sludge Free' sign displayed at the bottom of its driveway, said he was relieved the sewage pellets were finally being removed but said he was still concerned about the safety of the people and animals living near the Starr farm.

The local farmer said he is continuing to oppose the presence of paper sludge on the Starr farm, which he believes has had an effect on his cattle. "We have a herd of 55 cattle and they have been getting sick," Beatty told the Dairy Post. "There have been a lot of sick cattle and a lot of abortions in cattle. A year ago we lost 10 cows and that really hurts." Beatty said the number of sick cattle has been on the rise since Starr began using paper sludge on his property 10 years ago.

"Before sludge we would lose one cow in a bad year...it has increased incredibly since they (Starr) started spreading this stuff." he said. "There's nothing else that has changed in this area so it has got to be that sludge."

But the cattle are not the only ones who are affected by the application of the paper sludge. Beatty said.

"People are getting asthma attacks, "Beatty said - "Even three or four miles away, their breathing will start tightening up as soon as they (Starr's) start spreading the stuff."

# CANADA - FARMER SAYS SLUDGE CAUSES SICKNESS AND DEATH OF CATTLE AND ASTHMA IN HUMANS



Solid Waste

#### Cover Story: Sludge Fight

land application of sewage sludge. It's time to reconsider the guidelines for this practice.

#### By Guy Crittenden

German politician Otto von Bismark once remarked that "those who love sausage and the law should never watch either being made.

The same could certainly be said of sewage disposal and the rules that govern it. Although no one "loves" sewage, many farmers and politicians are enamoured of the trend toward using more and more of it as a soil amendment on farm fields. However, if recent developments in Ontario are any indication, what was originally promoted as a safe disposal option for cities and towns --and a free source of fertilizer for farmers -has become highly controversial

On one side of the debate are cities like Toronto that -- in response to concerns over air pollution -- plans to close its aging multiwastewater treatment plant. Six years ago the city decided that half of the roughly farmland, the rest processed at a new \$23fertilizer. The pellet program is modeled under the brand name "Milorganite." (The accidents in future.

Says Kiyoshi Oka, a senior engineer with Toronto's water pollution control unit, "Applying biosolids on farmland is perfectly safe if the rules are followed. It's better to recycle this nutrient resource than simply landfill or incinerate it

Certain urban activists agree. Karey Shinn and the grassroots Safe Sewage Committee led the fight to shut down the Ashbridges Bay incinerator. In August 2000, Ms. Shinn told the *Toronto Star*, "[Land application] is a vast improvement over blasting tons of the stuff into the air.

On the other side of the argument are residents in the rural areas that receive these wastes. Many believe that cities like Toronto are simply transferring urban pollution to the countryside



**JANUARY 2002** 

A fierce debate has erupted between urban and rural communities over the

Zoom 🔎

hearth incinerator at the Ashbridges Bay 53,000 tonnes of sewage sludge the plant generates each year would be applied on million pelletization plant and sold as loosely on an American sludge fertilizer product that's been marketed for decades sludge that made Milwaukee famous!) The program got a shaky start when one of the stockpiles of Toronto pellets went into spontaneous combustion on a farm field in Darlington this summer and took days to put out But Toronto officials say their new documentation explains proper storage requirements and will help avert such

#### Z00#2 -

Zoom 🔎

Jack Eagles (son of Laurie

and Allan) covers his face

nearby open sludge lagoon. Halton Region has said this is not a health issue and

that official reports indicate

to avoid the small of a

no odour detected.

Enid Lipsett in front of a farm field that was sludged - and on which sludge was stored - late this summer beside her weekend home near Cobourg, Ontario. Ms. Lipsett and her family -eyes and throats burning -had to flee their home and rush 10-month-old granddaughter Madison to hospital in the midst of an unusual respiratory seizure and intestinal attach.

Anecdotal evidence suggests that, at a minimum, many people have had to literally flee their homes for days to escape the fumes from recently sludged fields. Worse, some claim to have suffered respiratory infections and, in various cases, other ongoing negative health effects they believe stem from exposure to aerosolized sludge or contaminated well water.

In August, Enid Lipsett and her family fled their weekend home near Cobourg to escape the overpowering effects of sludge spread on a farm across the road. Her 10-month-old granddaughter was hospitalized from a respiratory seizure and intestinal attack Castleton's Virginia Kostiuk, her husband Michael and four-year-old son had a similar experience that left the couple ill and traumatized. An infirm elderly couple from Marmora Township have laboratory evidence that suggests that elevated levels of lead, barium and strontium in their bodies relate to water from their well that was contaminated by unsafe storage of municipal sludge on their property over a number of years. Oakville's Laurie and Allan Eagles have launched a \$2-million lawsuit against Halton Region and a waste contractor. They believe that their family's numerous respiratory problems, unexplained nausea, nosebleeds intestinal disease and other illnesses were caused by the unsafe storage of Toronto sludge near their home over several years in an unlined, open pit that sometimes overflowed. (For detail, see "The Right To Harm," in the October/November 2001 edition )

One of the people leading the charge of concerned rural citizens is Maureen Reilly, an outspoken critic who became a full-time environmental researcher after she first encountered sludge sprayed on a farm field near her rural property in Kirkfield, Ontario

Says Ms. Reilly, "In its rush to end incineration. Toronto has utterly failed to

develop reasonable alternatives. Ín

protecting its sludge program, the city is offending many communities and has put the health and well being of rural residents at risk."

So who's right? Are rural residents alarmists? Or is there reason to be concerned'

The timing of such questions is appropriate. Partly in response to the E. coll drinking water tragedy in Walkerton in which seven people died and hundreds fell ill. Ontario's environment ministry is exploring the issue through two initiatives that should interest stakeholders across Canada.





According to Laurie and Allan Eagles - who have launched a \$2-million lawsuit against Halton Region and a sludge contractor -- this photo from the summer of 2001 shows bright green coze that overflowed over vegetation and into a conservation area from an unlined open pit near their home in which City of Toronto sludge was stored for several years.



The first is Bill 81, the Nutrient Management Bill, which will update the rules that govern the management of manure, sewage sludge, paper mill sludge, and so on. No standards or regulations have been proposed to date, but the bill provides an opportunity for the province to chart a new course in sludge pollution prevention, if it chooses. Any new rules will probably be phased in over five years. These could range from minor tinkering with the current *Guideines for the Utilization of Biosolids and Other Wastes on Agricultural Land* (first introduced in March 1996) or something more radical.

The second initiative is a consultation project administered through the Recycing Council of Ontario (RCO) that will explore opinions and potential modifications to the biosolids guidelines. Given the hundreds of pages of complaints on file in government offices in Niagara, Peterborough, Ottawa, Clarington, Warkworth, Prince Edward County, Cornwall and elsewhere, the consultants will likely get an ear-full.

#### A brief history of slime

Up until the mid-1970s sewage was landfilled, incinerated or simply released, untreated, into the environment, Incredibly, in Canada today some municipalities like Victoria, B.C. and Halifax, N.S. continue to discharge their sewage into surface waters untreated -- a shameful situation.

Sludge spreading evolved in the United States in the mid-1970s as an alternative to these practices.

Municipal sewage sludge may contain heavy metals such as cadmium, mercury, arsenic and lead, as well as organic contaminants like dioxin, PCBs, pesticides and alkyl phenols (detergent agents). These materials pose a nealth and environmental threat when burned in low-temperature incinerators or released into water.

Sludge also contains pathogens, spent pharmaceutical substances, and resistant bacteria strains (potential "superbugs") that survive secondary treatment within in-vessel anaerobic sewage composters. Sheep eating cabbages grown on sludge have developed lesions of the liver and thyroid gland. Figs have elevated levels of cadmium. Biosolids workers are at risk of exposure to saimonella, shigella, camylobacter, cryptosporidium, glardia and enteric viruses. Although sludge-spreading proponents sometimes dismiss their critics as hysterical, it's reasonable to at least wonder whether any potential unforeseen danger lurks in our recycling of sewage -- and everything sewage contains -- onto the land base on which we grow our food. And on which animals graze whose milk and meat we ultimately consume.

"The U.S. EPA has acknowledged that the data on health risks from patnogens from land-applied sewage sludge has not been addressed," says Maureen Reitly. "Therefore the National Academy of Science has Struck a panel of experts to develop a risk assessment."

#### She notes that

some wastewater industry panelists were perceived to have a conflict of interest and were removed. Ontario funded a review of toxins in Ontario sludges, she says, by members of the Water Environment Association of Ontario (WEAO), a municipal/industrial group, to determine which ones are well understood and which ones are not. The conclusions of this review have not been made public.

A 1996 British royal commission into sludge found that common sewage treatment systems of the kind used in Canadian cities are not effective in killing viruses or the eggs of intestinal worms. It recommended that sludge be pasteurized

Some experts have concluded that gasification and high-temperature technologies that capture the methane in sludge for energy generation may be the most environmentally sound disposal methods. However, these are expensive and have mostly been sidelined by public officials who believe that sludge spreading is safe.

In their ironic 1985 book *Toxic Sludge is Good for You!* John Stauber and Sneidon Rampton recount the amusing story of how the Water Environment Federation (the WEAO's U.S. cousin) struck a name-change task force to determine a PR-friendly name for sludge, the spreading of which on farm fields had come under attack. In June 1991 the task force selected the term "biosolids" from more than 250 suggestions that included "humanure," "geoslime" and "bioslurp."

In 1992 the U.S. EPA modified its Part 503 technical standards which regulate sludge application on farmland, reclassifying what was previously designated a hazardous waste as "Class A" fertilizer. Along the way, sludge-spreading programs were re-christened with the somewhat Orwellian term "beneficial use," (Try protesting against that!) The EPA further modified the Part 503 regulations to allow more heavy metals in sludge fertilizer.

Canadian provinces developed their sludge standards largely in imitation of the Americans and, like them, implemented guidelines, and not more powerful laws and regulations, to administer sludge spreading. Critics say that in Ontario, site-specific Certificates of Approval usually contradict the biosolids guidelines which themselves contradict the provisions of Regulation 347 (the waste section of the provincial *Environmental Protection Act*). This can lead to practices in the field that are the least cautionary. One example is that Certificates of Approval allow the environment ministry's district managers to use their discretion and reduce the precautionary distance that sludge is spread from water wells, which happens frequently.

#### The tanks are coming

Back in 1981, Ontario generated approximately 192,000 tonnes of sludge of which about 60,000 tonnes were spread on agricultural land. Seven years later the amount had almost doubled to 360,000 tonnes, yet still only 60,000 tonnes were land-applied. This was parity because Toronto -- the largest generator -- incinerated its sludge and provincial rules dictated that sludge from paper mills be classified as industrial waste. By 1993 the paper sludge was reclassified as an organic waste eligible for use as a soil conditioner.

Today, the amount of sewage sludge spread on farmland has more than doubled to approximately 123,000 dry tonnes. This is in addition to the enormous and growing amount of animal manure from intensive hog farms and livestock operations. Rural municipalities have no choice but to accept it, as the province recently re-wrote the rules in favour of urban sludge.

For instance, Simcoe County's objections to sludge spreading were overruled by Ontario's environment ministry on the grounds that "the county's waste management mandate does not extend to agricultural utilization" and a municipality has no authority to regulate a "normal farm practice."

The "right to farm" panel hasn't had a test case on sludge spreading, so the ministry's judgement might not be founded on fact or tribunal opinion in any case, "right to farm" legislation was originally passed to protect farmers from nuisance complaints about dust and noise from their operations. The spraying of odorous biosolids on fields was probably far from the minds of legislators

There's "money in muck," as they say. It's estimated that a city like Toronto typically pays a hauter about \$109 per tonne to dispose of its studge on farmland. The hauler is allowed to put eight tonnes of sludge on a hectare (about two acres). In this case, a 100-acre farm would receive about 400 tonnes of sludge. A waste hauler, therefore, could earn over \$40,000 by applying a single application of sludge on such a site.

Haulers may not pay farmers to take the sludge, as this would make farms "waste disposal sites" requiring permits like a landfill. Some haulers, however, encourage farmers to see the benefits of sludge by leasing the land from the farmer.

"Sometimes cash croppers agree to receive the sludge on leased fields," says Ms. Reilly. "The actual land owner may not know about the sludging. I have four of these walk away' scenarios in front of me right now."

According to her, one large disposal company recently bought large tracts of farmland expressly for the purpose of spreading sludge.

"They thus vertically integrated their operations," she says.

On the surface, the guidelines for biosolids appear to offer environmental safeguards for this expanding and apparently lucrative business. Biosolids are not to be spread on approved lands within 90 metres of individual residences and they must be 450 metres away from a residential area. Biosolids must be 15 metres from any watercourse (provided that the sewage biosolids are immediately incorporated into the solt), 15 metres from any drilled well and 90 metres from all other wells, including dug weils.

Soil samples from fields to receive sludge are supposed to be analyzed for pH and phosphorous, and application rates must not exceed the "five-year loading criteria." They may not be applied in frozen conditions.

According to Toronto's Kiyoshi Oka, "It's in our interest to ensure that Toronto's biosolids are handled in an environmentally appropriate manner and in compliance with the provincial guidelines and applicable statutes."

Sut critics charge that many of the criteria in the guidelines are discretionary and, with inadequate oversight, opportunities abound to cut corners. They say that Ontario's environment ministry, which has lost one third of its staff in recent years, lacks the resources and manpower to administer sludge spreading operations. Contractors are required to pay qualified inspectors to oversee sludge spreading, but the inspectors do not nave the union protection and job security afforded to regular government employees.

"It certainty has the appearance of the fox guarding the hen house," says Ms. Reilly, "when the supposedly independent inspectors are paid by the studge contractors."

#### The worm turns

Farmers who accept sludge say it saves them in the order of \$100 per acre in tilling and fertilizer costs. Yet the question arises, why should urban ratepayers subsidize farmers in this way? Rural opponents question whether crop yields really increase from sewage spreading. Is this truly "nutrient management," they wonder, or just a thinly disguised expedient cisposal option?

"The vast preponderance of science on beneficial use," says Mr. Oka, "supports the contention that it is a safe practice when programs are properly administered."

And there are certainly reports that support this contention. But other credible studies have emerged that are disturbing.

In 1999, McBride and colleagues at Cornell's Waste Management Institute published a detailed critique of the risk assessment the U.S EPA conducted in developing its standards. The researchers discovered a series of data gaps and "non-protective policy choices" that resulted in "regulations that are not adequately protective of human health and the environment."

According to Ellen Harrison, director of the institute, "Risk assessments can hide a multitude of assumptions and bad data, and that's what they " (the government) did."

Rural resident Jim Poushinsky coordinates a local citizens' group called CCAP (for "Osgoode Citizens Against Pollution by Sewage"). He points to a recent peer-reviewed study by scientists Dowd, Gerba and Pepper at the University of Arizona, published in the *Journal of Environmental Quality*. The researchers devised a model for predicted risk that demonstrated that people may need to be 10 kilometres awaysfrom a Class B sewage spreading site to be "safe," i.e., to have the risk of infection in healthy adults diminish to one in ten thousand.

They determined that there is a 14.4 per cent risk of bacterial infection and a 52 per cent risk of viral infection at a distance of 500 metres from a spread site if there is a light wind (11 mph) and 24-hour exposure. This measurement is shocking in that sludge spreading routinely occurs in Ontario in conditions even more likely to trigger an infection. Spreading sometimes occurs near schools, nursing homes and other residences whose occupants may be infirm or immunosuppressed. If the researchers' model is correct, it supports the suspicions of rural people that they may indeed have been made sick by sludge spreading.

Dr. Tom Bates sat on the committee that formulated Ontario's original sewage spreading guidelines. He has written that the standards were simply educated guesses, as the science was inexact at the time. For instance, the panelists took the known average level of toxic heavy metal in ordinary soil and arbitrarily doubled it -- and that became the guideline. No standard was set for organic contaminants such as dioxin as there wasn't data back then. And no account was taken of new bacterial strains such as the E. coli that devastated Walkerton. Pathogen standards related primarily to issues of concern involving rats, and other vectors. None of the people on the original committee was an expert on pathogens, he states. He and his colleagues assumed the preliminary standards would be altered over time.

But they weren't, and their educated guesses remain the foundation of today's sludge standards. This, despite studies that show that pathogens may re-grow in sludge stored on or spread upon fields.

In conclusion, it may be that a carefully administered agricultural application program -- with independent oversight and enforceable extra safeguards -- could function as proponents hope and claim. But it's clear from the evidence that the guidelines, and the standards upon which they're based, are overdue for a detailed and impartial expert review. And it's clear that the real-world activities of studge disposal contractors require greater oversight, if only to offer the public some peace of mind. The regulations need to be precautionary and enforced -- not a cich that can be twisted and stretched to cover any eventuality, to make disposal easier This is certainly not an ordinary farm practice and should be excluded from "right to farm" legislation. A stringent approach is needed that keeps sludge far away from water wells and vulnerable people.

The status quo, quite literally, stinks.

Guy Crittenden is editor-in-chief of this publication

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#### CANADA - OTTAWA - DECEMBER 17, 2001 - MORATORIUM ON SLUDGE SPREADING

City Council has instructed Medical Officer of Health, Dr. Robert Cushman, to do a review of the global science regarding the spreading of sewage sludge biosolids, and to prepare a report on health and safety issues to be presented to City Council in March 2002, before a decision is made on whether to resume spreading biosolids.

Until then an official moratorium on spreading biosolids will begin Dec. 17th. This resolution was passed by unanimous consent. Momentum is also building for a 3 year moratorium, as the vote on Doug's moratorium was defeated by 14 votes to 7, with a number of Councillors voting against it because they want to await Dr. Cushman's Report before deciding whether to ban it for the long term.

Special thanks to Carol and Frank Melanson, Bev Wigney, Bernie Dertinger, Karen Switzer-Howse, Estella Rose, Amy Roy, Gary Bryan, and Peter Tanner for participating in recent meetings - with City Councillors, with Dr. Cushman, and with the Mayor's senior advisers. Our erforts convinced the powers that be, and made it possible to reach the understanding with staff and Council that made today's unanimous recommendation possible.

Thanks also to all the others who have helped behind the scenes to achieve this goal, -Maureen Reilly, Carol Poushinsky, Don Wigney, Debbie Bryan, Sylvia and Bob Spassoff, Laurel Bouskill, Sharyn Heagle, Hugh Roddick, Randal Leavitt, Brian Fisher, Cathie Patterson, Cynthia Pohran, Ernie Lauzon, Howard Edel, Kathy Zapallow, Mike and Buffy Nekechuk, Ron Pyper, Susan Harrison, Werner Daechsel and so many others like the rural press.- Erika Caines, Joe Morin, & Martha Tanner spring to mind.

And thank you to Councillors Doug Thompson and Wendy Stewart for leading the effort to stop and assess the biosolids spreading at City Council, and to all the members of Council and to Dr. Cushman and other city staff who are taking our concerns seriously, including Environmental Committee Chair Peter Hume who moved the motion for a scientific review and temporary moratorium.

Unfourtunately I also have some bad news. There has been a major spread of biosolids at Edwards near the Lynnwood Trailer Park. People there are really distressed. I have just been talking to a farmer who fears his cattle will be harmed by drinking contaminated tile drain effluent polluting the creek. I will pay him a visit tomorrow and see about collecting samples. I'd appreciate feedback about the best way to collect samples of tile drain effluent so that the samples are scientifically valid.

That's all for now.

Cheers,

Jim Poushinsky

## CANADA - OTTAWA - DECEMBER 2001 -MORATORIUM ON SLUDGE SPREADING -HEALTH AND SAFETY ISSUES TO BE STUDIED

## Council cuts the ... sludge - By CLAUDETTE CAIN -- Ottawa Sun

#### MAY 12, 2002

Brave to City Council for sticking to its guns. There will be no more spreading of sewage sludge on agricultural lands in Ottawa! That's it – end of story.

We've had three majority decisions to put an end to this dangerous and despicable program. But as I watched the 2 ½ hour debate during last Wednesday's council meeting, I thought for sure the fix was in.

A pile of amendments and new motions was obviously prepared well in advance by some nameless soul, all of them dealing with the assumption that the spreading of biosolids would go ahead.

Somebody had been busy drafting compromising motions to increase setbacks from stockpiles, extend separation distances from watercourses, improve monitoring of the biosolids program and halt sod production for five years after spreading. My sense was that those supportive of the sludge program were trying to make it easy for the naysayers to back down.

They could save face, because of all the added precautions being proposed. But they didn't bite.

Self-proclaimed farmer extraordinaire Glenn Brooks made a few too many passionate pleas without checking his facts and was picked up on it. Dwight Eastman warned the world about the financial disaster for farmers if the program was scrapped and Jan Harder fought like a lion to keep the stuff out of the Trail Rd. landfill site.

Mayor Bob changed his vote from the last council meeting and supported the biosolids program. He spoke of his support for all the farmers and how he trusted the "experts" who told him there is no problem with spreading this stuff.

But all the farmers do not support the spreading of sewage sludge and I'm sure they are happy now in spite of the mayor's flip flop. I suspect we'll have to reassign a few smoke police to watch out for imported sludge from foreign lands onto our precious soil. You see, at least half a dozen times during the council meeting, the farmers extraordinaire, a.k.a. city councilors, warned that we should expect the spreading of sludge brought in from other areas.

Since we supposedly have 95% compliance of the smoking ban, I expect Dr. Cushman to now order the bylaw officers to patrol our rural areas for sneaking sludge spreaders illegally coming to town. Maybe we need another new bylaw with stiff fines for anyone caught with that smelly stuff within our boundaries.

On a serious note, we should be proud of the leadership shown to ban spreading of biosolids on the basis of the Precautionary principle. Better safe than sorry.

The program has gone on for over seven years, with no forward-thinking plan as to what viable, alternative measures should be considered. Now, staff have no choice but to get off the biosolids bandwagon and begin researching the alternatives.

Wednesday's vote is proof that people can make a difference and influence public policy at the municipal level. Those who worked diligently to educate our politicians and the public on the danger of biosolids to our health, our water, our food and our environment can be proud of this accomplishment.

## ONTARIO, CANADA - LANDSPREADING OF CLASS B SEWAGE SLUDGE ENDED -MAY 2002

## CANADA - <u>THE OTTAWA SUN</u> - APRIL 10, 2002 Fears may flush city's biosolids use By Ann Marie McQueen

TREATED human waste won't be spread on local farmers' fields as fertilizer anymore if a committee decision to ban the practice is backed by full council.

In a surprising move yesterday the environmental services committee voted 7-2 to direct staff to look at selling 20,000 tonnes of biosolids, sending it to landfill, composting it or any other viable option to spreading it on farm land.

Coun. Herb Kreling's swing vote helped prompt the movement after North Gower mother Lisa Jones recounted health problems her family endured while living several hundred metres from a stockpile of the stuff last year. Jones' two-year-old daughter suffered headaches, her husband an unbearable worsening of his asthma and they all experienced dry throats, dry eyes and diarrhea.

Dr. Robert Cushman, the city's chief medical officer of health, said the city investigated the family last summer, but found no evidence the sludge was causing their problems.

He recommended continuing the program with yearly reviews, a new system of tracking health complaints and better management after concluding there just wasn't enough hard scientific evidence to recommend banning biosolids from fields.

Coun. Wendy Stewart, who led a charge to ban the practice last fall, said it has only continued this long because the human waste has become a commodity farmers want and the city needs to get rid of.

Coun. Diane Deans expressed concern that some of the items known to remain in the biosolids after they're treated -- including pollutants and pathogens from raw sewage -- are making it back into Ottawa's food supply.

"I don't feel confident that what would end up on my dinner table, what I'm serving to my family and friends, is totally safe. I want to err on the side of caution."

Only Coun. Phil McNeely and Coun. Gord Hunter voted against Kreling's motion. Council will consider the committee's decision April 24.

## SLUDGE VICTIMS - 2 YEAR OLD SUFFERS HEADACHES, HUSBAND HAD AN UNBEARABLE WORSENING OF ASTHMA, AND ALL SUFFERED DRY THROATS, DRY EYES AND DIARRHEA

http://www.durhamregion.com/dr/regions/clarington/v-printdurham/story/497159p-618078c.html

## Wading in sewage; Sewage seeps onto Orono farm

Aug 6, 2002

Jacquie McInnes, Staff Writer

**CLARINGTON** - An Orono family is keeping watch on their wetland after thousands of gallons of sewage sludge flooded their property during heavy rains that pushed the biosolid application from a neighbouring farm.

The Ministry of Environment and Energy has called in its investigation and enforcement unit after attending the scene, according to MOE spokesman Mark Rabbior.

"The cattails are dying where it went into the wetland," says Jennifer Henderson, who owns the 115-acre property with her husband, Robert, a fourth-generation farmer. About 10 acres of wetland and woodlot were flooded with the sewage sludge, which was applied Friday, July 26, by a company owned by Skip Ambrose, says Mr. Rabbior. Mr. Ambrose did not return telephone messages left by Clarington This Week.

"We were told it wouldn't hurt the wetland because it is a natural filter but I don't want my turtles and ducks filtering sewage sludge," said Mrs. Henderson.

The ministry ordered Mr. Ambrose's company to send a clean-up crew to remove as much of the biosolid material as possible from the Henderson's property. The Region of Durham supervised the cleanup, said Mr. Rabbior.

In its investigation, the ministry will look at the application of the material and whether it was in compliance with spreading regulations.

The ministry has specific requirements for application as part of the certificate of approval process.

Biosolids, consisting of treated municipal sewage waste, are spread on farm fields as a nutrient in some circumstances.

However, there are strict regulations surrounding the applications including setbacks from waterways, soil composition, composition of the sludge and consideration of weather conditions that may create run-off, including rain.

Until test results return from the ministry lab, the ministry cannot comment further on the investigation, according to Mr. Rabbior.

## CANADA - ONTARIO - CLARINGTON - SLUDGE RUNOFF CONTAMINATES WETLANDS -- CATTAILS ARE DYING -- OWNER WORRIES ABOUT TURTLES AND DUCKS - AUGUST 2002

## Sewage district to contest a findings

by <u>Theo Stein</u> Denver Post Environment Writer

Honday, September 24, 2001 - Colorado's largest servage district will appeal a damage award of \$450,000 for what a judge called an "outrageous" fivelear campaign of defamation against an environmental setupst, the district's director says.

Bool Hute, director of the Metro Wastewater Fectamation District, said the public agency will Tapsolutely\* contest Administrative Law Judge David A Diffardits findings, prolonging a case that has a ready cost the district \$200,000 in legal fees.

I ward found the district's conduct to be so egregious in the case of Adrienne Anderson, a one-time district stard member and frequent critic, that he tacked on \$150,000 in punitive damages and \$125,000 for emotional distress. The judge also ordered district strictions to publicly apologize in a full page ad in an epition of the Sunday Derver Post.

 te declined to comment on the judge's ruling. He is taid the appeal will be filed with an administrative review board in the Department of Labor.

ugn Kaufman, an investigator in the EPA
thoudsman's office who investigated Anderson's
tialms - that the district's plan to accept wastewater
from a Superfund site was unsafe - urged the district
to settle the case.

It's clear there's a vendetta there," Kaufman said. "Bureaucrats who spend hundreds of thousands of "axbayer dollars to keep a personal vendetta going are rresponsibly managing the taxpayers' money."

Anderson said she was gratified by the ruling, but expected the agency's promised appeal.

Two-wouldn't they?" she asked. "It's only the taxpayers' money."

Accerson filed her whistleblower lawsuit in 1997, taiming that the district's board engaged in retailatory and discriminatory conduct after she criticized its plan to accept partially treated wastewater from the Lowry uandfill Superfund site. In his ruling, binarul singled but hereby pool relations director Steven M. Frank for harsh criticism, concluding that Frank made false statements under oath during a November 2000 hearing in Boston.

Frank testified that Metro had not hired an outside public relations firm to help deal with negative publicity caused by Anderson's claims.

But evidence showed that Frank had not only "personally arranged" to retain a firm, he also received its reports and authorized payments for services from 1997 to 2000. DiNardi dismissed Frank's testimony as "completely untrustworthy and unreliable."

Anderson, a University of Colorado Instructor, has claimed that Lowry Landfill accepted radioactive waste from the Rocky Flats bomb plant, material that the district's sewage system was unable to safely treat. Processed wastewater leaving the sewage plant ends up in the South Platte River; leftover sludge is used as fertilizer on a district property east of Denver.

Anderson and other activists say the process simply dilutes hazardous waste and spreads it out where the public might be exposed to it. Environmental officials say there's no unequivocal evidence of radioactive material in the landfill, adding that even if there was, it's in amounts so small it poses no risk to people.

Metro argued that Anderson was not entitled to damages because her belief that the Metro-plan violated federal environmental laws was not reasonable.

But the judge noted that In July 2000, the Environmental Protection Agency ombudsman's office agreed that there was "uncertainty" surrounding claims the landfill was free of radioactivity and recommended further sampling.

DINardi described the district's treatment of Anderson's open-records requests as "arrogant.and cavalier," finding also that the campaign of retaliation "continues to this day."

He ordered punitive damages after concluding there was "overwhelming" evidence that the district's "fiveyear history of illegal and retailatory action" had damaged Anderson's professional reputation and career.

COLORADO - SEWAGE AGENCY DEFAMES UNIVERSITY OF COLORADO INSTRUCTOR FOR EXPOSING RADIOACTIVE LEACHATE (INCLUDING PLUTONIUM) FROM LOWRY LANDFILL SUPERFUND SITE BEING DISCHARGED INTO DENVER METRO SEWER PLANT; EPA ADMITS WASTEWATER TREATMENT PROCESS CONCENTRATES THE RADIONUCLIDES IN SEWAGE SLUDGE.

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# THE MIAMI HERALD

## SLUDGING IT OUT: PAPAYA GROWER SETTLES SUIT FOR \$3.9 MILLION

Saturday, June 1, 1996

Section: FRONT

llth Circuit Court of Appeals rules that sludge killed papaya crop. Court decision says "...living organisms remained in sludge producing toxic gases which destroyed the plants' root systems".

Page: IA

SOURCE/CREDIT LINE: JOSEPH TANFANI Herald Staff Writer

Bill Parker's dream of a papaya empire wilted mysteriously under a hot Bahamian sun.

Now, 10 years after he bought 13 boatloads of Dade sewage sludge, his dead plants are good for a \$3.9 million check. Who's paying? You are. At least, if your toilet is plugged in to a Dade sewer. The county settled a lawsuit last week.

Parker says bacteria in "Daorganite," half-baked remains of Dade sewage, cost him his whole farm

"I was ruined by that stuff," Parker says. "I lost everything."

Parker grew up in Miami, son of a lawyer and a papaya lover. "I have a lifelong love affair with papayas," he said.

In 1986, he came up with his own little version of heaven: a 500-acre papaya plantation in Freeport, Grand Bahama, bankrolled by a wealthy British knight, Sir Jack Hayward, and a U.S. government program.

Two test crops came up beautifully. Best papayas in the world, Parker said. He figured to make \$400,000 a year, minimum. "I realized I had a gold mine."

Parker grew his prize fruit in 18-inch trenches filled with sludge: "Milorganite" from Milwaukee, a product he'd used for 30 years. The people at Dade's soil conservation district said they had a deal he couldn't refuse: the very same soil-enriching stuff, for \$35 a ton instead of \$180 a ton.

Fertilizer not what he expected

Wonderful, Parker thought. But when the first boatload came in from Virginia

Key, Parker smelled a problem. He was used to a dry, cakey Milwaukee sludge, and this stuff was not dry. His farmworkers would have none of it.

"Just a slimy, wet, gooey material," Parker said. "They knew what it was. There was no kidding anyone." Parker grabbed a bucket and led the charge: "I stripped down to my shorts and shoes and got down in the bottom of that damn stuff."

At first, the plants came up fine. Then, panic: all at once, the bottom leaves turned yellow.

"We don't know what the hell it is," Parker says the scientists told him. "Not insects, not disease."

Too late, a University of Florida researcher figured it out: clawing away the muck, he found all the roots burned. Everything died, the whole crop. Financing dried up. Sir Hayward ended up with the farm, and Parker went to court.

The culprit, Parker now believes, was sludge bacteria. Milwaukee kills that fecal coliform and streptococcus by heating it to 750 degrees.

Dade sludge not hot enough

But Dade allows 90 percent of its sludge to dry in the sun, stirred once in a while by a machine called a "Brown Bear." The hot Miami sun kills some bacteria, but not all.

"They knew that product they were selling to me was not processed," Parker says. "Everybody knew about it but me."

In 1992, Parker's suit against Dade went on trial before U.S. District Judge Lenore Nesbitt, with a cast of dueling microbiologists and sludge people. Lawyer Francis Sexton handled Parker's case; Ervin Gonzalez is his lawyer now. Roger Welcher represented Dade's insurance company.

To George Fitzpatrick, a University of Florida professor who testified at the trial, sludge is "like wine -- 'Paul Masson will sell no wine before its time.' If you don't process sludge enough so it's stable, you can't use it to safely grow agricultural products."

Lots of maybes

Dade representatives still don't think their sludge killed the papayas. Maybe Parker used too much, they said, though Parker says he did what the experts told him. Maybe the weather was too dry, then too rainy. Maybe Parker's plants got an <u>early version</u> of a blight that later wiped out Bahama papayas.

Environmental regulators also have their doubts about Parker's claims. The

10/5/98 8:

case of the dead papayas is notorious in the national sludge fratemity.

"I've been doing this for 12 years," said Alan Rubin, senior scientist with the biosolids team of the U.S. Environmental Protection Agency. "Nobody has presented to me any documented evidence that bacteria has directly caused crop death, or even stunted crop growth. I've never seen any evidence that happened."

Rubin says it sounds as though Parker may have burned his plants by botching the sludge application.

But the jury believed Parker.

"He's a very likable guy. And it is a very boring topic," theorizes Richard Hoffman, an appellate lawyer for the county. "You had a bunch of scientists going on about various theories of micro-organisms. The only person who was truly animated and genuinely moving was.Parker, and this was his life."

Although an appellate court threw out the \$6.7 million award, it upheld the finding of fault. Over a barrel, Dade struck a deal with Parker. Insurance companies are picking up about \$900,000 and the sewer department will pay the rest.

Water rates will not increase

Dade will handle the payout without another bump in its water and sewer rates. It has been putting money aside to pay Parker, says director Anthony Clemente.

From Clemente's view, it could have been a lot worse: A jury thought Parker deserved \$6.7 million.

Dade, meanwhile, still ships thousands of tons of the very same sludge. It is now called "Florida Organics," and it fertilizes the plants that wind up on your windowsill and the oranges that end up in your morning juice. Other cities across America also sell their sludge.

Dade scientists and lawyers say there's nothing to worry about. They say nobody else ever had a problem -- except for the smell.

"People will say, 'Boy, I wish that stuff didn't smell that way,' " says Doug Ulmer, a South Dade natural resources conservationist with the U.S. Department of Agriculture. "But if it's a good fertilizer, it's a good fertilizer."

Parker, now 68, says he'll only end up with about \$375,000, once the lawyers and creditors are paid. He says it's small compensation for eight years of his life spent fighting the lawsuit.

He plans to take his money and head back to those same Bahama fields.

"I'm going to be growing papayas," he said.

#### Turmoil at EPA: Politics and bureaucracy have buried science at the nation's top: environmental agency, critics say

BYLINE: By Jeff Nesmith WASHINGTON BUREAU DATE: 07-27-1996 PUBLICATION: The Atlanta Journal and Constitution EDITION: SECTION: Newspapers\_&\_Newswires PAGE: E01

Washington —The words "sludge> magic" never found their way into the official language when the Environmental Protection Agency was drawing up rules for spreading hundreds of thousands of tons of treated (sewage> in forests and on fields.

EPA scientists coined the term to express their exasperation over what they believed was the agency's sleight of hand in considering how traces of toxic substances in treatment plant seturdgee would affect wildlife.

The outcome of an internal debate on the saludgee rules is a perfect example of how science at EPA is in a "state of crists," defeated in a struggle with politics and bureaucracy. That's the contention of David Lewis, a microbiologist in EPA's Environmental Research Laboratory at Athens, Ga., and a member of the University of Georgia institute of Ecology, and his supporters at the EPA.

Lewis touched off a brief storm of telephone conversations, e-mail and facsimile traffic within EPA a few weeks ago when he wrote about EPA's science "gridlock" in Nature, a noted British scientific journal.

"I think, if anything, (the article in Nature) was a well-tempered and vastly understated view of the problem at EPA," Jim O'Callaghan, an EPA neurotoxicologist in Research Triangle Park, N.C., said. "The problem is at least of the magnitude he describes."

(Lewis's charges are accurate a and some EPA officials dispute them a then the agency is increasingly becoming a paper-shuffling bureaucracy losing touch with icience.

Either way, the article touched nerves at the highest levels of the agency, which this veek was setting up a conference of its scientists to talk about the problems Lewis described and how to fix them.

Although EPA is a regulatory agency, responsible for drawing up and enforcing rules to eliminate or control pollution, it also is charged with making sure those rules are based on science.

Lewis said he and many of his colleagues are demoralized after constantly losing internal struggles and being forced out of their research laboratories and into bureaucratic tasks.

Lewis and others said the (sludge) rules offer a case study of scientific frustration at EPA, though by no means the only one. Among other problems scientists cite:

Regulations being finalized to govern land disposal of chemical wastes will not account for biological "sinks," where microbes and other organisms alter the structure of the chemicals. In some cases, organisms convert toxic chemicats into benign substances a but not always. Soil bacteria can convert the pesticide malathion, for instance, into an acid that is 10 times more toxic.

Clean Water Act regulations do not account for the effect of biological processes in rivers and streams.

In the 4studgev regulations, EPA proposed allowing cities and counties to use national forests, farmland and rangeland to dispose of 4studgev, the "blosolids" that remain when seewagev water has been treated and returned to rivers and streams.

Agency scientists, led by biologists in Athens, wanted to conduct carefully designed studies to trace industrial pollutants such as lead, arsenic and cadmium that remain in biosolids after treatment. No one realty knows, the scientists argued, what will happen when those pollutants find their way into microbes and the tissues of slugs, worms, insects, plants and other natural "food chains."

#### But, Lewis said; political pressure and court-imposed deadlines prevailed and the agency finalized its dstudger rules in November 1992. The regulations relied in part on axperiments that the Athens scientists and others labeled "dsludger magic," with little relevance to the real world.

Other EPA officials disagreed.

"We put together regs which we think are protective and conservative," said Bernard Daniel, an EPA official in Cincinnati, who worked on the «aludge» rules. He acknowledged that scientific evidence that human health is not unduly endangered by small amounts of pollutants that remain in the «aludge» is stronger than evidence that wildlife won't be harmed.

The Water Environment Federation, a national nonprofit association of deewagee treatment plant engineers and scientists, also defended the scientific soundness of the daludge rules.

The EPA's current approach to science was not the result of some carefully developed organization plan, Lewis and other scientists contend. Rather, it grew

haphazardly out of political events of the 1980s, they say.

During that time, Congress passed numerous laws and amendments, increasing EPA's workload, just as the Reagan administration was drastically cutting its work force. EPA solved the dilemma by shifting its emphasis from in-house research to outside contractors.

Today, the agency has one-third fewer staff scientists than it had shortly after it was established in 1970, Lewis said he spends 90 percent of his time managing contracts with outside scientists and 10 percent in the lab.

Such trends leave the agency bereft of internal scientific capability, the critics said.

Stuart Cohen, who resigned after 11 years in the EPA pesticide program to start his own consulting business, said agency scientists "are being unnecessarily hamstrung by regulation."

Cohen said the shift to contractors has kept EPA from developing a scientific reputation as good as that of the Food and Drug Administration, another agency that combines research and regulation.

Lewis' criticism was no bolt-from-the-blue at EPA. An outside panel of university scientists, convened by former EPA Administrator William Reilly, warned in 1992 that research at EPA was "uneven and haphazard."

"EPA does not have a coherent scientific agenda and operational plan to guide scientific efforts throughout the agency," the panel concluded. "Scientists at all levels throughout EPA believe that the agency does not use their science effectively."

In a letter to Nature last week, Bernard D. Goldstein, one of the members of the panel, said Lewis' article had failed to take into account improvements at EPA. "It certainly isn't as bad as it was a few years ago," Goldstein said in an interview.

#### "SLUDGE MAGIC"

## RESEARCH AT EPA "UNEVEN AND HAPHAZARD"

AGENCY SCIENTISTS WANTED TO STUDY TRACE INDUSTRIAL POLLUTANTS, IN INSECTS PLANTS AND NATURAL "FOOD CHAINS".

## FLORIDA SLUDGE VICTIM SUFFERS NOSEBLEEDS, HEADACHES, NAUSEA, VOMITING, DIARRHEA, TUMOR GROWTHS, RASHES -- PUBLIC OFFICIALS REFUSE TO ANSWER PHONE CALLS OR CORRESPONDENCE



MERSE SCREMERS, à Polk County resident who blames sludge for the health prob-Emessite s'suffared since moving onto her ranchette in March 1991.

Polk County resident Maria Sizemore blames sludge for nosebleeds, tumor growths, rashes and other health problems she's suffered since moving onto her ranchette in March 1991.

Sizemore discovered that sludge had been applied to her land for years, including three months before she purchased it. In addition to her own health problems, several of her animals have grown tumor since she moved onto the property. One horse lost 400 pounds. A test of Sizemore's private water well showed

A test of Sizemore's private water well showed elevated levels of iron, and a soil test showed fecal coliform counts too high to read.

Doctors and veterinarians refuse to link the problems to sludge. Sizemore says there's no other explanation. She has spent more than two years and \$50,000 haggling county officials for better regulation of sludge spreading and has hired attorneys to handle her case.

"Nobody would take the time or spend the money todo what I've done," she says. "But I can't give up. I just don't think this is right and I want to know what's going on."

## **OTHER FLORIDA SLUDGE INCIDENTS:**

"Spicer and other landowners across the country ... are coping with unexplainable health problems and contaminated soil or water that didn't appear until after sludge was spread on their land or neighboring land."

The concluding part ln an examination of the sludge industry.

> By Christine Hawes and Tom Spalding

Then nine of his mares developed infections last year and couldn't get pregnant. David Spicer didn't know what was to blame. Sludge never crossed his mind.

But after ruling out impotent stallions, poor feed and bad luck, the Manatee County horse breeder's suspicions turned to his horses' watering pond, a few hundred yards from where sludge had been applied. "They dumped over there constantly," Spicer

said, referring to the land next to his own. "This is all supposed to be a safe product that they are putting out there. You figure if the county allowed them to do it, the state allowed them to do it and the health department allowed them to do it, you figure it's all right."

There's no proof that sludge — what's left after raw sewage is processed at a sewage treatment plant — caused Spicer's mares to become infected. The landowner denies Spicer's claims.

There is no indisputable evidence that sludge has damaged anyone's bealth, animals or plants.

Spicer and other landowners across the country, however, are coping with unexplainable health problems and contaminated soil or water that didn't appear until after sludge was spread on their land or neighboring land.

#### Polk City, Florida

Maria Sizemore 813-984-4416. Phone Conversation 7/6/95

Polk City is between Orlando and Tampa. It is over the major Florida aquifer. The Sizemore's address is 4595 Old Grade Road, Polk City, Fla. 33868

Maria Sizemore and her husband moved to Polk City in June of 1991. Right after she arrived she started getting nose bleeds, headaches, she vomited and had diarrhea. After three weeks one of her horses (12 years old) had a tumor, another (6 years old) had a tumor on his leg, a mares ovaries swelled and her back legs became stiff.

Maria had cysts in her ovaries. She had a partial hysterectomy in October 1993 and had the left ovary removed. The right ovary had no sign of a cyst at the time of the operation. Six months later she had a second hysterectomy because her right ovary grew a cyst. She has lost bout 30 pounds and her husband has lost about 20 pounds. She has skin rashes and her bones ache all the time.

She has found out that the land they had acquired had had sludge dumped on it for about three years before they acquired the land. The man who leased the adjacent property had applied for a permit to dump sludge on his own land and when it was not issued he dumped the sludge on the adjacent property owned by someone else without their permission.

Complaints to the Florida DER and DCA were of no avail as they merely said they had no records of the dumping. Eventually the DER tested the well water and found it was high in iron and lead. The Florida Toxic and Hazard Waste Department did the testing, but would not comment on the results. They refused to answer any phone calls or correspondence. A separate laboratory looked at the results of the test and commented that the test were incomplete and that the contaminants that should have been tested for were not.

The Sizemores are suing the man who applied the sludge and the two trucking companies that hauled the sludge. Their attorney is Susan Coe (804-235-4505). Coe's law clerk is Ramona. The suit was filed in May of 1995

A reporter, Chris Hawes (813-627-7585) of the Sarasota Herald Times has done several stories on the case.

A side issue indicating the lack of concern for the aquifer in Florida is the fact that 200 acres in the same area has been permitted to allow Ringling Brothers to keep elephants on the property. The elephants will produce 35000 gallons of urine every day. When the local community wanted to appeal the permit they were told by Andy Ireland a Florida representative (check this) in the US house of Representatives that they shouldn't bother as it wouldn't do any good. When the community tried to call the DER and DCA about the issue their phone calls were not returned. When the local newspapers called DER and DCA, the DER called Sizemore and gave her hell for telling the papers about the situation.

#### SLUDGE VICTIMS - THE JERKINS FAMILY, LAUREL HILLS, FLORIDA

In July 1996, Teresa Hansen, a registered nurse, wrote to the Secretary of the Dept. of Environment, Florida, with a copy of the letter to Carol Browner, EPA Administrator, Washington, DC, detailing the sludge nightmare being suffered by her daughter and grandchildren from a neighboring sludge operation.

Mrs. Hansen sent a video to Al Rubin, EPA Office of Water, with copies to other officials, documenting some of the violations:

- \* Cattle grazing while the sludge was being spread
- \* Improper terracing, allowing sludge run-off into adjacent stream which empties into the "Yellow River" State Recreational area.
- \* Application of sludge right up to her daughter's fence line
- \* Violation of Florida law which requires incorporation of sludge into the soil.

Mrs. Hansen's letter told of residents in the area of sludge stockpiles dumped on clear-cut land suffering from nausea, weight loss, and depression over the fact that no-one from state or federal environmental agencies would help them. The odors seeped into their homes and clothing, forcing them to move out of their houses for days at a time to escape the stench.

The Jerkins family did not realize the sludge was toxic. The family dog was not leashed and would roll in the sludged fields. The dog lost urinary tract control and tests found the dog with extremely high levels of protein in her system, indicating the liver and kidneys were no longer able to filter the poisons from her body.

Soil samples taken by Mrs. Hansen's daughter, Darcy Jerkins, from their front drive and in front of their porch revealed total coliform/fecal coliform levels >160,000 MPN coliform/100 mL. (The maximum allowed for safe swimming in Florida is <2400/100mL.) Their property was saturated with fecal coliform from the adjacent sludge spreading operation.

The Jerkins children, ages 2 and 7 were both infected with the intestinal parasite BLASTOCYSTITIS HOMINIS -- WHICH ORIGINATES FROM HUMAN FECES. The Jerkins family was forced to abandon their \$500,000 home and move into a mobile home.

Appeals to state and federal agencies for help were met with defense of the sludgespreading activities and total indifference to the suffering of the victims.

(1) EPA Reg. 4 office in Atlanta, and the EPA Wash. DC headquarters - (AL RUBIN)--both DENY ANY KNOWLEDGE OF THIS CASE EVEN THOUGH WE HAVE A COPY OF THE LETTER WRITTEN TO THEM, and even though Rubin was sent a copy of the video showing the violations.

(2) This case was resolved by the victims receiving a settlement from the sludge spreader, and the whole family was forced to sign a GAG ORDER barring them from discussing this sludge incident or sewage sludge publicly ever again.

Teresa Hansen, Rt. 1, Box 326, Laurel Hill, Florida 32567 (904)652-4795 FLORIDA Darcy Jerkins, 4129 Millside Rd. Laurel Hill, Florida 32567

## FLORIDA - LAUREL HILL - JULY 1990 - CHILDREN INFECTED WITH BLASTOCYSTITIS HOMINUS, A PARASITE ORIGINATING IN HUMAN FECES -- OTHER SLUDGE VICTIMS SUFFER NAUSEA AND DEPRESSION FROM CALLOUS OFFICIAL INDIFFERENCE TO THEIR SUFFERING.

July 28, 1996

Secretary of DEP state of Florida

Teresa Hansen Rt. 1, Box 326 Laurel Hill, Florida 32567 (904) 652-4795

Dear Secretary Virginia Wetherall,

I am sending this letter and video to you in the hopes that someone out there will care enough to stop what is happening in our area. Waste-water residuals are being applied improperly to the lands in our area. Residual run-off has contaminated the total yard belonging to my daughter and her young family. The children have had numerous disorders including abnormal levels of protein, bilirubin, and lead in their bloodwork. My 7 year old granddaughter has had fecal samples tested (at the insistence of my daughter) by the local health department. The fecal test results have come back with the parasite Blastocytitis Hominis present in my granddaughter's system. We understand this to be a parasite originating from human feces, and not usually found as a parasite problem in this country. My daughter is a very health conscious, clean person who trys to practice preventive health measures. Neither the family or the children have been out of the country to contract this parasite. We have exhausted any and all chain of command agencies in our area. The Department of Environmental Protection at all turns have upheld the workings of the man applying the waste materials. The DEP has stated that this person is on a self monitoring system and virtually does not have to answer to anyone on his application program. Witnesses have seen the cattle grazing while sludge was being applied in the same fields. When this was reported to a DEP agent, the reply was that the owner assures them that is not happening. These cattle are eventually being sold for meat to the public. The <u>revels of lead, arsenic, Streptococcus Ecoli, Salmonella, and</u> many other harmful agents are extremely high in fresh sludge to have cattle grazing and application done at the same time, and yet this has been witnessed many times.

In this video there is evidence of improper terracing, allowing sludge run-off to enter our natural waterways which empty into one of our larger waterways that is part of a State Recreation Area, "Yellow River". There is also evidence in this video of bio-hazardous waste materials escaping the waste treatment facility's filtering system. These materials are being spread all over the fields and pastures right along with the sludge. We have been told by the local DEP that these items that you see in the video are not there. According to the local Dep, this man can monitor his own application program, and as long as he assures them that these violations are not occurring, then there is nothing for any of us to worry about. We have also repeatedly asked about Federal rules and regulations regarding incorporation into the soil of waste residuals. This is not ever being done. The residuals are being spread on top of thick grass and that is all. We were told by DEP officials that incorporation was not necessary. In all 503 and 62-640 rules and regulations, it says that waste materials will be incorporated into the soil. Under State rule 62-640.800 1c "Except for Class A residuals, the applied material shall be incorporated into the soil within the same day as application." State rule 62-640.200 under Definitions (15) quotes: "Incorporation into the soil means the injection of domestic wastewater residuals beneath the surface of the soil, or disking into the soil of surface applied domestic wastewater residuals within 24 hours of application. All of the domestic waste residuals being applied by "Crook Creek Farm" have been Class B or Class C waste residuals. John Bowles, an agent with the DEP in Pensacola appears to not be aware of these rules or the meaning of them. Citizens have continually asked him pointedly where the rules state methods of incorporation, and he has repeatedly said that Mr. Green of "Crook Creek Farm" does not have to incorporate waste materials into the soil. Many of us have acquired Federal and State rules and regulations on sludge application and have found and reported numerous harmful violations to no avail. All of this has fallen upon deaf ears. At a meeting held with area citizens and John Bowles from the DEP on May 21, 1996, When Citizens asked why bother having these rules and regulations if no one is going to make Mr. Green follow them? Mr. Bowle's reply was "These are precautionary measures, it is kind of like wearing a seat belt in your car. you don't have to wear a seat belt, but it is a good idea to wear a seat belt in your car. Well, the last I knew, it is the LAW to wear a seat belt in your car, and I feel that if there are State or Federal rules and regulations on the way certain procedures should be done, then this is also considered areas of laws to be followed. My question is if Mr. Green of "Crook Creek Farm" has been and is breaking rules and regulations and in essence the law, and Mr. John Bowles has and is repeatedly protecting and supporting him in doing this, bringing possible harm to Florida citizens, then if Mr. Green could be held responsible for his actions, could not Mr. Bowles and the DEP be held responsible for not insuring that Mr. Green is following these laws to the letter, and I question, "What motivation would Mr. Bowles and the DEP have in not insuring that Mr. Green meets all of the rules and regulations exactly as written ?"

24 ....

My daughter's home sits in the middle of about 600 acres of what is apparently a sludge application site. They did not know this when they bought their home. No notification was provided to them of what was being spread around them. However, the owner of the farm that applies the sludge did know that people lived there with small children, and he applied the sludge right up to their

#### Page 2

#### Page 3

fence line for months until asked not to apply it so close to their property. Until information was discovered by my daughter and her husband of the dangers of contact with the sludge materials, the family dog was not leashed, and would occasionally roll in the adjoining fields where sludge was applied. Now, the family pet has lost urinary tract control, and has been tested with extremely high levels of protein in her system, which is obvious when the liver and kidneys are no longer able to filter the poisons from body. The local health department official tells me that one family incident where a whole family has disorders never before experienced <u>does not constitute enough evidence for</u> there to be a health concern of enough magnitude to allow them to become involved in searching for possible public health hazards. The DEP does not seem to care, the health department I feel is being pressured by the DEP to not get involved in sludge matters, our State Representative has not replied with any favorable answer to the private health issues or the environmental effect issues in regards to the possibility of contamination by sludge materials.

By the time we find someone who cares enough, who knows what damages will have occurred to the tiny systems of my grandchildren ? I already believe that the sludge that has filtered into the natural waterways would cost hundreds of thousands of dollars if not millions to clean up, if it is even possible to reverse. How do you remove heavy metals from a waterway ? I don't think you can.

We need help here. There has to be an agency out there somewhere that can stop this from happening. A copy of this video was sent to Dr. Al Rubin who notified the EPA in Atlanta. The EPA has come down and we think they are checking berm controls in the field in front of my daughter's yard. We don't think the health issues or environmental damage already occurred has been addressed though. Also, since the appearance of the EPA officials, correspondence from both Mr. Green and the DEP to our State Representative still insist that no violations have been or are occurring. Application in my daughter's area has stopped for the time being. Perhaps one thinks that if left to time, people will forget or just give up. Sludge stockpiling is still going on, it is just being done somewhere else. In fact, <u>stockpiling is being done on clear-cut</u> land not far from Laurel Hill city limits. Sludge is being stockpiled on clear-cut land with <u>steep inclines</u>, no terraces, and creeks and lakes nearby. Citizens in this area have made complaints to DEP in both Pensacola and Tallahassee. The <u>odor</u> coming from the waste residuals in that area are so bad that these borecures have been consistently pauseous lost weight. these homeowners have been consistently nauseous, lost weight. Become depressed over the lack of ability to receive help from anyone, have had to leave their home for days at a time to escape the odors, and have even found the odors to be seeping into their closets and clothing. These citizens are considering leaving the area and even possibly the State of Florida if these are the

Page 4

kinds of actions allowed and encouraged against the citizens of Okaloosa County and Florida.

Until someone else in a different area develops a health problem, or until someone with legal or political pull can put a stop to flagrant violations of Federal and State rules and regulations, I guess they just aren't really happening. The DEP here says that this is not really happening !

Sincerely, elesa. Jana Teresa J. Hansen

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cc: Carol Browner Vince Miller Al Gore Bob Dole Joe Scarborough W.D. Childers Durell Peaden

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## ANALY7 ICAL SERVICES CORPORATIO

Laboratory Location: 773 E. John : Ims Parkway Niceville, FL 32578-1818 Muiling Address: Cerr P.Ö. Box 790 HRS Niceville, FL 32588-0790 HRS

11 June 1996

Customer:

Darcy Jerkins 4129 Millside Kd. Laurel Hill, FL 32567

JOB NO:	96-06-38		
Sample Location:	Front drive & front of porch		
Date of Collection:	7 June 1996, 1145 hrs		
Sampler:	Darcy Jerkins		
Weather Conditions:	7 June: Rain prior to sampling		
Received in Laboratory:	7 June 1996, 1349 hrs		
Late of Analysis:	7 June 1996, 1450 hrs		
Method:	MPN TC SM 18th Ed 9221B, FC SM 18th Ed 9221E		
Analyst:	Keith Thomsberry		
Sample Type:	Environmental Samples		
Parameters:	Total coliform/Fecal coliform		

SAMPLE SITE	MPN 7 June 1996 Coliform/100 mL	
	Total	Fecal
Front Drive	160,000	14,000
Front of Porch	* ≥160,000	5,000

\*  $\geq$  means greater than or equal to the value

Approved by:

J. Cornette, Ph.D. Laboratory Director

Max. Safe. Bay-For Swimming Bay= 2,400 Monthly av.eklyar. Daily Aug. allowar for surface wat Total Colliform 5 2,400/100 Fecal Colliform 5 800/100

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## WINK TV - 6 P.M. NEWS BROADCAST - FORT MYERS, FLORIDA WEDNESDAY, APRIL 18, 2001

Patrick Comer, Investigative Reporter

Mari Hollingsworth, mother of children sickened by sludge Dr. David Lewis, EPA Microbiologist - presently with University of Georgia

where he is researching the hazards of Class B sludge. Alan Behrens - representing DeSoto (County) Citizens Against Pollution

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MARI: "I mean obviously, it's not right to apply this kind of human feces next to where people live."

(PICTURE is shown of Class B sludge being dumped in pasture with cattle in it, near her house in DeSoto County, in violation of EPA 30-day grazing rule.)

"My son developed a respiratory problem and finally, after about a year of battling, not knowing exactly what was causing it, and the rest of us, our throats were burning, also ...." (Mari says the rest of her statement about how her children also developed Rotavirus, was cut off.)

DR. LEWIS: "In some cases some people have actually died associated with these symptoms". "Not only is human waste in sludge, but industrial wastes are included as well. And when the material is processed, often times they add lime and other chemicals to it. Typically we see people complaining about not only are they getting sick, but their pets are dying."

PATRICK COMER: "The disposal of sewage sludge is governed by EPA Rule 503 which was passed in 1993. But Dr. Lewis says the EPA's rule was quickly called into question."

DR. LEWIS: "The National Academy of Sciences looked at the science behind sludge in 1996, and even then concluded that the federal rule was probably not protective of public health when it comes to pathogens or disease causing microorganisms." ALAN BEHRENS: "Well, DeSoto County has become probably the biggest dumping ground in the state."

PATRICK COMER: "Alan Behrens leads a group of citizens who say the pristine beauty of DeSoto County is quickly being destroyed by virtually uncontrolled dumping of Class B sludge onto private pasture lands."

ALAN BEHRENS: "It comes from the east coast. It comes from Miami. It comes from St. Petersburg, and it's not right that people who live in DeSoto County should have to suffer the consequences of it. Groundwater pollution, health hazards as far as drinking water. It becomes airborne when it is dry."

DR. LEWIS: "What needs to be done is stronger federal and state regulations that only allow Class A, exceptional quality sludge."

PATRICK COMER: "And that is exactly what DeSoto County Commissioners are looking at doing. They'll vote soon on whether to prohibit the dumping of Class B sludge.

Question: "It's legal now to dump Class B sludge?"

PATRICK COMER: "Yes...although there are numerous restrictions ... which opponents say are too liberal ... and are not being followed. But Dr. Lewis says the federal rule is being looked at, so that in the near future ... "Class B" sludge will have to be treated to the safer "Class A" standards before being dumped."

#### STATEMENT OF MARI HOLLINGSWORTH, 2248 CONWAY BOULEVARD, PORT CHARLOTTE, FLORIDA 33952 941-625-6012

My children live with their father. There is sludge being spread all around them. My children have experienced much sickness since being exposed to the sludge. It started with asthma which my son continues to suffer. Then both children developed severe diarrhea and vomiting.

I have copies of my children's medical records which show they both had Rotavirus a couple of times. I found out from the local health department that there were other cases of Rotavirus. I have a friend -- both of her grandchildren tested positive for Rotavirus last week.

But people in the area are afraid to complain because the sludge spreaders are rich and influential people. I took pictures of them emptying the loads of sludge while the cattle were there grazing in the same location. I contacted the EPA but nothing was done.

I don't want anyone else getting sick. It is bad stuff and I want it stopped.

(Telephone statement taken in March 2001 by Helane Shields)

## CHILDREN EXPOSED TO SLUDGE SUFFER ASTHMA, SEVERE DIARRHEA AND VOMITING



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والمستجرب والمراوي والمعادي والمعادية والمحار

## DISGRUNTLED IN SUMTER: SLUDGE IS NOT WANTED IN NEIGHBORHOOD

Published: Wednesday, December 25, 1996 Section: LAKE SENTINEL

Barbara R. Northcutt, Special to the Sentinel

We here in rural Sumter County are virtually helpless to prevent the spreading of sludge (treated human waste) in our county because the state Environmental Protection Agency insists on issuing permits allowing this to occur.

Our county officials have no say in the matter and even if they sympathize with the disgru tled property owners who object to these companies spreading the waste, they are powerless to stop it.

These companies have these state issued permits despite the objections of rural Sumter County residents, and they continue to intrude unmercifully into resident's lives by: despoiling their property, destroying property value, tearing up road surfaces not suited to heavy trucks, creating stench, drawing flies and disturbing peaceful residential areas with trucks coming and going all hours of the night.

The majority of this sludge is from heavily populated counties disposing of their waste in rural areas.

Worse still, there are no funds available to ensure compliance with regulations and no inspections to ensure that what is being spread is environmentally safe. We only have the word of corporation officials to go on.

It is similar to the destructive flight that took a plane down in the Everglades when supposedly empty oxygen canisters were placed in a cargo hold. We don't care to have a Love Canal here in Sumter County.

This sludge-spreading takes place all over our county. People complain repeatedly to county officials about odor and flies, but they say the situation is out of their hands and we need to contact higher-ups. That is why I'm writing this letter.

Please do what you can to help. Maybe with public exposure, steps will be taken statewide to restore public confidence in a situation that has become out of control. Our little Sumter County does not have the money to finance a legal challenge.

FLORIDA - RESIDENTS SUFFER ODORS, FLIES, DESTROYED PROPERTY VALUES - AND LOCAL OFFICIALS WHO CLAIM TO BE POWERLESS TO STOP THE SLUDGE PLAGUE.

Orlando Sentinel Online archives FL の名 の月






4/18/01 7:29 PM

#### 04/18/01

#### Smell, illness blamed on sludge dumping

DESOTO COUNTY -- Two-year-old Taylor Hoppel came in from a half-hour of outside play last week, her face beet-red, and hacking almost uncontrollably.

Taylor and her 4-year-old sister, Lyndsey, are not allowed to play outside anymore and their mother threw away all their playground toys.

Tracy Hoppel is convinced that the sludge-dumping site next door to them is making her children ill -- over and over again.

The physician's office told Tracy that Taylor had a bronchial infection, probably due to "something she breathed in." Both girls have had the rotavirus, a fecal-oral, airborne virus that causes extreme vomiting and diarrhea. Lyndsey almost had to be hospitalized for related dehydration.

"This is an airborne virus," Tracy Hoppel said. "I know in my heart, with the north winds blowing toward us, it's more concentrated in the air, and it's blowing right on our property."

Complaints like these have pushed DeSoto County commissioners to draft an ordinance that would make stricter rules for sludge dumping in the county.

"I'm not a vicious person," Tracy Hoppel said. "But this is making me bitter."

A mile away, it reeks and the smell of human waste clings to your nostrils and feels like it's blocking out the air you need to breathe.

You feel like it clings to your hair and clothes and you wonder what it does to the people who live around this field at 6837 N.E. U.S. 17.

"Do you know how violated it makes us feel," asked David Hoppel. "You can't really tell what damage this is going to do -- to our well water, to the Peace River ..."

The family has a well but they sure don't drink the water, he said.

The Hoppel's live next to property owned by Jerry Eagle, who owns Anytime Septic

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FLORIDA - DESOTO COUNTY - 4/18/01 - SMALL CHILDREN SUFFER BRONCHIAL INFECTION, VOMITING, DIARRHEA, ROTAVIRUS "This is an airborne virus ... it is blowing right on our property." 'WE'RE PRISONERS IN OUR OWN HOUSE."

Service in Fort Myers. Eagle did not return phone calls Tuesday

Robert Neads, who was elected to the commission five months ago, said the volume of complaints forced the commissioners to do something.

The commissioners held a workshop to draft the ordinance April 10, which was attended by Alan Behrens, president of DeSoto Citizens Against Pollution.

"There are too many trucks coming in," said Behrens, who believes DeSoto County to be the largest dumping area in Florida. "It's permitted, but no one enforces it."

According to David Hoppel, Lyndsey and Taylor's father, who went on an inspection with an agent from the Florida Department of Environmental Protection (DEP) some sludge dumping was about 90 feet from a body of water. According to Dennis Jackson, supervisor of DeSoto County's health department, the sludge must be dumped at least 200 feet from any body of water.

However, when Jackson's staff inspected the property, they found substantial compliance with the code.

"The person from the DEP cited some different rules," Jackson said

Staff at DEP did not return several phone calls Tuesday.

There are several types of sludge and septic debris dumped in DeSoto County. The quality of sludge and septage depends on how much it has been treated with chemicals to kill dangerous pathogens. Lime is spread on the sludge to regulate the acid level and hasten decomposition.

DeSoto County sheriff's deputies were called to the scene of the sludge dump April 3. David Hoppel told Lt. Sam Williamson he tried to film a truck dumping sludge on the property next to his the night before. Hoppel said the dumping had been taking place for some time.

Hoppel said the property owner had a permit to dump the sludge from DeSoto Health Department. Hoppel said he believed Eagle was moving onto the property and becoming a resident. Eagle had made some small improvements to the property but had made no attempt to move there.

In his incident report, Williamson wrote

"I observed several tampon applicators, sanitary pads, cigarette butts as well as paper on the ground. I could detect the strong smell of what appeared to me to be kitchen and human waste."

Hoppel told the deputy the sludge trucks would come in through the gate and open their valves just past it. They would then drive through the property until empty.

There are visible arcs of dried sludge around the property.

Williamson took several pictures of the waste. The locations of the dump appeared to be a few hundred feet from the stream.

David and Tracy Hoppel fear that it is the lime, dumped on the sludge, that is causing the respiratory problems, but she can't prove that.

"Where's our rights here?" David Hoppel asked. "We can't even go out in the yard and let our kids play. We're prisoners in our own house. What's it doing to our land value? We have no rights in this whole deal.

"It's wrong to me.

Dr. Peter Villanueva said rotavirus is common this time of year -- and he has seen a lot of it. However, rotavirus has a very short life, and he feels it is unlikely that the virus is related to the sludge. But if the sludge is not treated properly, it could be a public health problem, he said.

"If it's not treated properly, that's a big concern," Villanueva said. "That needs to be investigated.

The commissioners are working on another draft of the ordinance, which will likely make the codes more strict and may ban the dumping of Class B sludge -- which is not treated as much as Class A or Class AA. Neads said he expects another draft early next week. After that, the public will have two opportunities for input. Those public hearings will be announced in future commission agendas.

Jena Howard contributed to this report

You can reach <u>Shellie Benson</u> at sbenson@sun-herald.com

# By SHELLIE BENSON

Health Editor

### STATEMENT OF TRACY HOPPEL, 6168 Northeast Highway #17, ARCADIA, FLORIDA 34266 863-993-0658

Lime stabilized Class B sewage sludge from Inglewood and Port Charlotte, Florida was spread within about 300 feet of my home. I have two daughters ... Lyndsey will be 5 in June, Taylor will be 2 in May 2001.

The symptoms my children suffered were nausea, vomiting, headaches, strep throat, severe bacterial ear infection. The doctor had to send out a culture -- it took weeks to heal. They had throat irritation, nasal congestion, breathing difficulties, shortness of breath and coughing when they exerted themselves.

Both girls had bronchial irritation, with a lot of thick, choking mucus. When they got fevers, they had heart palpitations. They suffered abdominal distress - their stomachs felt hard. Both girls were diagnosed by the doctor as having Rotavirus. They suffered pain, cramps. diarrhea, and severe dehydration.

I have suddenly developed bad acre and bumps on my back like cysts. There is a lump or cyst on the top of my ear. I never had these skin conditions before the sludge was spread. One of the girls has been breaking out in hives and getting very itchy. I put benadryl on the itches.

I talked with my neighbors. There are about 10 other children in the area also suffering Rotavirus. A couple of the children had vomiting and diarrhea so bad they were hospitalized for dehydration. A family behind me had a child with Rotavirus and an upper respiratory infection which developed into walking pneumonia.

Neighborhood cats, including my own outdoor cat, are getting sick.

I talked with a lady who had a sick child in St. Joseph's Hospital. She said one whole side of the hospital had signs warning of contagion because of Rotavirus.

DeSoto County where I live is the largest sludge dumping area in Florida. I contacted local health officials. They came out, looked the sludge over and found nothing wrong. They even ignored the fact that the sludge was within 50 to 90 feet of a creek, in violation of Florida's 200 foot setback from waterways. They told me the adverse health effects my children and I were suffering were not related to the sludge.

I told them if the sludge isn't making my kids sick, how is it that when I kept my little girls in the house for the last 3 weeks straight, most all of their symptoms and health problems cleared up. One of the local health officials told me my children's health problems could be caused by my Glade plug in air refresher.

(Telephone statment taken on April 28, 2001 by Helane Shields).

# 05/02/01

# Neighbors of sludge field want it outlawed

DESOTO COUNTY -- It's time for citizens to stand together and fight to prevent sludge dumping, says Betty Jo Harkless, owner of Cross Creek Country Chib, RV, and Golf Resort.

She said she was planning to attend a workshop DeSoto County Commissioners held Tuesday evening to discuss sludge ordinances. (See story on page 1A)

"I'm asking each one of our commissioners who represent this county, elected by the people, to immediately pass an ordinance that would prohibit anyone from doing any dumping unless it was properly treated and approved by all agencies," Harkless said. "We, the people, should stand up and say It is just not going to happen in my county.'

"Every resident and taxpayer of this county needs to stand up and say - this is not going to happen to us."

Harkless is against dumping sludge in this county, but if it has to be done, it should be done property. Harkless said. It should be at least a radius of 20 miles from people's homes.

"We chose DeSoto County to make our home and I have a grandson growing up here," she said. "I want it to stay clean and pretty for him and for all DeSoto County children."

Harkless said she believes it is a shame and disgrace to have anyone dumping any shudge, especially raw sewage, like that dumped earlier this month in an open field on U.S. 17 north.

David Hoppel and his wife, Tracy, said their children were sick from an airborne virus caused by the studge dumping and April 17, the smell of raw sewage traveled as far as a mile and a half away.

Hoppel said he went on an inspection with an agent from the Department of Environmental Protection and some shudge dumping was less than 90 feet from a body of water. According to Dennis Jackson, supervisor of DeSoto County's health department, shudge must be dumped at least 200 feet from any body of water.

Other neighbors, downhill from the field, have said they are concerned about it sceping into their well water and eventually, into the Peace River.

"There are plenty of areas in other counties nowhere near residents that would be much more appropriate for this type of use," Harkless said. "With a problem of this magnitude, we have a major problem unless we stand up and fight for our rights."

That goes for the people who pay the least amount of taxes and the most amount of taxes, she said. This is going to affect every resident of this county.

The treated sludge is authorized throughout the state, but even that should not be allowed.

"I'm an intelligent person -- I realize the sludge has to be dumped," Harkless said. "I own a wastewater treatment plant and when our sludge leaves our plant out here ... we have a licensed inspector come in and make sure it meets (DEP) requirements. If it doesn't, it doesn't leave here until it does. ' And before the trucking company can pump it into their trucks, they have to test it.

"If we have to do it and every other RV park in this county is doing it, which they have to do, or they can't get it hauled out, why should anyone be allowed to dump raw sewage here?"

You can e-mail <u>Jena Howard</u> at fhoward@sun-herald.con

# By JENA HÓWARD

Assistant Editor

# FLORIDA - DESOTO COUNTY - NEIGHBORS WANT SLUDGE OUTLAWED.

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#### N-HERALD.CO - DESOTO COUNTY, FLORIDA - June 13, 2001 County may ban lesser treated sludge

hearings Tuesday night on a proposed sludge regulation ordinance that has been under consideration since early May.

Sludge includes a number of domestic wastewater residuals generated by wastewater treatment/ plants. According to agricultural scientists, this waste is rich in nutrients and may be applied to farmland as a form of fertilizer. The most commonly used sludges used for fertilizer are the treated Classes AA, A and B.

Opponents of this land spreading use say that the lesser treated forms of sludge, especially Classes B, produces obnoxious odors and transmits diseases.

The DeSoto Planning Commission, at its June 5 meeting, voted to recommend county commissioners ban the use of Class B sludge in DeSoto County.

The board Tuesday agreed to consider reimposing a ban on Class B sludge.

When the sludge ordinance was first brought up, the original draft included a ban on Class B sludge, but after hearing from local users and producers of the Class B sludge, the board decided  $t_{\phi}$  permit it under the ordinance.

Opponents of Class B sludge never let up in subsequent workshops and they were back again Tuesday's hearing, the faces becoming more familiar to the board: Art Beecher, Tammie Bond, Tracy Hoppel, Mart Hollingsworth and Allen Behrens. All urged the board to ban Class B sludge.

George Chase, of DeSoto Citizens Against Pollution, urged that all sludge brought into the country be upgraded to A or AA or have it banned, and that produced in the country be hauled out.

Opponents' efforts seem to be having an effect as two commissioners came out firmly against allowing Class B sludge to be land spread in the county.

Commissioner Terry Welles supported the ban. "I move, will move and will continue to move that we allow no Class B sludge to be spread in DeSoto County -- period," he declared. "And I stand fir mon that. Treat Class B or haul it out."

"Lagree with Commissioner Welles on the A and AA," said Commissioner Bill Altman. "I'm still

A and AA and have been from the beginning. In looking out for the health and welfare of the people of

DeSoto County -- that's what we're here trying to do -- there's no other reason for being here, there >- no other reason to be making this ordinance. It's certainly not to punish or hurt anyone who's in business, none of us want to do that. I hope everyone on the board when it comes down to a vote will highly consider an A, AA only. I think that gives up our greatest protection."

At the urging of environmentalists Maurice Brown and Behrens, the board also agreed to revise the minimum setback requirements for land spreading of studge to apply a 3,000-foot setback for  $\frac{3}{2}$  tributaries of the Peace River in DeSoto County, rather than just the lower portions of the tributaries

"If you're going to protect the water, protect it all," said Commissioner Welles. He urged that the minimum setbacks for land spreading sludge near shallow potable water supply wells be extended from 500 feet to 1,000 feet. "We're talking about drinking water." He also asked that the 1,000-foor minimum for residences be extended to 3,000 feet.

Commissioner Ronald Neads, a persistent supported of sludge regulation, said, "We need to protect all the waterways in DeSoto County."

The board also added county roads to the 200-foot minimum setback list.

The second public hearing on the sludge ordinance is scheduled for June 25.

#### By JOHN LAWHORNE

#### FLORIDA - DESOTO SUN - Tuesday, June 26, 2001 COUNTY COMMISSIONERS BAN CLASS B SEWAGE SLUDGE

# County approves sludge ordinance

#### By JOHN LAWHORNE Staff Writer

DESOTO COUNTY — The DeSoto County Board of Commissioners Tuesday night approyed an ordinance that provides for the regulation of land spreading of domestic waste water residuals more commonly referred to as sludge — in DeSoto County.

The ordinance includes a han on Class B sludge, one of the lesser treated forms of sludge. As passed, the ordinance allows only the most vigorously treated forms of sludge — Classes A and AA — to be ulilized as fertilizer in the county.

Sludge is a waste material generated by wastewater treatment plants, both ... public... and ... private. Municipalities and private waste treatment plants pay sludge contractors to haul their sludge away. The contractors, in turn, dispose of the sludge by providing it free to agricultural uters as fertilizer.

DENCIO COUNT is find of the major termindi locations for sludge generated by other counties. Environmentalists oppose sludge as being hazardous to human health and detrimental to the environment.

There are several levels of treatment of sludge which are designed to reduce pathogens and bacterial sources of otlor. The highest levels of treatment are classes AA, A, and B, AA is the highest level treatment.

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The public was given a chance to speak on the ordinance. Both proponents and opponents to the ordinance spoke at the commissioners meeting.

Cluss B sludge provoked the most opposition.

The original draft of the proposed ordinance presented to commissioners for consideration at a May 1 workshop stated that only Class AA and A would be sllowed in DeSoto County for land spreading of sludge as fertilizer.

The commission had already agreed that lower classes of sludge — untreated domestic septage (from septic tanks), industrial sludge and untreated food sludge (grease) — would be prohibited altogether for land sprending.

Then, after some consideration, the board decided to allow Class B sludge, provided there were stringent setback regulations. Proponents of Class B sludge argued that enforcement of the current state and federal regulations would be the best way of ensuring that sludge including Class B — would be used properly.

"Class B'is the dangerous stuff," said Allen Behrens, a member of DeSoto Citizens Against Pollution. "It's got all the bacteria in it. It's got all the viruses. It's really pasty "stuff." Bahning Class B is the only answer."

- Immediately following public testimony and the closing of the public hearing. Commussioner Terry Welles

stated that DeSoto County residents had in the past depended on the Florida Department of Environmental Protection. the Environmental Protection. Agency and the health department for help with odor problems, but this time, those agencies did not respond. "I make the motion that no. Class B sludge be spread in DeSoto County," he said.

Commissioner Bill Altmun seconded the motion.

Chairman Jerry Hill agreed that there was: a problem with odors generated by sludge. "I know that people should have the right to live in their homes without obnoxious odors," he said, adding that he believed sludge to be a good product that can be spread sately in certain areas.

"I'd like to see Class B allowed," he said.

Commissioner Ronald Neads said "DeSoto County does need an ordinance," but noted there were state and federar guidelines already existing that were not being adhered to and not being enforced. "Enforcement is the key," he said. "From day one, 1 was not against Class B and 1 stand my ground there."

Commissioner Aliman agreed with Welles. "Protecting the health and welfare of the people of DeSoto County is paramount," he said. "I supported A and AA only from the very first meeting. I haven't seen anything to change my mind." He said he thought that A and AA only was the safest way to proceed.

That left it up to Senior Commissioner Felton Gamer to cast the deciding opinion. "I think we need to stay right now with the A and AA products," Oamer said. "until they can verify where the odors that are causing people in the community-discomfort are coming from. Something needs to be done."

Having had their say, the commissioners voted 3-2 to prohibit Class B sludge for land spreading in DeSoto County. Hill. and Neads - cast the dissenting votes.

#### DeSoto residents demand action on sludge problem FLORIDA - HERALD TRIBUNE

By SCOTT CARROLL scott.carroll@heraldtribune.com

DESOTO COUNTY -- Since a judge overruled a county ban on sludge, the commissioners may try instead to regulate it.

The county passed a ban on the dumping of the smelly goo, citing health and safety concerns, but was overruled by a federal court.

Lax laws and large landowners willing to take the free fertilizer have turned DeSoto into the state's sludge capital. Much of the minimally treated sludge -- the solids from waste treatment plants -- is dumped on citrus groves and cow pastures in the county.



PHOTO/Rod Millington Mari Hollingsworth and her son, V.C., 11. are fighting the DeSoto County Commission's decision to regulate the dumping of sludge. In 2000, V.C. spent four days in a hospital after being exposed to sludge.

The commissioners banned the worst class of sludge last summer. But the judge ruled that federal law and state permits allowed the stuff.

Many DeSoto residents are outraged. They said so at a public hearing Tuesday night. They're also upset because the commissioners aren't fighting the courts.

The commissioners said during the meeting that they won't decide whether to implement new rules regulating when and where sludge can be dumped until they've held two more hearings next month.

"It sounds to me like we're stalling," said Tracy Hoppel, whose children got sick after being exposed to the sludge. "Let's not allow one federal judge to pull us down. We need to do what's right. This is heartbreaking."

The issue of what to do with sludge has become a national debate, with counties in nearly every state trying to control its disposal after discovering the problems associated with it. Sludge has been blamed for several deaths, and a dozen lawsuits have been filed against sludge disposal companies.

Use of sludge as farmland fertilizer has steadily increased since 1991, when Congress determined that it was too dangerous to dump into the oceans.

The federal Environmental Protection Agency, which regulates the treatment and disposal of waste water, maintains that spreading sludge does not cause health problems when done correctly.

The EPA has asked the National Academy of Sciences to review its sludge rules. That study is to be completed later this year.

That's not good enough for Mari Hollingsworth, a public health nurse who is at the forefront of the debate in DeSoto. She became concerned in 2000 after her 11-year-old son, V.C., drove his dirt bike through a field where sludge had been dumped.

Within hours, he was vomiting and running a fever of 104. V.C. spent four days in the hospital with an intravenous needle in his arm.

"I didn't know it would hurt me," he said.

#### FLORIDA - 11 YR. OLD RIDES **D**IRT BIKE THROUGH SLUDGE -- ENDS UP IN HOSPITAL --OTHER CHILDREN SICKENED -- SLUDGE BURNS EYES AND NOSES FOR LONG DISTANCE

At Tuesday's meeting, Mari Hollingsworth, who now lives in Port Charlotte, begged the commissioners to fight to keep the ban in place, despite the judge's ruling. She handed over a petition bearing the names of 47 residents who want the dumping stopped. The county can appeal the ruling.

"I emphatically ask you to ban sludge from DeSoto County," she said.

She was not alone. Half a dozen others at the meeting urged the commissioners to ban the waste.

Tonya Bond, who lives near Horse Creek, said that during Tropical Storm Gabrielle sludge oozed into her house along with the flood waters.

"You can't imagine having all of your worldly possessions covered with sludge," Bond said. "It's not a pleasant experience."

Texas-based Azurix North America filed a lawsuit in August, challenging the DeSoto sludge ban. Azurix, a former subsidiary of Enron and one of the largest waste-water treatment and disposal companies in the country, has contracts with 200 waste-water plants in the state, including those in Sarasota, Manatee and Charlotte counties.

Most of those contracts, and their accompanying state permits, call for the sludge to be dumped in DeSoto County.

Company spokesman Jeff Snyder defended the practice.

"This has been going on there for 15 years, so we don't quite understand where all the opposition is coming from," Snyder said by telephone from his Fort Myers office Tuesday.

But Alan Behrens, a chemist and head of DeSoto Citizens Against Pollution, said the county's residents have been fighting to get rid of sludge for nearly that long.

"We never had an ordinance; we never had commissioners who did anything about it," Behrens said before the meeting.

He is concerned that heavy metals and viruses will get into the food chain through livestock and wild animals eating sludge-tainted vegetation.

The area's water supply could be degraded by sludge seeping into Horse Creek, which runs through DeSoto County and into the Peace River, Behrens said.

"The potential for harm is just enormous," he said.

Residents have been complaining for years about getting sick from sludge. There are reports that cows have died after eating sludge-fertilized grass. And then there's the smell. When the wind is blowing, it can burn your eyes and nose from miles away.

County Commissioner Thomas Felton Garner, who won't use sludge on his 100-acre orange grove, said he doesn't want to live near the smell.

Hollingsworth said she used to love playing with her children in the fields behind her house. She especially enjoyed flying kites with her two children.

The kite flying stopped when sludge trucks started dumping their loads in nearby fields.

"Everything stopped," Hollingsworth said.

http://www.newscoast.com/story/Jan-23-2002/msludge.htm

1/23/02

#### Sarasota Herald-Tribune (FL)

#### Spreading trouble

March 7, 2002 Section: A SECTION Page: A16

Spreading treated sewage sludge on farm fields is an unsavory practice that may not be as harmless as its advocates claim.

Mari Hollingsworth, a former DeSoto County resident, believes her children suffered severe health problems from sludge spread on her neighbor's land. She is leading a campaign to end the practice. Yet DeSoto County is negotiating with a sludge hauler rather than contest a federal judge's order overruling the county's previous ban on Class B sludge, the lowest-quality byproduct of domestic waste treatment.

The DeSoto County Commission should rethink its position and appeal the order. Continued spreading of sludge on farmland risks making the county a regional cesspool with long-term public consequences. Evidence is growing that DeSoto's initial policy – a ban on Class B sludge – is the correct one.

The Azurix Corp., a former subsidiary of Enron and one of the nation's largest waste- water treatment firms, spreads sludge from 200 Florida waste-water utilities on DeSoto County pastures and farmlands. The company insists no scientific evidence has ever linked human illness to sludge spreading. Yet Synagro Inc., the nation's largest sludge producer, paid an undisclosed damage award in January to settle a lawsuit filed on behalf of a New Hampshire man who died following exposure to sludge.

In addition, a draft study by the Environmental Protection Agency concluded that not enough research supports existing sludge-**spreading** rules. In response, an expert panel of the National Research Council is holding closed-door hearings on toxic risks related to land-**spreading** of sludge. Sen. Charles Grassley, R-lowa, has expressed concern about flaws in federal regulations governing sludge **spreading**.

A "working paper" published by the Cornell (University) Waste Management Institute, designed to review the EPA's sludge rule, warns also that repeated sludge spreading can burden soils with long-lasting toxins. It seeks "further investigation" of the impacts of spreading sludge on acid soils, pastures and forage, near streams and shallow aquifers tapped by domestic wells, and anywhere children have access.

Known officially as "biosolids," sludge is the byproduct of treated domestic and hospital waste water. It comes in two grades – Class B, the lower grade, and Class A, a "cleaner" grade subjected to advanced processes that neutralize its pathogens.

The federal rule that governs the use of Class B sludge as a fertilizer and soil amendment assumes the stuff is harmless, but protocols imposed by a federal agency for sludge handlers suggest otherwise. The Centers for Disease Control recommend that workers who handle sludge take special precautions that include wearing protective clothing and boots and donning face shields and goggles.

Yet sludge commonly is spread without the scrutiny of regulatory personnel from any government agency. Sludge haulers contract with landowners who welcome the practice for its fertilization value and often neglect to identify their property as being used for the practice.

V.C. Hollingsworth, 11, contracted rotavirus, a serious intestinal disease, two years ago after he rode his dirt bike through a DeSoto County neighbor's pasture where sludge was spread. The reaction he suffered within hours – fever and vomiting – required intravenous fluids and several days of hospital care to remedy.

There are sufficient questions about the risks of sludge spreading to warrant caution. DeSoto County should exercise that caution by appealing the judge's order that overturned its ban on Class B sludge.

#### FLORIDA - CHILD RIDES DIRT BIKE THROUGH SLUDGE -SUFFERS FEVER, VOMITING, ROTAVIRUS INFECTION HOSPITALIZATION REQUIRED

C K S O N V I L L E C O M	Suspicious odors: Florida Inland Navigation District Director David Roach said when workers dug into the soil for the tortoises, there was an odor that indicated the possibility of contamination.
ir 16, 2001 1:58 p.m. on Thursday, November 15, 2001	Gopher tortoises live in tunnel-like burrows they excavate with shovel-like front feet. Because of their protocted status, a permit is required to possess, study or relocate gopher tortoises, according to the Gopher Tortoise Council. Florida, which lists the species as one "of special concern," prohibits the harvest of tortoises or tortoise races.
r reported polluted property oot Ranch now being investigated	During the investigation, it was discovered the site was once used as a dumping site for domestic sludge waste. Six other sites on the Dee Dot ranch were used for the same purpose, according to records.
le writer	It is unclear whether any of the other sites are contaminated.
inogenic contaminants saturating at least one and maybe as many as the Intracoastal Waterway in St. Johns and Duval counties to immediate danger but have raised questions why a federal agency out that years carlier could have shown there was a problem.	What's also unclear is why the U.S. Environmental Protection Agency, which records show first discovered contamination on part of the property in 1989, apparently never told the landowners or the Florida Department of Environmental Protection.
cleaning the property. the price tag is already about \$200,000 and er, is falling to the original property owners. Cleanup is required can grow the longer contaminants are left unabated, environmental	"To me that was mind-boggling," Roach said. "Obviously, they dropped a big ball there."
land owned or once owned by Estuary Corp., now owned by the unders of the Winn-Dixie grocery chain.	Wesley Lambert, a spokesman for the EPA regional office in Atlanta, said the agency found some contamination on Dee Dot ranch during a random inspection in 1989, but the contamination was not enough to be considered a danger to public health so the site was declared a low priority.
ion by industrial solvents was discovered in January when the Army eers called in a specialist to move gopher tortoises in preparation for a containment basin as part of an Intracoastal Waterway dredging	Lambert couldn't explain why neither the landowners nor the state environmental department were informed of the results of the agency's inspection because the person who oversaw the case is no longer with the agency. But he said there was nothing in 1989 that would have required landowners be notified.
d be a sort of drying cell, allowing mud and silt to be the intercoastal waterway and then sun-baked until it was t would then be loaded into trucks to be used as fill.	Estuary Vice President Harry Francis said the Davis family allowed the EPA to inspect the land but assumed there were no problems because they never heard back from the agency.
nd Navigation District bought the land for \$2.8 million in 1995, acres from within the Dec Dot ranch – a sprawling 45,000 acres that nd St. Johns counties. About 15,000 acres of the ranch's land would posed mega-development called Nocatee that could be home to as people in the coming years.	Mystery source The defunct Duval Septic Tank Co. was permitted by the state in the mid-1980s to dump some studge waste, Cheary said.
tamination are not close to any of the land that would be used for ian Cheary,manager of waste cleanup for the Florida Department of Protection's northeast district.	But the pollutants found were not normally found in such waste as the permit allowed. Instead, they're typically found in waste from dry cleaners, machinery cleaning and repair operations and manufacturing companies that use them for cleaning. Cheary said
<b>3ER 2001 - FLORIDA - EPA COVERS</b>	UP SLUDGE CONTAMINATED PROPERTY

Duval Septic is the only company that has had a state permit to dump waste on Dee Dot ranch property, Cheary said. Dee Dot ranch owners allowed the company to dump waste, Francis said, with the expectation it would dump only what was allowed.

Attorney Wayne Ellis, whose late father, Francis Ellis, owned Duval Septic, said that's just what the company did. Duval Septic paid the Davis family for permission to put sludge on pastures at the north end of Dec Dot ranch, Ellis said. The sludge contained water and nitrogen-rich material that acted as fertilizer and came from Jacksonville's Buckman Street sewage treatment plant, that routinely tested the sludge to make sure it was safe, Ellis said.

"It couldn't have come from the sludge, because we can prove what came from the Buckman Street sewer plant," he said.

Cheary said someone else could have dumped the waste on Dee Dot Ranch without a permit, but the state environmental department's investigation hasn't found any evidence anyone else disposed of waste there.

But because Duval Septic is no longer in business and its owner has died, Cheary said the responsibility to clean the contamination falls to the owners of the land during the time the contamination is believed to have occurred.

The potential for contamination extends beyond the Florida Inland Navigation District location. There are six sites outside the Florida Inland Navigation District's land but still within Dee Dot Ranch. Five of the six sites are in St. Johns County and one is in Duval County, Francis said.

# Costly cleanup

The state Department of Environmental Protection has asked Estuary to assess and clean up the contaminated site, which is limited to eight acres, and also to assess and, if necessary, clean up six other nearby sites that may be contaminated. Estuary has denied responsibility for the contamination but has not contested bearing the cost of cleanup.

Francis said Estuary has started testing the six other sludge sites and hasn't found any evidence so far of contamination.

The contamination appears not to have endangered drinking water supplies despite its proximity to the Intracoastal Waterway. Groundwater that is contaminated with solvents is part of the near-surface surficial aquifer, not the deep aquifer – commonly called the Floridan aquifer – which supplies drinking water, Cheary said

An aquifer is a layer of porous limestone or dolomite, thousands of feet thick in some sections, in which water can flow and accumulate. The Floridan aquifer is one of the largest in the nation — it extends through Florida and into Georgia, Alabama and South Carolina — and a primary source of water for the state.

Because of its porous nature, liquids can sometimes travel through the sand and clay that surround the aquifer and make their way into the water.

Roach is pleased Estuary is cooperating with the state to get the land cleaned up, but said he is upset the corporation wasn't more open with the Florida Inland Navigation District during purchase negotiations.

The district's purchase contract for the land required Estuary to disclose any information it knew about potential contamination on the site, Roach said, so Estuary should have at least told the district the federal environmental agency had inspected Dee Dot Ranch in 1989.

Not so, said Francis, who said Estuary officials didn't think to disclose that information because they didn't know what area of the ranch was inspected and didn't think any problems had been found because nothing was said after the inspection.

Francis said Estuary has spent about \$200,000 to assess and begin cleaning up the district's land and plans to spend more to finish the job, which will include having contaminated soil removed from the site.

"We're as interested in cleaning it up as anyone because it's on an area in the middle of our property," Francis said. "It's not a very extensive problem, though. It's confined to one area and it's not migrating to other areas."

Times-Union staff writer Steve Patterson contributed to this report.

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# RESPONSIBILITY TO CLEAN UP CONTAMINATION FALLS TO OWNERS OF THE LAND

#### Sludge Story: Wasting Away In Lake BYLINE: Robert P. King, Paim Beach Okeechobee

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Who's polluting Lake Okeechobee? The list may include anyone who flushes a toilet in Boca Raton, Wellington and Jupiter - along with people in Walt Disney World and New York City.

While the state prepares to spend up to \$1 billion to save the lake, farmers and ranchers upstream are enriching their fields with thousands of tons of studge? each year from sewage piants in South Florida and across the nation.

They do it with the blessing of state environmental regulators, who say recycling the AsludgeD on farmland is better than burning it or sending it to landfills.

But the size of the **QstudgeD** imports has surprised other state regulators, who have been trying for years to stop the flow of algae-feeding phosphorus into the state's largest lake. South Florida water managers say that until earlier trus year, they had no idea so much asludged was entering the region - slong with hundreds of tons of phosphorus.

The disludged is also bringing hundreds of tons of phosphorus and nitrogen, another sigae-feeder, onto land that ultimately drains into the ecologically troubled St. Lucie River.

CSIudgeD - the solid or liquid stuff left over after treatment plants clean sawage - is one of the inevitable residues of a growing population: Each year, the state says, the nation produces about 8.5 million tons. Meanwhile, development s snrinking the number of places where the 4sludge? can go.

For much of South Florida, that leaves Martin, St. Lucie and Okeechobee counties as the logical destination. All told, landowners there accepted an estimated 52,020 tons of 4sludgeD last year, according to a Palm Beach Post analysis of state data.

County, nearly 13,000 tons from New York City and 252 tons from Disney. With a came an estimated 1,313 tons of phosphorus.

Experts can't say how much of the AsludgeD's residue, if any, is winding up in the lake or the river. Under state rules, the people who spread the 4sludge? must take precautions to prevent it from washing away, for instance by keeping it a certain distance from water and not applying it during rains.

Still, the numbers are "staggering," said David Guest, an attorney for the Earthjustice Legal Defense Fund, which sued the federal government last year for failing to protect the lake. "I would refer to it as a stunning revelation.

Guest said the numbers could indicate that **QstudgeD** is one of the biggest pollutants, Substisard the numbers could indicate that **4studgeP** is one of the biggest pollutar ine take faces, if not the biggest **4StudgeP** also may be a major reason for high, nitrogen and phosphorus levels in the St. Lucle River, said Mark Perry, director of the Florida Oceanographic Society in Stuart, "It's got to be coming from somewhere," Perry said.

meeping track of **(studge)** difficult

Those conclusions are premature, said Gary Ritter, a senior supervisor in the South Florida Water Management District's Okeechobee office. He said the district needs to know more about how the farms are using the 4studgeD.

You can't just say, 'Oh, there's the problem,' " Ritter said. "It's a lot more complicated than that.

ut the district has found signs of trouble at one ranch that has been importing Sut the district has found agreed at shore.

In September, water managers reported measuring runoff at County Line Farms, in Okeechobee County with phosphorus levels of 7,400 parts per billion. That's 21 times what the ranch's permits allow. (Attempts to reach County Line's owners last week were unsuccessful.)

Landowners in certain areas around the lake are supposed to tell the district whenever they make a big change in their farming practices. But in some cases, Ritter said, district employees learned of the distudge? only when they saw trucks hauling the stuff and began asking questions.

And until recently, requisions at the state Department of Environmental Protection, in Tallahassee haven't made a point of telling the district when they OK deludge?, spreading near the lake.

"We may want to improve communication with the (water district)," an Aug. 9 DEP memo acknowledged.

Even for its own uses, the DEP has no easy way of pinpointing where all the Asludged ands up.

For some types of 4studgeD, the department can piece together exactly what farms or ranches end up with the stuff - though those data are usually a year old. For other varieties, the 4sludgeP producers only have to tell the DEP the name of the county where they send it.

And the DEP regulates only the utilities that make the **dsiudgeD**, not the haulers or farmers. Meanwhile, the department has no control over "septage," a similar by-product that comes from septic tank waste.

"There are gigantic holes in the process," said Martin County Commissioner Janet Gettig, "The problem is bigger than DEP and the water management district are letting on."

For now, water managers are asking eight ranches for details about their AsludgeD use. And the DEP plans to make utilities that send **fsludge** to sites near the lake ensure they're not worsening pollution. <u>Guest and other environmentalists</u> said the state should go further and stop all spreading around the lake.

#### Sludge 'better' than fertilizer

Paul Gray, an Audubon Society sanctuary manager in Okeechobee County, agreed. although he said 4studgeb is probably just one of many sources of the lake's pollution more phosphorus," Gray said.

**4StudgeD** "is like any other by-product," said Palm Beach County utilities director Gary Dernian, "It's going to be put in the air, put on the ground or put in the water. It's not going to go away."

Besides, one rancher said - if he couldn't get **(sludge)**, he'd just switch to fertilizer which also contains phosphorus and nitrogen.

**4SludgeD** "is a natural organic substance," said Ed Walpole, whose company runs Seminole Land and Cattle in Marjin and St. Lucie counties. "We feel like if we can create a better way of doing things and stay away from synthetic fertilizers. it would certainly be better for everybody.

Staff writer Sally Swartz contributed to this story.

bob\_king@pbpost.com

**4SludgeP:**Forgotten but not gone

As populations grow, so does their waste - including the fisludgeb that winds up on ranches and farms. Now, state regulators are examining whether some {studge: might be leaking pollution into Lake Okeechobee.

#### What is 4sludge??

It's the solid material left after sewage plants cleanse waste water. With pathogens and other hazards removed, it becomes a liquid or solid that farmers can use - with restrictions - to nourish soil. In super-cleansed form, stores even sell it to the public. But like fertilizer, dstudgeD still contains phosphorus and nitrogen, which can feed algae. State rules are supposed to keep those chemicals from excepting

Where the IsludgeD went - 1998\*

39,416 tons went to sites that ultimately drain either to Lake Okeechobee (in red) or the St. Lucie River (blue).

#### FLORIDA - ST. LUCIE RIVER, LAKE OKEECHOBEE - CONTAMINATED WITH NITROGEN & PHOSPHOROUS FROM SEWAGE SLUDGE

#### DIANE BALLARD, 3788 SW ARMADILLO TRAIL, ARCADIA, (DESOTO COUNTY), FLORIDA 34266 863-993-3377

They started spreading the sludge heavily in our neighborhood and across the street from us about two years ago. The odor was so bad. I developed flu, pneumonia, pleurisy, bronchitis, sinusitis and thick, choking mucus.

This year after they spread the sludge my symptoms started with a sore throat; it got so swollen it was difficult to talk. I started getting low grade fevers. I tried to just pass it off and take a couple of Tylenol. But as it progressed, I lost my voice and started getting pains in my head and higher fevers.

The clinic told me my mastoid was infected on the left side in my ear. They gave me heavy doses of antibiotics and pain pills. I went home and took all my medicine, but then what happened is I got diarrhea for about 8 days. Meanwhile, my throat is so sore I could not eat.

My 13 year old daughter developed similar illnesses. She got sick for 3 or 4 days with a sore throat, high fever and nausea.

My husband was sick for about 8 days. He suffered gastrointestinal problems, headaches, sore throat, fever and cold sweats.

After I got all cleared up -- 4 days after I stopped taking the antibiotics, it all came back and then it was on the right side. DeSoto Memorial Hospital did a CAT scan and said I had a cyst. I am still recuperating from surgery. They had to drill into my skull.

#### SLUDGE VICTIMS SUFFER SORE THROATS, FLU, PNEUMONIA, PLEURISY, BRONCHITIS, SINUSITIS, THICK, CHOKING MUCUS; HIGH FEVERS, DIARRHEA, NAUSEA, HEADACHES, COLD SWEATS; SURGERY FOR CYST

#### MOLLY BOWEN, 8731 SW DEER TRAIL, ARCADIA (DESOTO COUNTY), FLORIDA 34266 983-491-8595

I live in Hidden Acres, a subdivision with about 50 homes. We are surrounded by agricultural land -- cattle, orange groves -- and we border on a phosphate mine. Horse Creek runs through our neighborhood.

Sludge spreading has been going on for about 15 years, but in 1999 they greatly increased the amount of sludge being spread, and that was when the health problems started. Up until 1999, my 6 children and I were all in very good health.

The medical problems started with cold and flu symptoms and low grade fevers. The doctors put my children on antibiotics. The health problems come and go. When I ask the medical people, they say it is some sort of bacterial infection. I had an ear infection recently and I have headaches which can last for a week. Once this syndrome gets in our system, it seems to go through our whole body and just stays there. Sometimes we feel better, but then the illnesses and symptoms recur.

About 20 or 30 other people in my neighborhood also report ongoing and recurring illnesses, including nausea, headaches, sore throats with irritation and hoarseness; burning eyes and nose; some people have experienced nosebleeds; respiratory problems including breathing difficulties, shortness of breath, wheezing, asthma, bronchitis and thick choking mucus. Some people have gastrointestinal problems including cramps and diarrhea, and some have suffered skin problems including lesions, rashes and infections.

I have a good doctor from Sarasota who drives out here. He wasn't aware of the sludge spreading and the illnesses. He attended a DeSoto County Commissioners meeting to get more information about the sludge spreading. A Pediatrician in Port Charlotte saw a lot of children in the hospital with Rotavirus last April. We are having signs made up "Stop Sludge Dumping" !!

SLUDGE VICTIMS SUFFER COLD AND FLU SYMPTOMS, LOW GRADE FEVERS; EAR INFECTIONS, HEADACHES, SORE THROATS WITH IRRITATION AND HOARSENESS; BURNING EYES AND NOSES; NOSEBLEEDS, RESPIRATORY PROBLEMS INCLUDING BREATHING DIFFICULTIES, SHORTNESS OF BREATH, WHEEZING, ASTHMA, BRONCHITIS AND THICK CHOKING MUCUS; GASTROINTESTINAL PROBLEMS INCLUDING CRAMPS AND DIARRHEA; AND SKIN PROBLEMS INCLUDING LESIONS, RASHES AND INFECTIONS

We're being polsoureu come DeSoto County residents are speeking out about studge	suy that sludge, a by product of waste treatment, has
By SCOTT CWIROLLI and JUMIC MUNIFUSO STAFF VANIFIRS	printed by the second printed because they are afraid of losing friends, their second se
DESOTO COUNTY The last two years have been the worst of Diane Ballard's life, and she blames that on the mountains of mudlike treated between that home.	"My kids would get sick like clock work areas in the vlock d start
FLORIDA - DESOTO COUNTY JULY 2002 JULY 2002	Tresident; a man with resident; a man with three children. "We har holkingsworth, fr right, chose to live in the har wave made her philtren side. The
The first thing that hit her when the sludge trucks began dumping last spring was the smell: "You couldn't walk outside," she says. "You couldn't do anything outside."	From pollution and we fields are on a ranch owned by Cycle Houlingsworth, above, her cycle Houlingsworth, above, her solvers is the pollution of the worst kind you former fabre-in-law.
Then the illnesses started pneumonia, bronchitis and pleurisy. "You name it, lended up having it," says Ballard, 44. "I ve never been that sick before in my life."	He didn't complain, even though sludge was piled 200 yards behind his horne last summer. He goes to Disor towel Thrived Methodist Church with
But like neighbors who link their illnesses to living in "The Sludge Capital of Florida," Ballard never spoke out.	Hollingsworth, the rancher who also built the new wing on their church.
She didn't raise a fuss with DeSoto County or Florida officials. They maintain that sludge can't make you sick, and they depend on the waste-water industry to regulate what's dumped.	Molly Bowen says she and her six children, ages 3 to 19, have gotten headaches, sinus infections, burning cars and eyes, fevers and severe diarthea from the sludge dumped nearby.
She doubted she could get support from community leaders, many of whom work for Clyde Hollingsworth, the powerful rancher who contracts to have more than 200,000 tons of sludge dumped on his land. He brought in the sludge near Ballard's	"We're being poisoned." Bowen says. Nationwide epidemic
home. Ballard didn't want to blame her neighbor's sludge for her troubles. She took vaccinations and vitarnins.	The United States produces more than 20 million tons of sludge a year as the end product in treating sewage. Most of it ends up as free fertilizer in poor, rural counties.
But in May, when doctors had to drill into her <u>skull</u> to remove a cyst deep in her ear canal, Ballard began thinking she was in a fight for her health.	What gets dumped on those pastures is a chemical and bacterial stew consisting of everything that's been flushed down toilets, chucked down sewers and disposed of by industry. That includes human waste, blood, toxic chemicals and heavy metals.
"I can't seem to stay healthy," she says, as she swallows another antibiotic.	There is no consensus on how harmful sludge is for people or the <b>environment</b> , in large part because little research has been done. Several studies have <b>shown</b> that sludge can make people sick – including a Cornell University report which listed
More than two dozen DeSoto residents interviewed	250 detailed cases - but those studies have been fiercely contested by sludge hauling companies and top EPA officials.
VICTIMS SUFFER HEADACHES, SINUS INFECTIONS, BURNING EARS AND EYES,	Two recent government reports show the EPA hasn't studied whether its policies are harming the environment and making people sick. The reports also found the EPA isn't monitoring or enforcing its sludge policies, and doesn't track or investigate outbreaks of illnesses that have been associated with sludge.

**BRONCHITIS, PLEURISY, CYST IN EAR CANAL** FEVERS, SEVERE DIARRHEA, PNEUMONIA, INFECTIONS, BURNING EARS AND

We're being poisoned'

	) FORCE SLUDGE ON THEM.	SLUDGE BULLIES THREATEN ACTIVISTS - ATTACK SCIEI SAFETY - AND SUE UNWILLING RURAL COMMUNITIES T
	Five years ago the EPA teamed up with the Water Environment Federation trace	The message has been clear: sometimes people have to suffer to keep the billion- dollar sludge industry healthy.
	Business working with feds	seen their work discredited, been demoted and lost their jobs.
	"Whatever people have claimed, there has been no scientific evidence whatsoever in any case linking residuats to people getting ill or dying," says Leo F. Gohier, a regional general manager for Azurix.	Sludge companies and municipalities, which produce vast amounts of waste, suc rural counties that try to ban their sludge. Government scientists who have have spoken out on the dangers of sludge have
•	Industry officials say science doesn't back up such claims.	psychosomatic illnesses. Many have been threatened with civil suits.
	Tr's just not possible to know what residues may be in the material, says were spokes woman Cathy Pernu.	Powerful sludge industry executives and local officials have derided families from Maine to California who say they have gotten sick from sludge as alarmists with
	Such conglomerates as Kraft, Del Monte, Heinz and Campbell Soup have joined with Vermont dairy farmers and California tonnato growers in refusing to use food fertilized with sludge.	Such intimidation is not just a problem in DeSoto County. Big profits and the fear of tobacco-like lawsuits have pushed the industry to fiercely defend sludge disposal methods and to go after anyone who criticizes them.
	"From the standpoint of lead alone, sludge is 'safe' only if you are willing to accept a lowered 1Q for children living in the sludge area," Tackett says.	Hollingsworth showed the photos any way. Rancher Clyde Hollingsworth is her former father-in-law.
	The potential for lead poisoning is enough to warrant a ban on spreading sludge, says Stanford Tackett, a retired chemist and an expert on lead contamination.	When Mari Hollingsworth took photos of what appeared to be a dead cow lying in a field of sludge. Azurix threatened to sue her if she showed them at a public forum.
	restrictions and possibly barming it.	A zurix also sent a threatening letter to a resident who spoke out against sludge.
	Counties across the country have been working to ban sludge, including rural areas in California, Virginia and Pennsylvania. Locally, Manatee County placed restrictions on sludge in 1997 and Sarasota County officials are considering similar	A federal judge agreed, and Azurix has kept on dumping around the clock, while county officials decide whether to appeal. A legal fight could take a year and cost more than \$300,000, according to DeSoto County Attorney Mike Davis.
	Tina Childers' 7-year-old daughter has been in and out of hospitals for three years. Doctors removed a tumor from her husband, who was later hospitalized with a staph infection. At least one study linked staph infections to sludge exposure.	Overwhelmed, DeSoto slapped a ban last year on sludge dumping, the first county in Florida to do so. But before it went into effect, Azurix sued, claiming federal laws allow sludge dumping.
	In Menifee, Calif., children whose homes are near sludge dumping grounds have had blisters on their tongues and throats.	Most of it is dumped in DeSoto County, according to Azurix's lawsuit against the county.
	"Everybody around here is staying sick all the time," says Donna Poiroux.	treatment plants, serving 2 million people.
	In Grand Bay, Ala_ townspeeple living near fields fertilized with sludge complain of illnesses, ranging from headaches and sore throats to rashes and E. coli.	In November, American Water Works paid \$150 million for Azurix North America. Established in 1998 as a subsidiary of Emon, Azurix emerged as a leader in the sludge business. In Florida, Azurix hauls sludge from more than 200 waste-water
and the state of	Hundreds across the country say they have similar stories and several usaws have been associated with sludge. been associated with sludge. In January, Synagro settlod a lawsuit with the family of a New Hampshire man who died from respiratory problems days after being exposed to sludge.	Synagro is one of the few companies in the industry that <b>deals exclusively with</b> treated sewage; most provide water and sewer services. One of the largest is American Water Works. The New Jersey-based company reported revenues of \$1.4 billion last year.
: Arst	in 1999, when her daughter Abby we may make the deby drated.	The country's largest studge hauler, flouston-based Synagro Technologies, reported newenues of \$260 million last year.
	"I thought the government was supposed to be responsible for protecting citizens. It's clear they aren't," says Mari Hollingsworth, who became an anti-sludge activist It's clear they aren't," says Mari Hollingsworth, who became an anti-sludge activist	Hauting sludge from cities and dumping it in the hinterlands is big business.

<ul> <li>and the ETA case only addre friends</li> <li>and the ETA case on the ETA case contained to contact and other protection of case contained to contact and contact cont</li></ul>	p. saying it was an the public's nacrest "to pronote environmentally sound and pied" sludge management e 1999, the EPA has given the federation \$12.9 million to research sludge and lop better treatment and disposal methods.	"They ic trying to do whatevet they can to censure me and shut down my work." Lewis says. It has vowed to continue researching shudge, but it won't be with the EPA. Lewis has agreed to resign from the agency in May 2003.
<ul> <li>White lugger much service to handle mark the service to handle FPA wate mark the service to handle mark the service to handle FPA wate mark to handle FPA wate mark the service to handle FPA wate mark the service to handle FPA wate mark to handerece handle FPA wate mark to handle FPA wate mark to handle F</li></ul>	nership means the EPA uses only sludge-friendly scientists to conduct says David Lewis, who has worked as a microbiologist with the EPA for	Bonner Cohen, former editor of the newsletter EPA Watch and an environmental specialist with the Lexington Institute, an Arlington, Va., think tank, says that in more than a decade of covering the EPA he's never seen the agency go to such lengths to quash research.
<ul> <li>The always gotter the research funding. Levels says.</li> <li>This poil is any body's interest at EPA that the truch get out, so it's all seep under too gradies about share in the EFA and they shall be applied and the antiper the end in an integration and its chains and integrated and the antiper the end in the truch and they shall be applied and the antiper the end in the end</li></ul>	convinced that sludge makes people sick and that any research, including that shows this is quashed by EPA and sludge industry officials. rigged the whole process from beginning to end, using the same cast of	"With sludge, because deaths and illnesses have been reported, it's become imperative to hush this up. Anybody inside or outside EPA who raises questions about this is attacked." Cohen says.
bit emplore in 1966 for harasmy him because his rescarch on study and fragment is leader that. Levis and an average of the that in the in the internation of the that in the internation of the that is and an average of the that in the internation of the that is and an average of the the that. It is and an average of the the that in the internation of the the that in the internation of the the that. It is and an average of the the that is and an average of the the that. It is and the the that is an average of the the that. It is an average of the the that is an average of the the that. It is an average of the the that. It is an average of the the that is an average of the	is that have always gotten the research funding." Lewis says. one like me comes along and is willing to publish research that might have ag negative about sludge, the WEF leans back on the EPA and they shut the n." he says.	"It's not in anybody's interest at EPA that the truth get out, so it's all swept under the ing." Studge In DeSoto County
Resentic Russo, lost her position after site betwing to soluty has studye policies alone.         Desclords 637 square miles include an abundance of perture land and an average of square miles include an abundance of perture land and an average of square miles include an abundance of perture land and an average of square miles include state sverage is 300.         Desclords 637 square miles include an abundance of perture land and an average of square miles include an abundance of perture land and an average of square miles include an abundance of perture land and an average of square miles include an selected and the families here, and soure than 10,000 aress. He has state permits to receive single on more than 10,000 aress. He has state permits to receive single on more than 10,000 aress. He has state permits to receive single on more than 10,000 aress. He has state permits to receive single on more than 10,000 aress. He has state permits to receive single on more than 10,000 aress. He has state permits to receive single on more than 10,000 aress. He has state permits to receive single on more than 10,000 aress. He has state permits to receive single on more than 10,000 aress. He has state permits to receive single on more than 10,000 aress. He has state permits to receive single on more than 10,000 aress that the research spate while the abundance of any state and the relation and the relation. In the spring on roll court, Synagro on tor court to rau undischosed amorut.         Desclore shall be aboundance of permits to receive single on more than 10,000 aress that the relation and state way as key west and clear state scenes and state scenes and state scenes and state are are by soming from as far away as key west and clear state scenes and state scenes and state scenes and state are are by soming from as far away as key west and clear state scenes and state are are by soming from as far away as key west and of a porter to reaser and the WEIF complained to t	ted his employer in 1996 for harassing him because his research on sludge health risks. Lewis won \$140,000 in the suit. Instead of backing off, EPA rators "only stepped up the heat after that," Lewis says.	Viruses and infections are common in DeSoto County, a patchwork of cattle ranches and citrus groves connected by dirt roads and manued by third-generation runch families and migrant farmers.
<ul> <li>A scientists critical of the agency's slugge policies also complained of ant flog so bad thai in 2000 the gency's slugge policies also committee on Science Fold ant flog so bad thai in 2000 the gency. Flow and set the state permits to receive slugge on more than on the matter, and wore dima () floo acres. It he ass state permits to receive slugge on more than on the matter sing warned EPA of floid sits (or leave its employees alone, pervise testified on behalf of Shayne Commer's family. The 26-year-old New reman died after being exposed to sludge, and his family sued Synagro reman died after being exposed to sludge. and his family sued Synagro reman died after being exposed to sludge, and his family sued Synagro research sludge and his family sued Synagro to research sludge and the MEF complained to EPA the event officials from Synagro and the family sued Synagro the event officials from Synagro and the VEF complained to EPA the event officials from Synagro and the family sued Synagro the event officials from Synagro and the Synagro to schaling the first second and the family such the second and problems with it. If you makes the grass grow' the event officials from Synagro and the WEF complained to EPA the event officials from Synagro and the family, such the second and problems with it. If your makes the grass grow' the event officials from Synagro an</li></ul>	. Rosemarie Russo, lost her position after she let him publish a paper of the EPA's studge policy. Russo sued the agency, and got her job back two o.	DeSoto's 637 square mites include an abundance of pasture land and an average of 50 people per square mile. By comparison, Sarasota County has 570 people per square mile, the state average is 300.
<ul> <li>and lastry has also gone after Lewis</li> <li>Lewis tegrified on behalf of Shayne Conner's family. The 26-year-old New Te man died after being exposed to sludge, and his research, saying his science was unsound, he wasn't to research sludge and his research, saying his science was unsound, he wasn't to research sludge and that industry research was superior.</li> <li>Area the family's lawsuit out of court for an undisclosed amount.</li> <li>Azanix sent die Synagro and the WEF complained to EPA policy by not ty event, officials from Synagro and the WEF complained to EPA policy by not ty explaining that industry research the sect the sect of the spring on sludge in DeSoto County. Before may and the reade, and total and site way to get ind of a product and the family's lawsuit out of court for an undisclosed amount.</li> <li>Azanix sent die Synagro and the WEF complained to EPA policy by not ty explaining that increasent those of the agency.</li> <li>LUDGF, BECAUSE DEATUSE DEAT</li></ul>	<sup>3</sup> A scientists critical of the agency's sludge policies also complained of ent. It got so bad that in 2000 the House Committee on Science held on the matter, and warned EPA officials to leave its employees alone.	A quarter of the families here, and more than a third of the children, live in poverty. A handful of ranchers own the land. The most powerful is Hollingsworth, who owns more than 40,000 acres. He has state permits to receive sludge on more than 10,000 of these acres where he crazzs cattle and grows oranges.
<ul> <li>The man died after being exposed to sludge, and his family sued Synagro.</li> <li>The man died after being exposed to sludge, and his family sue died after being exposed to sludge, and his family sue died a public forum in the spring on sludge in DeSoto County. Before the santh to research sludge and that industry research was superior.</li> <li>The family's lawsuit out of court for an undisclosed amount.</li> <li>Sented the family's lawsuit out of court for an undisclosed amount.</li> <li>The family's lawsuit out of court for an undisclosed amount.</li> <li>The family's lawsuit out of court for an undisclosed amount.</li> <li>The family's lawsuit out of court for an undisclosed amount.</li> <li>The family's lawsuit out of court for an undisclosed amount.</li> <li>The family's lawsuit out of court for an undisclosed amount.</li> <li>The family's lawsuit out of court for an undisclosed amount.</li> <li>The family's lawsuit out of court for an undisclosed amount.</li> <li>The family's lawsuit out of court for an undisclosed amount.</li> <li>The family's lawsuit form Synagro and the WEF complained EPA policy by not for the atory.</li> <li>The event officials from Synagro and the WEF complained to EPA policy by not for the atory.</li> <li>The event officials from Synagro and the WEF complained to EPA policy by not for the atory.</li> <li>Christine Todd Whitman that Lewis violated EPA policy by not the start and the start and the start.</li> <li>Christine Todd Whitman that Lewis violated EPA policy by not the start.</li> <li>Christine Todd Whitman that Lewis violated EPA policy by not the start.</li> <li>Christine Todd Whitman that Lewis violated EPA policy by not the start.</li> <li>Christine Todd Whitman that Lewis violated EPA policy by not the start.</li> <li>Christine Todd Whitman that Lewis violated EPA policy by not the start.</li> <li>Christine Todd Whitman that Lewis vis the family. say he knows sludge is making</li></ul>	ige industry has also gone arter Lewis. •i.ci.c.od on behalf of Shavon ("onner's family. The 26-year-old New	In contrast, 10,000 acres in all of Manatee County is spread with sludge.
settled the family's lawsuit out of court for an undisclosed amount.       "1 don't know all the ins and outs of it. 1 just know it doesn't bother me, it does	ite man died after being exposed to sludge, and his family sued Synagro. .ewis appeared in court, Synagro citculated a 28-page "white paper" .g Lewis and his research, saying his science was unsound, he wasn't to research sludge and that industry research was superior.	More than 60 trucks a day, coming from as far away as Key West and Clearwater, dump their loads around the clock on Hollingsworth's property. He has used sludge for a decade, and touts it as a cheap, beneficial and safe way to get rid of a product nobody else wants.
conded a public forum in the spring on sludge in DeSoto County. Before       where else are they going to put it?" Hollingsworth says.         n, Azurix sent the Synagro "white paper" to area media, including the ribune.       "I ve never had any problems with it. It just makes the grass grow."         r the event, officials from Synagro and the WEF complained to EPA policy by not Christine Todd Whitman that Lewis violated EPA policy by not       "I ve never had any problems with it. It just makes the grass grow."         r the event, officials from Synagro and the WEF complained to EPA policy by not       His neighbors, even his family, say he knows sludge is making people sick, and he doesn't care.         christine Todd Whitman that Lewis violated EPA policy by not       One of Hollingsworth's most vocal critics is his former daughter-in-law, Mari         UUDGF, BECAUSE DEATHS AND ILLNESSES HAVE BEEN REPORTED, IT'S BECOME IMPERATIVE TO HUSH THIS	settled the family's lawsuit out of court for an undisclosed amount.	"] don't know all the ins and outs of it. I just know it doesn't bother me, it doesn't bodier me caute it doesn't make anybody sick and it needs to go somewhere.
r the event, officials from Synagro and the WEF complained to EPA Christine Todd Whitman that Lewis violated EPA policy by not care. Christine Todd Whitman that Lewis violated EPA policy by not content care. Conc of Hollingsworth's most vocal critics is his former daughter-in-law, Mari LUDGE, BECAUSE DEATHS AND ILLNESSES HAVE BEEN REPORTED, IT'S BECOME IMPERATIVE TO HUSH THIS	ttended a public forum in the spring on sludge in DeSoto County. Before m, Azurtx sent the Synagro "white paper" to area media, including the Iribune.	Where else are they going to put it?" Hollingsworth says. "I've never had any problems with it. It just makes the grass grow."
ely explaining that his views at an trepresent mose of use agency. One of Hollingsworth's most vocal critics is his former daughter-in-law, Mari LUDGE, BECAUSE DEATHS AND ILLNESSES HAVE BEEN REPORTED, IT'S BECOME IMPERATIVE TO HUSH THIS	it the event, officials from Synagro and the WEF complained to EPA Christine Todd Whitman that Lewis violated EPA policy by not	His ueighbors, even his family, say he knows sludge is making people sick, and he doesn't care.
	ily explaining that his views didn't represent mose of the agency. LUDGF, BECAUSE DEATHS AND ILLNESSES HAVE BEEN I	One of Hollingsworth's most vocal critics is his former daughter-in-law, Mari (EPORTED, IT'S BECOME IMPERATIVE TO HUSH THIS

standards. 1 their accurat	"During the last several weeks we have received either directly or through referrals,
They say the It allows trea	When concerned parents began calling, Toews notified them, schools, and health care facilities there was nothing to worry about.
Officials at t know how n	A sampling of local hospitals and clinics showed a third of all stool samples came back positive for rotavinus, Toews said.
something st So most stat	In the last two weeks of April, an average of 569 students called in sick cach day in the county's six schools. That compares to a total of 365 absences per day the rest of the year.
said. Few states a force states t	"You get the shits, then you get over it," he said. "It's like when you drink too many beers, you get a hangover and then you're over it. Of all the things we deal with, this isn't a big thing."
application s That leaves i	<u>_Toews said relavirus is "dumn common" in DeSolo County, b</u> ut it doesn't concern him much because the symptoms are often mild.
The EPA rev plants submi percentage o	Rotavinus, carried in fecal matter and common in sludge, causes vomiting, diarrhea, fever, severe dehydration and, in extreme cases, death.
and isn't pro	He's also seen severe outbreaks of rotavirus.
The federal ( April that the	gastrointestinal disease that can cause severe cramping and convulsions. The bacteria that causes the disease is found in sludge.
Lax oversigh	Six years ago Donald Toews, director of the DeSoto County Department of Health, shut down the schools for two weeks after an outbreak of shigellosis, a
"There's so n correlate it w	But sludge on DeSoto's pastures doesn't come only from a healthy population. The waste of people with HIV, tuberculosis, hepatitis, parasites and other diseases also ends up at treatment plants.
Even withou	it," Snyder says. "Sludge is a natural product. It's part of our human body. We generate this material."
requires extra homes to che	If there was a serious health risk, the government wouldn't allow us to be around
Dr. Mark As	Jeff Snyder, a regional project manager for Azurix, says that concerns over sludge are overblown.
Toews, whos not up on the	Schools suffer epidemic
Demadelle b	Clyde Hollingsworth says sludge did not make his grandchildren sick.
while the rec meaning heat center – seve	"In DeSoto there's a good old boy network, and Clyde is at the head of it," Mari Hollingsworth says. "Out here money talks, and he's gol lots of it."
not required 1	She says he dumped behind her house even though she begged him to stop, and even after her daughter and son were hospitalized. $\Box$
questions of c	Hollingsworth

DISEASE SPECIALIST: "THERE'S SO MANY PEOPLE THAT GET SICK DOWN THERE, AND THE ONLY THING THAT YOU SCHOOL CHILDREN SUFFER OUTBREAKS OF SHIGELLOSIS, ROTAVIRUS. CAN CORRELATE IT WITH IS SLUDGE/7/ DR. MARK ASPERILLA, INFECTIOUS

conn-reportable disease. In other words, your medical care provider is to report rotavirus to your local health department," his notice read. concern regarding rotavirus intection .... It is important that you know

ere outbreaks should not be ignored, said CDC spokeswoman urden. Jeral Center for Disease Control lists rotavirus as non-reportable -th care workers aren't mandated to report all cases of the disease to the

se office is next to the city's sewer treatment plant, acknowledges he's latest research surrounding sludge-related illnesses

ounty, said linking rotavinus, shigellosis and similar diseases to sludge rawork for doctors, such as testing stool samples and visiting patients' perilla, a Port Charlotte infectious disease specialist who treats patients

ck for sludge.

the testing. Asperills is worried there are "lots" of people in DeSoto rom sludge.

nany people that get sick down there, and the only thing that you can in a sludge," he said.

e agency offers "virtually no federal oversight" over sludge disposal, tecting the public. Office of Inspector General, which investigated the EPA, reported in

it, inspects only a few of those plants, keeps records of only a small views only about one-third of the annual reports that sewage treatment ites," the OIG found. f those inspections and provides "virtually no inspections of land

the states in charge of regulating sludge within their borders, the report

to keep large, prosperous cities from dumping in poor, rural counties. tate officials, especially politicians, are reluctant to do re willing to spend enough for real regulation. Regulation also could

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es, fike Florida, provide scant oversight

nuch sludge is produced or dumped. he Florida Department of Environmental Protection say they don't

ey and doesn't compile the information, seconding to agency officials. atment plants, haulers and landowners to conduct their own tests to e DEP doesn't keep a statewide database of sludge producers or haulers he DEP receives the test results, reviews them randomly, doesn't verify mount of viruses, toxins and heavy metals don't exceed federal

In the DFP's regional office in Tampa, paperwork sits in rows of 5-toot-tail file cabinets. After three years, it's moved to storage rooms. None of the information is computerized.	
"We've been trying for years to come up with a system for tracking sludge, but we don't have one yet," said Ed Snipes, a 35-year DEP veteran who works in Tampa.	र इ. इ. उ
"Most of the department's programs are based on the honor system. It's easier for them (industry) to do it that way."	R S
The state's system for investigating sludge complaints is as loose.	ŝ
Local law enforcement officers, county health department officials and other government officials are usually the first to receive sludge complaints. Sometimes they pass them on to DEP but no one can say how often.	÷
The DEP keeps a log of some complaints, but officials admit many aren't logged. It investigates fewer than a quarter of them, officials said.	
People have to be persistent if they want to be taken seriously. But even when they are, little happens.	
Todd Hand, a DEP investigator, interviewed people who said they saw cows walking through newly spread sludge on the Hollingsworth property.	
Hand also received <u>complaints about dead cows. One family said they saw five</u> dead cows in a fiel <u>d of sludge</u> within a quarter-mile of Azurix's sludge processing plant, Hand said.	
"Unfortunately, there were no cadavers to look at," said Hand, explaining that birds and insects can pick apart a cow careass in 12 hours.	
"We can only enforce the laws on the books. The way it's written now, it's very liberal and it's extremely difficult to enforce," he said. "You almost have to be out there, to be watching all the time. It's just difficult."	
Wild hogs and deer also wander through fields Local humers say that they've noticed recently the animals' livers are covered with white and green spots, and some have tumors.	
"You can't find a hog with a good liver anymore. If you do you're lucky," says humer Ron Shaver, who kills about 75 hogs a year and used to cal the livers.	
Alan Behrens, a chemist and head of the DeSoto Citizens Against Pollution, says sludge haulers have admitted dumping sludge straight into gopher tortoise holes and over burrowing ow nests.	
Wild animals traipse through freshly applied shatge and birds pick through it,	

Wild animals traipse through freshly applied sludge and birds pick through Behrens said, possibly tainting entire ecological systems

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tehrens has videotaped sludg<u>e spilling into Horse Creek</u>, the largest tributary of the eace River, which supplies water to more than 100,000 people in Charlotte Jounty.

ith the byproducts of studge getting into the food chain and into the water system, threns said studge is no longer just a problem for the poor folks of DeSoto sunty. It could affect people from Sarasota to Punta Gorda, he said.

he potential for harm is just enormous."

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DEAD COWS, WILD HOGS WITH DISEASED LIVERS -- SLUDGE DUMPED INTO HOLES OF GOPHER TORTOISES AND OVER NESTS OF BURROWING OWLS -- BOTH ENDANGERED SPECIES --SLUDGE RUNNING INTO HORSE CREEK VIDEOTAPED - FLORIDA DEP DOES NOTHING - SLUDGE SPREADING IS DONE "ON THE HONOR SYSTEM"

News	the county had been operating under state and federal sludge laws, which are
○ HeraldTribute.com	minimal. For example, state law allows sludge to be dumped within 300 feet of a home. The new county ordinance pushes that back to 1,000 feet.
Sarasota County approves tough sludge restrictions	The commissioners said they would work to eventually phase out sludge dumping.
By SCOTT CARROLL By SCOTT CARROLL Restantion Print Pri	Inte county made ute same promise more trian a ucease ago when east county residents complained that studge trucks were dumping day and night, said Becky Ayech, president of the Environmental Confederation of Southwest Florida.
SARASOTA COUNTY – Sewage sludge will no longer be dumped near homes or waterways and home huvers will be able to find out if sludge has	She showed the commissioners documents from 1991 in which county staffers told residents that sludge dumping would be eliminated throughout the county within a few years.
here dumped on a property under regulations Related STORIES been dumped on a property under regulations . Satasta County approved 124/2002 passed Wednesday by the County Commission.	"These were the promises you made to us," Ayech said. "Folks, that was 11 years ago and nothing happened."
<ul> <li>Studge haufers and landowners receiving studge</li> <li>interaseure control in the state of the state of</li></ul>	Several other east county residents told the commissioners during the 21/2-hour public hearing that sludge dumping near their homes was making life miserable.
dumped and what s in the rule of \$100,000 a year, reservined push Constraint fees that will generate \$100,000 a year, reservined push Constraints, which will be used to staff the county's new sludge or 07/09/2002 postened postened postened.	Dan Legg played a video showing a sludge truck spewing a brown soup of liquid sludge from its rear. Another segment showed mud-like sludge, known as sludge cake, in piles 3 feet high, 6 feet deep and 25 feet long. Legg urged the
"These are the toughest restrictions in the region." More related articles - said Kent Kimes, Sarasota County's manager of air and water quality protection.	commissioners to pass a law that would keep such dumping from within sight and smell of his home. Dave Arsenault said dumping near his home seeps into a nearby creek where his family used to swim.
But the restrictions were less stringent than what was proposed in the original draft of the ordinance.	"I'm scared to death to let them go near the water now," said Arsenault, who has lived in the same home for 17 years.
The commissioners backed off prohibiting sludge within the watersheds of the Myakka River, Cooper Creck, Big Slough and Cow Pen Slough, which Kimes said would have virtually eliminated available sludge dumping sites.	"I've never seen the creek look like it does now. It's like paint. It's brown, and it's sludge."
Instead, the commissioners forbid studge dumping within 1,000 feet of those waterways and limited it to land zoned Open Use Agriculture, which allows only one home per 160 acres.	Dan Lobeck, an attorney for the environmental group ManaSota-88, said Fernandez was "overreaching at best" in saying a sludge ban would violate federal law.
The commissioners also dropped plans to ban sludge countywide in five years.	"I think he's making policy instead of advising the commission," Lobeck said after the hearing. If easid environmental attorneys told him such a ban would hold up in
County Attorney Jorge Fernandez warned them that such a ban would almost certainly he challenged in court and eventually overturned.	court. Commissioner fon Thaxton said he wants the most common and least reasted form
"If you han (sludge) you will be in violation of federal law," Femandez told the commission. "As I've been telling you the last few weeks, regulate, regulate, But don't ban it."	of sludge, known as Class B, banned entirely, but decided to heed the warnings of Fernandez.
ELOBIDA SARASOTA COUNTY - TOUGH SLUDGE	Acceluaces, he new resumments and permitting requirements are a good itest step, Thaxton said.
ORDINANCE ENACTED – CREEK RUNS BROWN WITH SLUDGE - RESIDENTS SAY SLUDGE	"I think it provides an enormous level of public health protection that we don't have now."
DUMPING MAKING THEIR LIVES MISERABLE	

#### DAIRY FARMS FILE LAWSUITS AGAINST COUNTY

#### Suits allege government's past dumping of sludge endangered crops, killed farmers' livestock.

by <u>Kobert Pavey</u> Sia∬ Writer

Two dairy farming families in Burke and Richmond counties filed separate lawsuits Monday against Augusta-Richmond County, blaming crop damage and cattle mortality on toxic metals from municipal sewage sludge.

For more than a decade, sludge from the city's Messerly Wastewater Plant on New Savannah Road has been broadcast onto agricultural fields as a fertilizer supplement, according to the U.S. District Court awsuits.

But unknown to the farmers - R.A. McElmurray & Sons of Hephzibah and Boyceland Dairy of Keysville -- the sludge contained a lethal mix of toxic metals and other compounds.

The contaminated lands were used for production of grazing fodder, which in turn was fed to dairy cattle.

As a result, a herd that had been healthy for 50 years has catastrophically deteriorated," the suit stated.

The surface application program was touted as a way to improve crops by using sewage as fertilizer. It also helped avoid costly expansions to the problem-plagued Messeriy Wastewater Plant, which has logged a host of environmental violations in the past accade.

Both farms noticed a decline in the health of their herds a few years wher the sludge applications began, but their concerns were met with reassurances by city officials that there was no connection.

The city "always responded to plaintiffs' concerns by repeatedly assuring that application of lime would prevent or eliminate any problems," the lawsuit said.

The McElmurrays became suspicious of the sludge program and withdrew in 1990, after which applications to the Boyce family's land increased. In 1991, 6 million gallons were dumped at the Boyce farm.

SLUDGE

"When you put all the pieces together, they created a toxic soup that's killing all the cows," said the farmers' attorney, Ed Hallman e Atlanta. "The experts agree with us, and there's no other explanation."

Although surface sludge programs are widely used across the natic the farmers contend the city's operation of the sewage plant was "irresponsible and slipshod," and allowed a host of illegal and forbidden materials to enter the treatment system.

Mr. Hallman said the Messerly Plant gate has routinely been left open and unsupervised, allowing septic tank trucks and others to dump anything at will. "There is absolutely no control," he said.

Cattle mortality at the Boyce family dairy averaged 3.1 percent annually before the beginning of the sludge applications. Today th mortality rate is 30 percent.

City officials had information available to them as early as 1976 about the potential risks of applying sludge to dairy farms in particular, but continued the practice anyway, the lawsuit claims.

One of the primary compounds causing problems is molybdenum metal compound traceable to industrial wastes. According to documents attached to the lawsuit, extreme levels of the material were found both on land treated with sewage sludge, and in corn silage grown on those fields.

Other contaminants included disease causing bacteria, helminth worms, PCBs, arsenic, cyanide and assorted chemical compounc according to the lawsuit.

"The animals' kidneys and livers that filter contaminants ended u with all these metals, in excess amounts," Mr. Haliman said. "McElmurray Farms picked up on it first, then others found out had the same problem."

Mr. Hallman said the milk produced by the contaminated cattle safe; the animals' systems can filter out the contaminants so non ends up in the milk, although the animals themselves eventually

The plaintiffs are seeking unspecified damages, a court order requiring the sewage plant to abide by state and federal environmental laws; a halt to further sludge application prograand the removal of the contaminated sludge from their propert

The McElmurrays also named as a defendant their former atto: A. Rowland Dye, whom they had hired to pursue litigation age the city, but who never filed the claim.

A lawsuit represents one side of a dispute. The defendants hav yet responded.

Augusta Chronicle (Georgia) November 10, 1998

GEORGIA



EXPERTS HAVE NO DOUBT HERD DETERIORATION WAS CAUSED BY SL POISONING.	City officials deny those claims, and are appealing a Dec. 28 Georgia Environmental Protection Division order mandating widespread improvements to the city's sludge program and other wastewater service operations.	The sludge, a byproduct of sewage treatment at the city's Messerly Wastewater Plant, was touted as a free fertilizer to enhance hay, corn and oats grown for cattle feed. The families, however, claim the estimated 93 million gallons of sludge applied to their lands over two decades contained industrial chemicals that slowly poisoned their cattle.	according to reports filed Monday in U.S. District Court. Boyceland Dairies and R.A. McElmurray & Sons are suing the city over claims their land and cattle were poisoned by sewage sludge that was treated and applied improperly.	Web posted By Robert Pavey Staff Writer A host of paid experts are prepared to testify about links between Augusta's sewage sludge and sick cattle on two dairy farms,	Carro Oscoris Oranuris Omanuss Oscorica Experts prepared to testify against city	Metro @ugusta
UDCE	<ul> <li>could counter those offered by the plaintiffs.</li> <li>Robert Pavey covers environmental issues for <i>The Augusta Chronicle</i>. He can be reached at (706) 868-1222, Ext. 119, or rpavey@augustachronicle.com.</li> </ul>	deficiency, he added, were major symptoms in cows that died. Another vet, Dr. Chip Pritchard, wrote that the primary symptom on both farms was an unexplained degeneration. "The single most striking feature (other than death) is the wasting away of the body condition," he wrote.	not retained in their bodies. However, the molybdenum causes retention of copper in cows' livers and kidneys in forms that are not usable to the body. The result, Dr. Blaylock wrote, is a copper buildup in those organs, but an actual copper deficiency in the course Clinical sizes of copper	Dr. H.G. Blaylock, an Augusta veterinarian, wrote ``there is no doubt in my mind" that the families' herd deterioration is the result of sludge poisoning. Molybdenum, he wrote, is passed from cattle through excrement and	Dr. Richard L. Large, president of A&L Analytical Laboratories, wrote that soil from the farms contained seven to 10 times the average levels of the metal molybdenum, but that normal levels were found on land where sludge was never applied.	The families filed statements in court this week from 19 potential expert witnesses most of whom would be paid for their opinions including engineers, veterinarians, toxicologists, soil scientists and agriculture specialists.

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Family alleges city of Augusta committed fraud, trespass in use of millions of gallons of sewage

Web posted Wednesday, February 14, 2001

· Have a thought? Go to the @ugusta Forums.

# By Robert Pavey Staff Writer

A lawsuit claiming improperly treated sewage sludge poisoned crops Superior Court complaint naming Augusta-Richmond County as the and cattle on a Blythe dairy farm was resurrected Tuesday in a new defendant.

family, contend the city of Augusta applied at least 23.4 million The plaintiffs, Boyceland Dairy and four members of the Boyce gallons of sewage sludge to their lands from 1986 to 1998.

Messerly Wastewater Plant - was represented as a beneficial fertilizer The sludge - a byproduct of wastewater treatment at Augusta's and soil additive for hay fields and pasture, the plaintiffs say.

to decline, and mortality rates among the family's cattle escalated by However, the health of the Boyce's prize-winning dairy herd began more than 300 percent from 1996 to 1998. The plaintiffs contend the sludge was improperly treated and tested, and contained hazardous metals that caused toxic levels of copper and cadmium to accumulate in cows' kidneys and livers.

The complaint alleges the city committed fraud, was negligent, breached its contract with the plaintiffs, created a continuing nuisance and committed trespass.

The Boyces are seeking a jury trial and unspecified damages,

GEORGIA

Area dairy again files sludge suit 02/14/wysiwyg://29/http://www.augustachronicle....=/3aa53/aaaa21834a5316;

including - but not limited to - compensation for their land, the costs associated with any cleanup required and attorney fees.

and another plaintiff - R.A. McElmurray & Sons of Hephzibah - sued The complaint is the second filed by the Boyces. Boyceland Dairy the city in U.S. District Court in November 1998 on similar allegations.

claims. A judge dismissed both cases at the federal level, but the new Augusta, which spent \$1.2 million defending the cases, denied the complaint deals solely with state claims unresolved by the federal court action.

country under guidelines that require testing to prevent viruses and Sludge is routinely applied to farmlands as fertilizer across the toxic substances from being transferred into soil and water.

million metric tons of studge annually, of which 54 percent is applied Nationally, about 3,700 sewage treatment plants generate about 7.5 to land.

Augusta's Messerly Wastewater Plant disposes of 9,000 tons of sludge per year on 30 farms throughout Richmond, Burke and Jefferson counties.

Reach <u>Robert Pavey</u> at (706) 868-1222, Ext. 119.



Area dairy again files sludge suit

Family alleges city of Augusta committed fraud, trespass in use of millions of gallons of sewage

Web posted Wednesday, February 14, 2001

Have a thought? Go to the <u>@ugusta Forums</u>.

By <u>Robert Pavev</u> Staff Writer

A asysuit claiming improperly treated sewage sludge poisoned crops and cattle on a Blythe dairy farm was resurrected Tuesday in a new Superior Court complaint naming Augusta-Richmond County as the defendant.

The plaintiffs, Boyceland Dairy and four members of the Boyce flatily, contend the city of Augusta applied at least 23.4 million gallons of sewage sludge to their lands from 1986 to 1998.

The sladge - a byproduct of wastewater treatment at Augusta's Messeriy Wastewater Plant - was represented as a beneficial fertilizer and soil additive for hay fields and pasture, the plaintiffs say.

However, the health of the Boyce's prize-winning dairy herd began to decline, and mortality rates among the family's cattle escalated by there than 300 percent from 1996 to 1998.

The plaintiffs contend the sludge was improperly treated and tested, and contained hazardous metals that caused toxic levels of copper and codmium to accumulate in cows' kidneys and livers.

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The Boyces are seeking a jury trial and unspecified damages,

including - but not limited to - compensation for their land, the costs: associated with any cleanup required and attorney fees.

The complaint is the second filed by the Boyces. Boyceland Dairy and another plaintiff - R.A. McElmurray & Sons of Hephzibah - sue the city in U.S. District Court in November 1998 on similar allegations.

Augusta, which spent \$1.2 million defending the cases, denied the claims. A judge dismissed both cases at the federal level, but the nev complaint deals solely with state claims unresolved by the federal court action.

Sludge is routinely applied to farmlands as fertilizer across the country under guidelines that require testing to prevent viruses and toxic substances from being transferred into soil and water.

Nationally, about 3,700 sewage treatment plants generate about 7.5 million metric tons of sludge annually, of which 54 percent is applie to land.

Augusta's Messerly Wastewater Plant disposes of 9,000 tons of sludge per year on 30 farms throughout Richmond, Burke and Jefferson counties.

Reach Robert Pavev at (706) 868-1222, Ext. 119.

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Augusta Chronicle.com

Click here for Sam G. Nicholson, Attorney at

### <u>Metro</u>

METRO | SPORTS | FEATURES | BUSINESS | SCI-TECH

#### Farm joins second suit over sludge

Family seeks trial in allegations that Augusta's **sewage** left land unable to feed cows, grow crops

Web posted Wednesday, February 21, 2001

Have a thought? Go to the <u>@ugusta Forums</u>.

#### By Robert Pavey

Staff Writer

A second lawsuit claiming the city of Augusta's treated sewage sludge poisoned cattle and crops was refiled Tuesday in Richmond County Superior Court.

The plaintiffs, R.A. McElmurray & Sons of Hephzibah, join another family farm, Boyceland Dairy, which filed a similar complaint last week.

Both families sued the city in 1998 in U.S. District Court with similar allegations, but the complaints were dismissed at the federal level after a two-year legal battle that cost the city more than \$1.2 million.

The new complaints, which seek unspecified damages, deal solely with state law claims unresolved by the federal court action.

The families contend in the new complaints that Augusta engaged in a pattern of racketeering through its ongoing efforts to mislead the plaintiffs about concentrations of metals in sludge applied to their land.

The city benefited from disposing of improperly treated industrial wastes on plaintiffs' land, leaving the plaintiffs unable to graze cattle or grow food crops on the property, the complaint said. Sludge, a byproduct of wastewater treatment, is used across the country as a fertilizer. Federal laws governing such applications require testing and other precautions.

The plaintiffs contend sludge from Augusta's Messerly Wastewater Plant was improperly treated and caused toxic levels of copper and cadmium to accumulate in cows' kidneys and livers.

The plaintiffs are seeking a jury trial, damages and costs associated with restoring the land to fair market value and legal expenses. A lawsuit represents one side of a dispute; the city of Augusta has not responded and has 30 days to do so.

The McElmurrays are represented by Savannah lawyers John M. Tatum and Robert Mullins. Atlanta attorney Ed Hallman, who represented the dairy farms in the federal complaints, also is listed as counsel for the plaintiffs.

Reach Robert Pavey at (706) 868-1222, Ext. 119.

## Farmer sues DeKalb, hay supplier, claiming food killed 61 cows

BYLINE: By Ben Smith III STAFF WRITER DATE: 09-29-1995 PUBLICATION: The Atlanta Journal and Constitution EDITION: SECTION: Newspapers\_&\_Newswires PAGE: C/03

A Stockbridge farmer said he believes 61 of his cows died as a result of eating toxic hay.

So H.J. Peterson is suing DeKalb County, which fertilized the hay with sewage sludger, and the company that sold it to him, for \$150,000, claiming "extreme mental anguish and pain," as well as the loss of his livelihood.

"It got to where I couldn't go in the barn," said Peterson, before referring a reporter's questions to his lawyer. "I'd think, 'How many dead cows am I going to find today?'["

In a suit filed in Fulton County state court last month, Peterson alleges that 61 of his cows died, another 35 had "spontaneous abortions," and 14 were rendered infertile after feeding on hay supplied by Operations Management International Inc. in 1993.

The hay was fertilized by **4sludge**, a by-product of wastewater treatment, from DeKalb County's Pole Bridge Creek Wastewater Treatment plant on Browns Mill Road, according to the suit.

OMI officials could not be reached for comment despite telephone calls to the firm's offices. DeKalb County District Attorney Jonathan Weintraub found no merit in Peterson's lawsuit.

"We don't have any part in this at all," said Weintraub, who added that "a number of things" other than the county's **4sludge** could have killed Peterson's cows.

Peterson contends that excessive levels of "nitrate toxicity" in the hay he purchased in late 1993 resulted in the bovine deaths, miscarriages and subsequent infertility problems with his herd the following year.

Peterson's attorney, Ben Studdard, was unavailable for comment Thursday.

Before refusing to discuss the matter further outside Studdard's presence, Peterson said that before he filed his suit he had complained to OMI and to the county about the decimation of his herd.

"They just laughed at me like I was a dummy," said Peterson.

GEORGIA



## Nitrate issue goes to court

Residents are suing the City of Albany, and a sludge disposal company for contaminating their drinking water with nitrates.

Wynell Carter and 109 of her neighbors are banking on Albany native and Atlanta attorney Tommy Malone to make their water clean again. The city has hired a group of experienced land use attorneys to defend the city. The high-powered Malone has his own team of environmental lawyers.

They will try to prove that the city acted recklessly when it allowed Sani-Angri to spread too much of the sludge onto three of their disposal sites over a 10-year period. Nitrates in the sludge and chicken litter previously on the site apparently seeped into the ground water. Nitrates pose a threat to those who drink the contaminated water and has forced. some to treat or used bottle water.

The "water buffalo" portable water tank has been in the community for over a year. Everyone though it would be temporary, but residents continue to see high levels of nitrates, and the tank is their only source of clean water.

Some people are taking his chances with the water, however. They just hope it's not a decision they will pay for in the long run. The case is scheduled go to trial April 5th of next year.

### GEORGIA - ALBANY - SLUDGE VICTIMS SUFFER NITRATE CONTAMINATED WELLS. PORTABLE WATER TANK IS ONLY SOURCE OF CLEAN WATER.

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September - 2001



## Stewart County, Georgia, says "No" to Sludge



#### PARADISE SLUDGED - Linda Lingle's Toxic

Legacy

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Posted by Scott Crawford on September 07, 1998 at 17:05:32:

#### Hawaii Environment & Health News

PARADISE SLUDGED Linda Lingle's Toxic Legacy

By Scott Crawford

Hawali Environment & Health News September 1998

i Hyperlinked version at: http://www.bookele.com/hebn ]

The landscaping company subcontracted to landscap the ball fields used large amounts of sewage sludge compost which was stored in piles adjacent to the pathway on which Nicky walked home. Puddles mixed with sewage sludge compost, caused by winter storms, covered the pathway where Nicky walked. In late 1996, after beginning to experience a number of symptoms which are common with exposure to shudge, such as headaches, vomiting, sore throats and respiratory problems, a pain began to develop in the right side of Nicky's jaw. Nicky went to see a string of doctors, but each was unable to diagnose the cause, and referred him to another. Finally, as the pain grew more severe, a noticeable hump developed behind Nicky's right ear.

Linda Lingle's gubernatorial platform boasts, "When I became Mayor in 1991, On April 25, 1997 a biopsy was performed on Nicky at Kapiolani Hospital for Maui County had no recycling programs. Now, we have a program that leads | Women and Children. The biopsy revealed that Nicholas was a victim of many areas, including the first municipal co-composting program in the Rhabdomyosarcoma, a rare malignant soft-tissue muscle tumor. state." In the following months Nicky underwent 29 days of radiation therapy to the

On April 25, 1997, 12 year old Nicholas Natale was diagnosed with Rhabdomyosarcoma, a rare childhood malignant soft-tissue muscle tumor. Nicky's father Ralph Natale firmly believes that the cause of Nicky's cancer was his exposure to composted sewage sludge at public school and in - public park, and he intends to prove as much in a court of law. Natale s presently preparing a lawsuit to be filed against Linda Lingle and the County of Maui, Maui EKO Compost, Inc., and the State of Hawaii.

This is the story of the Lingle administration's callous disregard for public health with the policy of spreading sewage studge compost in our schools and parks, how one child on Maui has been devastatingly affected by TOXIC TORT this practice, and one man's determination to bring this issue to light, to seek justice, and protect other children from experiencing a similar tragic tate

#### NICKY'S STORY: A CHILD PUT AT RISK

in the fall of 1996 Nicky attended Kalama School in Makawao. A teacher at toxicologists and other specialists to help prepare the complaint and the school brought sewage sludge compost from Maui EKO Systems, Inc. for provide the supporting evidence for his claim.

use in a school garden. Before it had been incorporated into the garden, the sludge compost sat in a pile in the school yard. The teacher no doubt had been assured it was safe. During recess periods, Nicky played marbles on the pile, unaware of any danger. On his way to and from school, Nicky walked on a path which led him past two new ball fields, adjacent to the school, under construction at the county's Eddie Tam Memorial Park extension.

right side of his face and head, in conjunction with chemotherapy. The cancer went into remission but in May of this year a chegt x-ray of Nicky revealed three cancerous tumors on his left lung. Nicky has recently undergone 9 days of radiation to his left lung and is currently receiving chemotherapy for the recurrence of Rhabdomyosarcoma.

Nicky and his family are investigating new therapies and have hope in some options that have just recently become available. Nevertheless, the prognosis for surviving recurrent childhood Rhabdomyosarcoma is extremely poor.

Ralph Natale is presently preparing a lawsuit which alleges that the daily exposure to and cumulative doses of the chemicals and pathogens in the sewage sludge compost contributed to the disruption of normal cellular activity in Nicky's body, starting the process of a cell becoming cancerous. Natale has assembled a team of legal experts, medical

Natale's is one of a growing number of "toxic tort" lawsuits that seek to hold government and polluters accountable for the public health consequences of environmental contamination.

Natale has warned the County of Maui for many year about the dangers of sewage sludge co-composting and it is a tragic irony that his son now

#### HAWAII - 12 YEAR OLD BOY DIES FROM RHABDOMYOSARCOMA - A RARE MALIGNANT SOFT-TISSUE MUSCLE TUMOR -- FATHER BELIEVES CAUSE OF SON'S CANCER WAS EXPOSURE TO SLUDGE COMPOST AT HIS SCHOOL.

#### AFTER EXPOSURE TO SLUDGE BOY EXPERIENCES HEADACHES, VOMITING, SORE THROATS, RESPIRATORY PROBLEMS, PAIN IN RIGHT SIDE OF JAW, LUMP BEHIND RIGHT EAR.

stands face to face with Rhabdomyosarcoma as a result of sludge exposure. Our community must take pause as we witness Nicky and his family meeting this challenge with a will to safeguard the future children of Maui. Natale became aware of the presence of sludge compost at Kalama School an Eddie Tam Park only after Nicky had been exposed over a long period of tim and become ill, and Natale went to investigate what the cause might have been. He discovered piles of sewage sludge compost still exposed. Most other parents probably would not have realized that the material at the school was in fact a sludge product, nor that the material was dangerous and carcinogenic.

#### IS SEWAGE SLUDGE SAFE?

The Harper Collins Dictionary of Environmental Science defines sludge as a "viscous, semisolid mixture of bacteria- and virus-laden organic matter, toxic metals, synthetic organic chemicals, and settled solids removed from domestic and industrial waste water at a sewage treatment plant."

The nutrients in human waste may make plants grow to a certain extent, but this does not diminish the harmful consequences of the many other substances contained in sludge, which include known carcinogens (some of which have been linked specifically to soft issue muscle tumors). Maui's sewage sludge is being mixed with green waste and co-composted at the Central Maui Landfill in Puunene, by contractor Maui EKO Systems, Inc. and then spread as fertilizer across our schools and park, as a policy of the County of Maui.

When questioned, the County administration and the producers of the sludge compost try to reassure the public that sludge products are safe and meet all required regulations. In a letter to the Haleakala Times on June 4, 1997, Linda Lingle wrote that "Maui County does stand behind its contract with EKO" and referred to the process as "safe." But just because the County and the EPA says it is safe, does not necessarily make it so. The fact is there's no such thing as "clean sludge."

Researchers at Cornell Waste Management Institute, in a paper published in August 1997, state that "Sewage contains not only human fecal wastes from homes and businesses but also products and contaminants from homes, industries, businesses, storm water...and contaminants leached from pipes." The goal of sewage treatment is to clean up the water, so many contaminants are concentrated in the sludges."

#### SOURCES OF CONTAMINATION

Just because Maui has relatively little major industrial activity does not mean that our sludge is uncontaminated. Every home and business on the island might release toxic chemicals into the sewage system, along with human waste and its pathogenic microorganisms.

Imagine what is under the common sink in any household. We have chlorine bleach, liquid drain cleaners, potent household cleaning agents, and myriad other substances which no one would advocate pouring on the garden or the park for our children to play in.

The startling fact is that many common household products contain toxic substances. Just because it sells in the store doesn't mean it is safe! We are exposing ourselves and our families to these toxins directly, and this in itself is a grave concern. But the way that many of these substances leave our home is through our drains into the sewage system, where they are all mixed together and concentrated in the sludge. Now add the garage, with everything the home mechanic might put down the drain. Now add the businesses, the hotels, the commercial garages, the hospitals, the various industries, and so on.

Imagine every product that is ever put down the drain from every home and business, then add the storm runoff which has the toxic non-point source pollution from roads, all concentrating in the same place. Finally, add the flocculent used to stabilize the sludge at the wastewater treatment facilities.

What we end up with is a toxic soup, and these substances do not just miraculously disappear during sewage treatment and composting. Human excrement alone could be safety processed into a valuable fertilizer with plant nutrients, so-called "night soil" which has been used for ages. However, the nature of our modern sewage system and industrial chemical society contaminates our own waste, making it virtually impossible to safely reuse as a fertilizer.

#### SLUDGE MAGIC

Using sludge as plant fertilizer was considered hazardous to bealth and the environment until the 1970's, but it has the advantage of being inexpensive. As budget concerns mounted in the late 1970's, the U.S. Environmental Protection Agency (EPA) began to pressure sewage plants to adopt the cheapest method available for disposal-spreading shudge on farm fields. In the late 1980's the Clean Water Act banned ocean dumping of sewage.

In 1992 the EPA modified its "Part 503" technical standards which regulate sludge application on farmlands. The new regulations used the term "biosolids" for the first time, and encouraged the "beneficial use" of sludge, which previously designated as hazardous waste was reclassified as "Class A" fertilizer.

The EPA regulations set testing requirements for only heavy metals (arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc) and either one of two pathogenic bacteria.

The widely quoted Cornell report The Case For Caution, focuses on the EPA' surrent risk assessment rules for sludge use, finding them inadequate and poorly conceived. "Current US federal regulations governing the land application of sewage sludges do not appear adequately protective of human tealth, agricultural productivity or ecological bealth," the report concludes. U.S. regulations are weaker than those of any other developed country. Dr. David L. Lewis, a Ph.D. in microbial ecology, is considered ine of the EPA's top researchers, and now also one of their top vhistleblowers. In a December 1997 interview with Environment News, Dr. ewis commented regarding the Part 503 regulations that "EPA scientists had lot of concerns about turning America's farmlands into waste sites ontaminated with toxic metals and human pathogens. The science used to upport the regulation was so bad it was officially referred to within EPA is 'sludge magic.' But administrators and senior managers in Washington completely overruled the agency's scientists."

3PA engineer Hugh Kaufman says "Official U.S. government policy in the Clinton administration is to grow food chain crops-the food supply of America-on poison. And not to tell the public." (CNN Moneyline, June 26, 1997)

Kaufman was sued by a sludge dumper in Texas for defamation and libel, but Kaufman won on appeal, when on June 3, 1997, the U.S. Court of Appeals ruled that "experts have yet to reach a consensus on the safety of land application of sludge." (Merco v. Kaufman, Fifth Circuit No. 96-50253, June 3, 1997)

James Bynum, director of the organization Help for Sewage Victims in Washington state, says "The beneficial sludge use policy simply changed the name from sludge to fertilizer, and the regulation changed the character of sludge from polluted to clean so it could be recycled with a minimum of public resistance." The largest of America's food producers, including Heinz and Del Monte, emain unconvinced of the safety of sludge, and refuse to use it as a ertilizer, despite a high-powered public relations effort. The National <sup>2</sup>ood Processors' Association says it "does not endorse the use of sewage sludge on crop land" in part because "state and federal oversight may not be sufficient." (CNN Moneyline, June 26, 1997)

The National Organic Standards Board also opposes the use of sewage sludge in organic fertilizers. The US Department of Agriculture proposed to include sewage sludge fertilizers in the Organic Rule it published for comment last December, but dropped its plans after over 250,000 public comments were registered in four months urging the prohibition the sewage sludge uses in certified organic farming practice.

#### PATHOGEN REGROWTH

Composting sludge reduces harmful pathogens below certain levels, due to the heat generated by biological activity as material breaks down, but it does not completely destroy them. The Cornell researchers discuss how ' a compost could have met processing requirements and standards for E. coli or Salmonella (US EPA requires testing for one or the other for Class A), but could subsequently have significant bacterial levels if regrowth occurs after testing."

While it may pass tests for E. coli or Salmonella when sold, testing of a more than year-old sludge compost pile from Eddie Tam Memorial Park (pictured at right) revealed much higher levels of fecal coliform bacteria than the tests on fresh product reported by Maui EKO Systems, and a testing lab referred to a sample as "active."

No monitoring is required for viruses or parasites in sludge and sludge products, and certain pathogenic organisms have been documented to survive for years in soils. Melvin Kramer, an infectious disease epidemiologist who has been researching the issue since the late 1970's, says, "I am appalled at what I would term the 'total disregard for human health' and the fact that the Environmental Protection Agency is actively promoting and is, in fact, lulling communities throughout the United States into initiating programs for the composting of sewage sludge." He says the EPA's plan for sludge disposal poses "a significant health hazard to the population in general, but especially to the elderly, children, and the nfirm, both in terms of nuisances as exemplified by excessive putrid odors and minor allergic reactions ... to life threatening diseases." Pathogen risk is especially relevant in Hawaii, as we host tourists from all over the world and with them all the disease causing pathogens both common and exotic. New emerging diseases are becoming a real problem inroughout the world.

#### THOUSANDS OF CHEMICALS

The respected Worldwatch Institute states that "U.S. researchers found more than 60,000 toxic substances and chemical compounds in sewage sludge mixed The Cornell paper recommends to "... prevent access to sludged areas by with household and industrial waste, making it unfit for fertilizer use. (Recycling Organic Waste, August 1997) Dr. Donald Lisk from Cornell University's College of Agriculture and Life Sciences says that "newly formed toxic substances are created as waste products break down in sludge."

Dr. Stanford Tackett of Indiana University of Pennsylvania describes sludge as being "closer to the definition of toxic waste than it is to a tertilizer."

Sewage treatment and composting does nothing to reduce the threat of the myriad of chemical compounds that can be found in sludge, and we cannot possibly measure, test for, clean up, or know the effect of the substances that may be present in any given load of sludge compost. We do know that

some of the possible compounds are known carcinogens and endocrine disrupters.

#### CHILDHOOD CANCER AND ENVIRONMENTAL TOXINS

Cancer, which was almost unknown a few generations ago, is now the most common fatal childhood disease, and the number 2 killer of American adults. According to the National Cancer Institute, cancer rates among children have seen double-digit increases since the advent of commercial chemicals and pesticides in our environment. Today, 1 in every 600 children will get cancer before the age of 10, and 8,000 new cases of cancer will be diagnosed in children under 15 this year.

According to the EPA, nearly 5.7 billion pounds of toxins were released into the environment last year, and nearly two-thirds are known or suspected carcinogens. In the last 50 years more than 75,000 chemicals have been developed and introduced into commerce in the U.S., with 700 -1000 n i chemicals each year.

Many toxins are fat soluble. Because our body cannot detoxify them, they often become lodged in fat cells in our bodies, where they can accumulate to toxic levels. When different pesticides combine in the fat cells in our bodies where they're stored, they can become 1,000 times more carcinogenic than when they were alone!

Because of their physical size and the inability of their bodies to eliminate toxic compounds as effectively as adults, infants and small children are the most at risk to the effects of these chemical compounds. (September is Childhood Cancer Awareness Month - for information call 1-800-575-4223.)

#### AVOID ACCESS BY CHILDREN

According to Lingle's campaign ads on television, "Linda really cares about kids."

The Cornell researchers emphatically state: "Avoid access to sludge products by children."

The risk of exposure of children to sludge products is of special concern, first because of their generally greater vulnerability to the dangers of toxins as described above, and second due to behaviors which put them at greater potential risk. Children play in the soil, getting it on their hands and skin, and, as the Cornell report states, "All young children ingest some soil as part of their normal behavior." The report goes on to say that "...there is concern that the regulatory limits...may not be conservative enough to protect children who are exposed, particularly in a home garden situation." Obviously this same conclusion would follow for a school garden or a park where children play.

mall children who might ingest sludged soils to avoid potential exposure o pathogens (possibly an issue with composted sludges) and other ontaminants.

dost of Maui's parents are totally unaware that in many of our parks and chools, the soil has been amended with sewage sludge compost, and in son ases piles of sludge compost have been left exposed where children have asy access to them, including at Kalama School, where Nicholas Natale layed every day.

'resently there is no labeling requirement for sludge products sold in etail stores (such as EKO Premium Compost), and no indication is made to lert the public in areas where sludge compost has been applied, most kely due to the resistance this practice would encounter if the public were more aware of the policy.

#### UOR KNOWLEDGE

intral to the claim in Natale's lawsuit is the fact that Mayor Lingle and embers of her administration, as well as agents of the state Departments Health and Education and the private composting firm Maui EKO Systems, c., had prior knowledge that composted sewage sludge contains known reinogens and pathogens and were grossly negligent in failing to prevent e exposure of Nicholas and the general public to these dangerous ibstances. The County has a policy of promoting the use of sewage shudge impost in a manner which unavoidably causes exposure to children and the meral public, in reckless disregard for the safety and health of the pople of Maui.

1992. Natale and his partners Charles Davidson and Ken Hess, through eir organization Campaign Recycle Maui, initiated Maui's first large ale composting project, located in Waikapu, using only clean green waste th no sewage sludge.

he County's co-composting project was the brain child of Hana Steel, ingle's Recycling Coordinator, and from the time the idea was first troduced in 1992 it has been the subject of criticism and warnings from arious segments of the community and outside experts.

Then Natale and his partners first heard of the County's plans to )-compost sewage sludge, they were skeptical of the wisdom of this proach, and the more they researched, the more their concerns grew. tarting in 1992, they expressed their concerns at numerous public hearings ad other meetings, presenting documentation from expert sources about the ingers of sludge composting and land application.

#### in February 10, 1993, a letter was sent from Linda Zander of the

ganization Help for Sewage Victims in Lynden, Washington, to Mayor ingle, which warned of the dangers of co-composting sewage sludge and the stential liability to permitting agencies and the County for public health uzards from exposure to co-composted sewage sludge. Lingle responded with letter saying that the County had no intention of applying the composted udge to farm land. She didn't mention that they planned to spread it on arks and schools for the children of Maui to play in.

n April 14, 1993, at a hearing of the Mayor's Solid Waste Advisory ommittee, committee member and Class IV sewage treatment plant operator ill George, discussing the draft Maui Integrated Solid Waste Management lan, questioned the quality of the sludge coming out of the /ailuku-Kahului Wastewater Reclamation Facility. George stated that hey're pushing it through the plants so fast the microorganisms don't ave time to do the job," and recommended doing a feasibility study for ternatives to sludge co-composting.

iany other members of the community also spoke out in opposition to the ounty's plans, and warned of the public health hazards involved. A number f other alternatives were suggested for handling the sludge.

he County was determined to force the project through, however, despite pposition, warnings and alternatives from the community. In 1993 the ounty awarded a contract to Maui Composting Company for a "pilot project > begin composting the sludge at the Central Maui Landfill in Puunene, 1aui.

Juring the selection process, Solid Waste engineer Elaine Baker took issue ith the Maui Composting Company's lack of experience and credentials, but It is important in challenging the County's sludge composting project to be aker was then summarily removed from the project by the Solid Waste Chief clear that alternative methods for dealing with our studge do exist. he County Council later discovered that the Maui Composting Company had First, it is legal and viable to properly put the shudge in the landfill. act falsified their credentials in order to get the contract.

As this project got underway, the level of criticism and opposition grew steadily louder. In 1994 and 1995, a variety of adverse health effects were reported to various agencies and officials of the State and the County, by current and former employees of the sewage sludge co-composting facility (which at that time was operated by the Maui Composting Company), by visitors to the landfill, and by workers at nearby locations including the Ameron quarry, Two employees of Maui Composting Company were subsequent dismissed, which they believe was a result of their raising of health and safety concerns. Some of these individuals continue to suffer from adverse health conditions, such as aspergillosis (a respiratory ailment caused by an airborn mold), which they attribute, with medical evidence, to exposure to the co-composting sewage sludge.

Marc Merritte, a consultant hired by the County of Maui Solid Waste Division, stated in a letter dated November 15, 1994, to Goro Hokama, the chair of the County Council Finance Committee, and testified at a Committee hearing the following day, that "I have attempted to convince the county recycling coordinator, solid waste division chief, director of finance, and the Maui Composting Co.'s principals of the dangers of this project. Not only was I ignored, but after filing my final recommendations on the project, they were edited by the Solid Waste Division Recycling Coordinator to eliminate any critical points concerning this operation."

On December 2, 1994, responding to concern from numerous sources, the Mau County Council voted to hire an independent consultant to review the sludge co-composting project, for the purpose of investigating the dangers to the public health and safety. However, Travis Thompson, Finance Director for the County, refused to certify \$4,500 in funds to hire the independent consultant, in effect blocking any investigation into the potential public health threats of the sewage sludge co-composting project. Goro Hokama, then chair of the Council, stated at that time that Thompson told him that he was acting under the instruction of Lingle.

In a letter dated January 19, 1995, to the Director of Public Works for the County, Harry Seraydarian, head of the United States Environmental Protection Agency Region IX Water Management Division, demanded detailed information on the sludge composting operation, and stated that "This action is appropriate to protect public health and the environment from adverse effects which may occur from toxic pollutants in the sewage sludge."

The EPA also admitted in a council hearing, however, that sludge regulation is a new area and they do not have the resources to monitor or enforce the regulations on Maui, essentially telling the State and particularly the County that it is up to them locally to ensure the safety of the operation and the end products.

The fact that many warnings were given by various credible parties, with supporting documentation, over a period of years, and that these warnings were reported on numerous occasions in various Maui publications, indicates that Mayor Lingle and members of her administration cannot claim to be ignorant of the risks involved in co-composting and land application of sewage sludge.

But they have continued to push the project forward, and over the past two years have been spreading the sludge products in public spaces where our children play.

#### ALTERNATIVES DO EXIST

Prior to Lingle's tenure, the county had been legally disposing of the sludge in the landfill, mixing it with lime, and covering it each day to ensure safety. After Lingle was elected the practice was changed and the County started dumping the sludge in ponds and leaving it uncovered for months and months, exposing every landfill worker and user, attracting flies and creating odors and other problems.

Of course the state Department of Health told the County they couldn't do that anymore. But the Department of Health didn't say they couldn't put it in the landfill, just that they couldn't continue the way they were doing it.

To some observers, it appears that the County intentionally set it up to seem like there were no other options except to do co-composting, as a way to justify this predetermined course of action.

But the sludge can be put in the landfill. A key issue in recycling is volume versus tonnage. Often in discussions about recycling reference is made to the tons of material recycled. But what really matters in the landfill is volume, not tonnage. Sludge weighs a lot because it is wet, but it doesn't take up all that much space, compared with green waste, for example (tree trimmings, grass clippings, and other plant materials). Green "waste" composting is essential, but as Ralph Natale and others have argued for years, co-composting just contaminates the valuable clean green resource. Green material and sewage sludge should be processed separately, so that the plant composting is beneficial on both ends, as the easiest and most cost effective way to divert volumes of material from the landfill, and as a boon to local farmers and landscapers with a natural, organic soil amendment. But only if processed free of sludge contamination.

To deal with the sludge, it would be feasible and cost effective to just resume properly disposing of it in the landfill, as we earnestly explore other more long term solutions.

One example can be seen in Japan, where the Ebara Corporation has develope a zero emissions in-vessel sewage treatment system that produces hydrogen which in turn runs a fuel cell that produces energy. This technology is being exported internationally. More alternatives include other contained gasification processes, drying, pelletization, biological treatment, and other methods.

It is not yet clear exactly what the best solution for Maui would be. This is not due to a lack of alternatives, but to the fact that the Lingle administration has single-mindedly pursued one course over the valid and strenuous objections of many citizens and experts, and ignored any alternatives which may be available.

It seems prudent to begin by first preventing further contamination of our parks and exposure of the public. Then we can create an open process to truly evaluate the alternatives and find the best long-term solution or

combination of solutions for meeting Maui's sludge challenge.

#### POLLUTION PREVENTION

Ultimately, it is crucial for all of us, as users of Maui's sewage system, to examine the source of the problem and realize that we all play a part. A primary reason we have a challenge disposing of our sludge is because it contains toxic substances, and it contains toxic substances because we put them there.

While we must find the best solution in the near term for dealing with the sludge as it exists, the long term solution must take a pollution prevention approach, with massive public education about the products we use in our homes and our work, and the harmful health and environmental effects these substances have.

There is no "away" on an island. Once we bring these substances into our community, there is no ideal way to deal with them. We should certainly avoid dangerous and senseless acts like spreading them around in our parks and schools, but ultimately we must find safe, nontoxic, environmentally friendly alternatives to replace the toxic products we commonly use. It is up to each of us to hold our government accountable for the health and welfare of the community and the safety of our public spaces, and at the same time become educated and aware about the true nature of the products we use in our own homes, businesses and industries, and how we contribute to the problem, and then make choices to do our part in keeping Maui a clean place for our children to grow up healthy.

Let us pray that Nicholas Natale is able to fight off his disease and return to a relatively normal life.

Meanwhile, we can only hope that the suffering of Nicky and his family serves as a wake up call to the people of Hawaii, through education and litigation, in order to protect others from a similar fate.

Donations to help Nicholas Natale with his medical and other expenses can be sent in his name to P.O. Box 1469, Wailuku, Hawaii 96793.

<u>Hawaii Environment & Health News</u>

The Indiana, PA Gazette

Sunday, October 15, 1995

## Op-Ed

#### SLUDGE ISSUES FAR FROM OVER .

#### By Dr. STANFORD L. TACKETT Professor Emeritus IUP Chemistry Department

The U.S. Environmental Protection Agency issued its new 40 CFR Part 503 sludge regulations in March 1993, with the promise that the treatment and disposal of sewage sludge, including land spreading, would be proved "safe" beyond any doubt. A number of issues that challenge the

A number of issues that challenge the "safety" claim have been raised, including the lack of an effective enforcement program, heavy metal limits that are too high inus posing a threat to both public health and crops, and a number of incorrect assumptions in the risk assessment analysis.

In a recent unprecedented case, a Virginia judge agreed that the "safety" promised by the 503 regulations is indeed questionable. In the Circuit Court of Rappahannock County in April 1995, the Honorable Joshua Lowell Robinson ruled that the county officials were correct when they questioned the safety of sludge, and that the county's ban on the land spreading of sewage sludge was valid. The judge expressed his concern that even if the application of sewage sludge

was "safe" according to the Federal EPA 503 regulations, the county had legitimate concerns about the adequacy of the state and federal enforcement systems.

Judge Robinson also expressed his concern about possible hazards from the chemical content of the sludge. He stated that it is well known that sewage sludge is variable in the chemical content from day to day and from place to place, but the regulations do not require daily testing. Thus, Judge Robinson concluded that the sludge cannot be as "safe" as the 503 regulations imply.

The question of the land spreading of sewage sludge in Rappahannock County, Va., arose in 1994. This scenic county with its rolling hills and pristine streams in situated in North-Central Virginia on the eastern slope of the Blue Ridge Mountains. When it became known that some farmers were considering the use of sewage sludge for land farming, the county board of supervisors decided to perform a detailed study of sludge.

study of sludge. The board was concerned about the protection of the environment, human and animal health (including wildlife), safety and wholesome reputation of agricultural products produced in the county, the continued viability of agriculture and tourism, and the preservation of property values and marketability of real estate. After extensive study, the board concluded that there were serious unanswered questions about the safety of sewage studge. Reasonable people on both sides of the argument reached different conclusions.

The board proposed an ordinance to modify the county zoning code and prohibit the use of sewage sludge for farming in the county. After several public hearings, the board adopted the ordinance unanimously. The ordinance banned land spreading, but continued to allow sludge to be incinerated or placed in a sanitary landfill.

Several local farmers, backed by a sludge hauler, sued the county to overturn the ordinance. They filed both in federal and state courts. The federal suit was dismissed, with the judge saying that the county had the right to determine its, own sludge disposal method, and that there was indeed and ongoing debate in the scientific community about the safety of the land spreading of sewage sludge.

The state suit was tried in Rappahannock

County Circuit Court on April 24-25, 1995. Testifying for the plaintiffs in support of the land spreading of sewage sludge were Dr. Gregory K, Evanylo, a professor of agronomy at Virginia Polytechnic Institute and State University, and Dr. Rufus Chaney, of the U.S. Department of Agriculture at Beltsville, Md. Dr. Chaney was the main author of the S03 regulations. Testifying for the county in opposition to the land spreading of sewage sludge were Dr. David Bouldin, a soil scientist at Cornell University, and this writer.

A major disagreement in the testimony from the technical experts concerned the soil loading limits of heavy metals allowed by the 503 regulations. Dr. Chaney defended the higher limits. It was pointed out, however, that a number of respected U.S. and European scientists had studied the problem extensively, and they all agreed that the 503 imits were much too high to be safe. The 503 regulations permit metal loadings as much as ten times higher than is allowed by the Canadian and European regulations. Higher concentrations of some of the heavy metals such as lead threatens public health, while higher amounts of other

heavy metals such as copper and tine threatens both the growth and crop yield of field crops.

Another serious disagreement among the witnesses involved EPA's risk assessment for lead. The blood lead level in children which EPA chose as the "safe" level is much too high, according to medical experts. Furthermore, the assumptions made about the amount of lead a child would absorb from soil is probably in error by a factor of 9-10; i.e., a child would actually absorb about 9 times more lead from the soil than EPA has predicted in the risk assessment formula. Since EPA's assumed "safe" level of lead is much too high, and the predicted absorption of lead from the soil is much too low, a young child living in a sludge spreading area would be at a much greater risk than EPA admits.

At the close of the triat, Judge Robinson ruled in favor of the county on all counts. For the very first time a county has official permission to ignore the federal 503 sludge regulations and ban the land spreading of sewage sludge within its boundaries.

Dr. Tackett is a professor emeritus of the IUP Chemistry Department. ACTIMES.COM LOCAL News Last updated on: Wed Aug 23 11:21:09 CDT 2000

#### Most sewer claims denied By Tom Saul, QUAD-CITY TIMES – August 23, 2000

After sewage backed up into basements throughout Daverport after a heavy April rainstorm, homeowners were encouraged to file claims for damages with the city.

In all, 27 people out of 62 who complained of backups filed claims. To date, the city has rejected 17 of those. Four were settled, three have a settlement pending and three more still are under investigation.

Now, some of those who have had the foul sludge back up into their homes are raising the specter that it.

may be responsible for cases of cancer that have appeared in neuses with repeated problems.

Alderman Ray Ambrose, 4th Ward, said he wants repair of the city's aging sewer system to be the highest priority of Davenport's elected officials. Those with sewage backing up into their basements should be first on the list for repairs, he said.

Last week, he unsuccessfully proposed a resolution to the rest of the city council to do just that. Aldermen voted to table it after some said the wording was too vague. Others voiced fears that it might interfere with planned sewer work in their wards.

Lt's a basic city service to keep sewage out of people's casements, but I don't see us doing anything about it," Ambrose said. "It's a common-sense priority, but we seem to be struggling to provide it."

Jat Morris, of 2301 N. Howell, has a claim pending against the cuy. His basement was flooded with sewage in April, the third time in three years that has happened. Aldermen are too focused on building "tuxuries" at the expense of fixing sewer problems, he said

Morris ticked off a list of city projects, including the rebuilding of the Garfield Park swimming pool and relocation of the Davenport Museum of Art to a downtown site, that could be held up until the any fixes its sever problems.

They should take care of sewage in people's basements," he said

In cases where homeowners filed claims, city Corporation Counsel John Martin said those caused only by heavy rainfall were denied. Where other problems were found, such as obstructions within the lines, claims were paid.

A claims adjuster hired by the city has been investigating most of the claims and has authority to settle for amounts up to \$2,500,  $\rm k$  said.

"We've been working with the adjuster on these because of the high visibility," he said. "They've probably been investigated more thoroughly because of their high-profile nature."

Dean Meyer, of 2221 N. Howell St., said he fears the sludge may be more than an annoyance. He has had sewage backups in his basement three times in the year he has lived there. In early August, his 41-year-old wife was diagnosed with cancer of her lymph system.

"We went out walking and she noticed a pull in her leg," said Meyer, who has watched his wife undergo two surgeries so far. "She went into the gynecologist, and he sent her to see a surgeor They cut some of the nodes out, and that's when they found it."

Meyer has complained to city officials repeatedly about sewage backup in his basement. "We can't prove anything. The only thing we know is that she's been around that sewage, cleaning it up," h said.

In 1984, Dave Lammers said, he lived less than a half-mile away, in the 2100 block of Myrtle Street, when his then-32-year-old wife contracted an unusual form of cancer. She had three different types of non-Hodgkin's lymphoma, a disease that usually appears in people older than 70.

A city sewer line ran underneath their house and sometimes gushed fluid into the basement, Lammers said. His wife got on he hands and knees to scrub it away. Even the family dog contracted a form of lymphoma. She survived, even though her doctor gave her a maximum of five years to live.

"There were nine cases of cancer in that old neighborhood," Lammers said. "There were different varieties, but you could go through the neighborhood and point to house after house and say 'cancer, cancer, cancer.' Exposure to what was passing through those lines could be the cause."

Dr. Michele West of the State Health Registry of Iowa said the agency investigates suspected cancer clusters regularly, but she added that tracing multiple cases of the disease to a single cause is very difficult.

"Someone living in an area can contact us and we will target the area and run a study with a comparison group," she said. "Usually we find nothing to be excited about. It is difficult to track it down to an exact cause."

#### IOWA - DAVENPORT - EXPOSURE TO SEWAGE AND "FOUL SLUDGE" SUSPECTED IN CANCER CLUSTER -LYMPH SYSTEM, NON-HODGKINS LYMPHOMA AND OTHER MALIGNANCIES
Prole, Iowa 👘

· , 5

December 21, 1995

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Conversation with Nora Thompson 515-462-3544. 110 Jesup St. Prole Iowa 50229

She lives across an intersection from a composting plant between Martinsdale and Bennington. Plant processes "source separated moldy organic" material. Facility is privately owned. County now wants to get rid of sewage sludge at the plant. The city of Des Moine wants to ship their sludge there also. The officials are trying to amend ordinances so they can compost the sludge and apply to farm lands. The community is fighting against it..

The plant is over 5 aquifers and the shallowest one is only 5 feet below the ground.

No one knows for sure what is currently being composted in the plant. Everyone in the neighborhood is ill with respiratory problems, sinus infections, eye infections and asthma. The family that lives closest to the facility and down wind of the facility have all had some sort of cancerous growth or tumors. The brother has cancer of the throat, the wife has had a tumor in her thyroids, the husband has had cancer in his sinuses, the daughter has had some growths removed, the nephew has had growths removed twice. There are strange molds that grow on buildings. There are two other cases of lung cancer and a lot of eye infections.

The city has cited the facility a number of times for odors. It smells like a "hoglagoon"

In the neighboring county-Madison County- there is a farm where the farmer has allowed sludge to be dumped for several years. He now "can't grow weeds".

## IOWA - VICTIMS OF SLUDGE COMPOSTING PLANT SUFFER RESPIRATORY PROBLEMS, SINUS AND EYE INFECTIONS AND ASTHMA.

## IOWA - DES MOINES - BIOSOLIDS STORAGE FACILITY BLAMED FOR NEARBY RESIDENTS' HEALTH PROBLEMS - AUGUST 9, 2002

BY MINDY KRALICEK Des Moines Press Citizen

Citing ill health and illegal action on the part of the city, residents within 500 feet of the city's new biosolids (sludge) storage facility in the

Chesterfield Neighborhood collectively demanded that the city <sup>3</sup>address this injustice, provide financial settlement for residents and renters, and replace affordable housing that has been made uninhabitable.<sup>2</sup>

The residents of most of the 30 homes located with 1,000 feet of the bio-solids storage facility were at the July 22 city council meeting. They told the council of the stench, burning eyes, "man-eating" flies, nose

bleeds, stomachaches, and loss of property values that they have suffered. All complained of having to stay cooped up in their homes, unable to enjoy the outdoors in their neighborhood. The affected streets are East Railroad Avenue, SE 25th and Vale streets, and SE 24th and Harriet streets. A representative from Citizens for Community Improvement (CCI) said the construction permit for the plant, located near the city's sewage treatment

plant, was issued by the Iowa Department of Natural Resources without anyone investigating the site. State law requires at least 1,000 feet between such facilities and residences. Some residents live as near as 300 feet from the plant.

If the affected residents get their demands--which CCI estimates could cost up to \$2.2 million the bill would be paid through sewer fees, said Public Works Director Bill Stowe.

The city council directed City Manager Eric Anderson to take the issue to the Wastewater Reclamation Authority (WRA) Board of Directors. The city holds the plant permit, but the plant is owned by the WRA conglomerate of communities.

Anderson said he should be able to report the WRA's action to the city council at the August 19 meeting. Chesterfield neighbors are encouraged to attend the August 19 council meeting at 5:30 p.m.

## IOWA VICTIMS SUFFER STENCH, BURNING EYES, NOSEBLEEDS, STOMACH ACHES, LOSS OF PROPERTY VALUES AND "MAN EATING FLIES"

## THE WASHINGTON POST - JULY 27, 2002 - IOWA

The Sludge Report: Des Moines To Pay for Fetid Facility

Twenty thousand tons of solid sewage sludge is not a neighbor most people would choose.

Residents of the Chesterfield neighborhood in Des Moines say they have suffered from health problems since a \$7 million sludge-storage facility that holds sewage from Des Moines and 12 other communities was built last year.

Now about 40 families who live near the plant will likely get money from the city to move away. It turns out the construction of the sewage facility in the residential neighborhood was illegal, violating state laws saying such facilities must be at least 1,000 feet away from a home.

About 40 families live within 1,000 feet of the Chesterfield facility, with some as close as 300 feet away, says Felipe Gallardo, an organizer for the nonprofit organization Citizens for Community Improvement.

"A lot of neighbors in the area are feeling headaches, burning in the lungs and eyes, nausea and difficulty breathing," Gallardo said. "One gentleman went to see a lung specialist and he was told to leave the area immediately or he wouldn't survive long."

Des Moines Public Works Director Bill Stowe said he thought the facility was legal because the state's Department of Natural Resources had issued a construction permit for it. State and city officials have said the sludge, which is used as fertilizer on surrounding farmland, isn't harmful to people's health. They said the 1,000-foot rule is to protect people from the unpleasant smell.

-- Kari Lydersen

## IOWA VICTIMS OF SLUDGE COMPOST FACILITY SUFFER HEADACHES, BURNING IN THE LUNGS AND EYES, NAUSEA AND DIFFICULTY BREATHING -- ONE MAN TOLD BY LUNG SPECIALIST TO LEAVE THE AREA IMMEDIATELY OR HE WOULDN'T SURVIVE LONG

http://www.ireland.com/newspaper/ireland/2001/1218/hom28.htm



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12/18/01

## IRELAND - SCHOOL CHILDREN BECOME ILL AFTER SLUDGE SPREAD ON AGRICULTURAL LAND



Thursday, January 20, 2000 Franklin, Kentucky



Verdict is in

Jury finds Triple M created temporary nuisance

A Simpson Circuit Court jury found Triple M Land Farms created a temporary nuisance to some but not all the plaintiffs in the suit filed against the company that once treated municipal sludge at a 77-acre site in southwest Simpson County.

The jury, comprised of 11 women and five men, deliberated for nearly 14 hours Thursday and Friday before returning its verdict at 7:10 p.m. Friday. It awarded compensatory damages but no punitive damages against Triple M.

Jurors awarded \$61,000 in damages to 47 plaintiffs but found no liability for the other 24. Of those receiving dumages, 23 were awarded \$1,500 each, 10 were awarded \$1,250 each and 14 were awarded \$1,000 each. It was not known if the Triple M attorneys would appeal the verdict.

Awarded \$1,500 each were: Mark Apple, Amy Apple, Merrill Barrow, Rhonda Barrow, Ken Boren, Lisa Boren, Kenneth Butt, Susan Butt, Ralph Dillard, Lillian Eldridge, Steve House, Renee House, Christopher Potere, June Potere, Jeff Shrull, Dawn Shrull, Lendell Sirrull, Rita Shrull, John Weidemann, Timothy Shrull, Lisa Shrull, Freddie Williams and Barbara Williams.

Awarded \$1,250 each were: Joel Rice, Connie Rice, Ferry Richardson, Sonia Richardson, Carroll Smiley, Susan Smiley, Jack Wade, Julie Wade, James R. Wade, Jr. and Joan Newsome Wade.

Awarded \$1,000 each were: Albert Dennis, Joan Dennis, Philip Evans, Frances Evans, Don Kessler, Becky Kessler, Chris Kummer, Jill Kummer, Romea Kummer, Nettie Kummer, Bruce Swayze, Bonnye Swayze, Ricky Johnson, Cindy Johnson, Todd Randolph and Elizabeth Randolph. The plaintiffs who were awarded no damages were: Alliance Rubber Company, Action Supply, Billy Cherry, Ruth Cherry, Danny Hendricks, Jill Hendricks, Wayne Jones, Stacy Jones, Wayne Leath, Gladys Leath, Don Pinson, Lola Pinson, R-S Partners, Larry Randolph, Pat Randolph, Scott Randolph, Leslie Randolph, Steven Snider, Barbara Snider, David Vaughn, Lesa Vaughn, Eric Vaughn, Wade Farms and Larry Weems.

The suit stemmed from Triple M's treatment of municipal sewer sludge at the property, which is located about two miles from downtown Franklin off Schweizer Road. The sludge was spread into rows, and natural processes were used to break it down.

Problems arose when the company signed a contract with Metro Nashville and began bringing in nearly 400 tons of sludge per day. Nearby residents and landowners as well as others began complaining about odor, flies and potential health problems. Triple M was cited numerous times by the state Natural Resources and Environmental Protection Cabinet before signing an agreed order to cease operations last year.

Some 800 Simpson County residents were summoned for jury duty after Circuit Court Judge William R. Harris denied a change of venue motion from the defendants. The trial began on Nov. 22.

Legal action taken by Simpson Fiscal Court and the F-S Planning and Zoning Commission was halted after the company agreed to shut down.

## KENTUCKY - SLUDGE COMPOSTING FACILITY

VICTIMS SUFFER VOMITING, NAUSEA, DIARRHEA, FATIGUE, TIGHTNESS IN LUNGS, APPETITE AND WEIGHT LOSS, INFECTED FLY BITES - INCLUDING STAPH INFECTIONS - LINGERING COLDS & FLU LIKE SYMPTOMS, WORSENING ASTHMA, DIZZY SPELLS, HEADACHES, SINUS & NASAL PROBLEMS, HELICOBACTER PYLORI INFECTIONS, SORE THROATS WITH BLISTERS.

- G-1 1272 Sec. Margar τ. 9-15-97 MRDICAL PROBLEMS WITHIN THE LAST MONTH 586-9149 vomitting 4039 Springfield Rd. 1. Harold Martin He was shelling form on 9-13-97 for Jim Wade in the field adjacent to Triple M, and vomitted all day 9-14-97. cold won't go away 586-6048 120 Kummer Rd. 2. Gladys Leath 6 mo, old infant 11 3. Grandwighter JoLynn May diarrhea 11 . . 4. Grandson Kevin May This eleven-year-old came out from town to spend the night and played outside. The next day he stayed home from school with stomach ache and headache. 1020 Charlie Butts Rd. 586-5079 Nausea durritur 5. David Vaughn Nausea 586-8033 1073 Charlie Butts Rd. 6. Eric Vaughn Fatigue, nausea 586-6739 1705 Kummer 7. Ricky Johnson 8. Cindy Johnson and tightness in lungs U, nausea, appetite •• 9. Billy Johnson 1055 61 nausea, diarrhea • 10, Adam Johnson 586-4947 fatigue 11. Joan Dennis 1724 Kummer fatigues de aches, 586-4593 Bruce Swayze
Bonnie Swayze 1810 Kummer fatigue, fly bites Southpod ... fatigue, diarrhea 11 14. Beau Swayze (age 13) bli stare 1. ue ز fat 586-8066 Chris Kummer
Jill Kummer 1875 Kummer fatigue 586-5078 headaches 2260 Kummer 17. Romea Kummer fatigue, infected 18. Nettie Kummer fly bites fatigue 586-6559 2102 Schweizer 19. John Terry infected fly bites 20. Mary Tary M' 4NNW nausea Andrews Rd. 21. Jim Andrews infected fly bites 586-6365 1933 Schweizer Rd. 22. Becky Kessler 1550 Schweizer Rd. 586-4231 23. Steven Nina Tenpenny's 17 year old grandson has had diarrhea and a "virus" per Dr. Raynol

W. S. M.

24. Susan Second Reviet 1486 Schweizer Rd. 586-6266 Lack of appetite, nauses, diarrhea. Her Bachelors' Buttons died by 7-1-97 and usually they last until fall. Birds to her bird feeders have been fewer. She said "The point I wanted to emphasize at the hearing was that 'Human wasta is more toxic than cow manure' ... and 'What is airborne that we are breathing?'"

MEDICAL PROBLEMS ිබළට 🗋 9-15-97 25. Lillian Eldridge. 1222 Schweizer 586-8708 87 yr. old lady who has been sick for 6 weeks, vomitting, diarrhea, lack of appetite, she is weak because she cannot eat. Dr. Maynard thinks the germ is caused by an ulcer? H. Rylori. Close to Triple Al = heavy fly interstation. She has guve from 130<sup>th</sup> TD 104<sup>th</sup> IN THREE MONTHS. 26. Ryan Nix Carter Rd. For ATTI Carter Rd. 595-0764 cold that stays 27. Sharon Nix 28. Magan Nix Carter Rd. farigue Carter Rd. This 9-year-old's asthma is worse. 29. Penny Hicks 344 Carter Rd. (Jeff Hicks work: 6-8861) For her respiratory problem (which she never had previously) he took her to the emergency room, 30. Nancy Hudson 248 Carter Rd. 586-5194 nausea 31. John Weidemann 1010 Schweizer 586-8169 nausea 32. Ken & Lisa Boren 427 Schweizer 586-3962 nausea 33. Mark Apple Schweizer Rd. 586-3114 diarris. fatigue 34. Any Apple 11 dizzy spells, headaches 35. Ryan Apple 'n ... 7 yr. old - nausea 36. Ethan Apple 11 11 4 yr, old - nausea ' 37. Kenneth Butt 299 Schweizer 586-5066 diarrhea, fatigue, cold that stays 36. Sue Butt 11 п Mr. Butt has seen tankers arrive in the middle of the night and an ammonia smell is very strong the next morning. 39. Merriel Barrow 162 Schweizer Rd. " diwrhea 586~5972 nausea -J. Rhonda Barrow ы 11 --. Hully Barrow ... 11 22. Richel Barrow r + . **e**1 43. Rene House 132 Schweizer 586-9945 Rene has had dizzy spalls, headaches, fatigue and "hot flashes." She is only 29 and has never had hot flashes previously. She became so nauseous in the grocery 29 and has never had hot flashes previously. She became so hauseous in the grocery store she almost vomitted. She went to Dr. Maynard. Her show dogs' tips of their ears have been eaten by flies. Her \$6,000 showdog has **District** parasite. If it doesn't clear up, dog will have to be put on staroids which destroys sperm count and the dog's value. Amanda West 2096 Springfield Rd. 586-5067 nausea, diarrhea Tots 17 wear old her her side for 14 weak after working in tobacce outside. 24. Amanda West

This 17 year old has been sick for 1's week after working in tobacco outside. Her mother and father were not sick "because we stayed indoors."

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MEDI	CAL PROBLEMS			
Page	a a a			
9-15	5-97	4 - <sup>1</sup>	•	
/ 5	Inmon Botest	1425 Hetter Rd., #11	586-4884	Diarrhea and vomitting
43.	James Follest	11	586-4884	17 54
<b>→</b> U,	(Infant daughter)			
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47.	Tina Ausbrooks	1425 Hatter Rd., #12	 D N - W	Diarrnaa and vomitting
	18 yr. old		Doctor I Week and	sent der to dospilai odd
	Companie Mawlin	н	11	Diarrhea and vomitting
40.	ll vz old			-
49.	Sheila Marlin - ad	iul <b>c</b> "	ш	Nausea
		0480 Enviroficial	1-1974	Fatigue, diarrhea
50.	Amy Halvorson	2469 Springriald She has to	o keep her ch	ildren inside.
51.	Edith Akin	2519 Springfield		Made asthma worse
5.2	Iandell Shrull	2709 Springfield Rd.	586-6204	nausea
53.	Rita Shrull	11 11	••	31
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54.	Joe Freeman	3020 Springrieid Rd.	190-0110	", durhea
55.	Kathy Freeman			,
56.	Susan Smiley	40 Sulphur Springe	586-5111	nausea
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57.	Terry Roberta	/55 Sulphur Springs	200-3223	coughing
58	Pat Boberts	п	**	nasal problems, headacha
201	TAL NUCELUS			infacted fly bites, chose
59.	Bart Roberts	765 Sulphur Springs	598-0557	
	"There are dead f	ish in Wade Farms pond 14	mi. from Nee	ly Branch and dead rish
	in Neely Branch.	I tell anyone who kills	a deer in Sim H	pson County not to sat the
	meat as the deer	may have drunk the water.		
60.	Pamela Grace	64 Sulphur Springs Rd.	598-0481	nausea, vomitting
61.	Mrs. Lowhorn	Sulphur Springs Rd.		
	Her 6 yr. old dau	ghter has been coughing f	or one month.	

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502:586:10600 March 140 mm 140 mm PAGE 10 FILE No. 949 11/07 '97 12:28 ID:ALLIANCE RUBBER 地名美国科学 A second s Dowlast. Unusua rafe, pu Name address Phone Phone States 2785 Scheren 586-8379 Brighter Diand 1394 Scholizer 586-8825 Sinus problems ( Aradam - NO Previous) 4.61014 illien Ediedak (She is \*23) Gall hu daugten Helen Porzier in Way. 317-552-735/ MITAN Good MAN. 429 Deusy Bought Back Det De Condition 429 Deusy Bought Back De The CENY DEEN SUIC. 3.K-265 Dustin, TYTCK, CENY, DEEN SUIC. With Pithewithe, & Valtum, On 10-1-99- 10-4-97. . . 2273 Springfildpel: 6-8429 344 Chriter Ad. 1002 Martin A. 6-4054 sinus aller diarrhea 1 Henson FFHICKS Jairha Sinvs 1083 Cartor Ad. ndrailee

FILE No. 949 11/07 '97 12:29 ID:ALLIANCE RUBBER 502 586 0600 PAGE 7

10-3-97

Residents with unusual diarrhea within the last month DIARRHEA, INFECTED FLY, MOSQ.BITE: NAME ADDRESS PHONE & OTHER MEDICAL ١Ú 22956/1+ Kd Scr SYMPTOMS Lt. 02 arrheq a ha 1. 11 ~ Scan 5) 1. 11 Ĩ4. Sont Deren Sarch 11 1.4 15) <u>- 290</u>  $\bigcirc$  $\sim O$ 64 11 when Ч icrrhee No) 7ē) 6810- 61051 Diarchea & Vomiting 9T) NKK, witt Rd LIAIONS 1052 UAUGINU Witted. 586-5651 08 D, ARRING Nancy Hatter 604 Wittland Dr. 586-7311 Bites spreading inte **A**) 1) BILLY SWAYZE 1810 KUMMER 586-4593 STAPH INFECTION TO INFECTE DUE BITES

## STATEMENT DATED JUNE 21, 2000 BY SLUDGE VICTIM, ELIZABETH FLEWELLING, UNITY, MAINE

### Dear Helane

Sorry I am so late with getting back to you but every time I have tried something always seems to come up, life is so very busy these days. One of the farmers who is responsible for the spreading of sludge next to our property is giving us a very stressful time of it since last year after channel 2 was here and filmed the 12 loads of sludge and then it aired on TV. I am known as the crazy old lady and the sludge lady, and he comes by real often and drives up and down the dirt farm road at a high speed seeing how much dust he can create.

We have five wells in the Unity area with Chloroform Bacteria-water undrinkable, this has caused a tremendous burden on all of us as well as a financial burden for some of us. We were forced to purchase a water distiller which was very costly this in turn increased our electrical bill by up to fifty dollars per month and some months even higher. We have had many other extra expenses due to the quality of the water and the toxins in the water.

Furnace had to be repaired caused by what is in the water, black oily substance that had plugged the boiler feed and the filter (Science News-Feb. 28, 1998 DR. DAVID LEWIS Report)

Copy of letter from Thompson's Oil & Propane

One of our service technicians went to Elizabeth's home when she called our office. The complaint was for a water leak. When the service technician arrived he found that the relief valve was leaking (prematurely) water on the floor. He replaced the relief valve and found it had a foreign substance coating the inside of it. When he went to refill the boiler the automatic feeder would not fill the boiler. He discovered that the feeder had a foreign substance built up inside it, not allowing any water to pass thru the feeder. The system is not old enough to need all the above work done to it under normal water conditions the two items that were replaced tave a life span of 10-20 years. (Our furnace is six years old)

Needless to say this has also caused many health problems, the Henry's who live above us and have a contaminated well say their dog has digestive problems and diarrhea if he drinks the water, and over the years they have seen two dogs and a cat die of cancer. The Henry's also had stomach problems until they stopped drinking the water also headaches, tiredness, sore throats etc.

My husband and I have also had headaches, diarrhea, stomach upset, weight loss, tiredness, sores in nose, accelerated aging, dry skin, blood problems, memory loss, depression, destruction of tissue, toxic liver and hair loss not coming out but breaking off) I have lost over half of my hair. Also, Barbara is having the same problem with her hair)

Our dog Breanna, was immediately sick last week after drinking only a small amount of water from the well, that is how very toxic it is. The D E P is trying to tell us we have a cracked casing or a leak, it seems a little strange that five wells could suddenly all have cracked casings etc. The latest sorrow is that we lost our fish "charley" who has been with us for many years and was expected to have many years to go----When and where will it all end?

## VICTIMS' WELLS CONTAMINATED. THEY SUFFER HEADACHES, DIARRHEA, STOMACH UPSET, WEIGHT LOSS, FATIGUE, SORES IN NOSE, BLOOD PROBLEMS, TOXIC LIVER, HAIR LOSS - DEATH OF PETS.

Sunday, July 30, 2000

<u>E-mail this story</u> <u>to a friend</u>

Towns fight sludge-spreading

By MEREDITH GOAD, Portland Press Herald Writer

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When Sharon Hadley of Waterford received notice that a neighboring farmer planned to spread sewage sludge on his fields, she put up a fight.

Hadley helped form the Waterford Protection Association, a grass-roots group of friends and neighbors dedicated to stopping the use of sludge, or treated sewage, as fertilizer within the town's borders. The group worked to hire a lawyer to represent their concerns. They applied for grants and collected donations.

"We got into action and tried to do everything that we could do," she said.

Organizing helped. Although Hadley's group failed to keep her neighbor from spreading sludge, it did win extra restrictions to protect the environment.

The work at the local level also led residents in rural Waterford to join a larger movement in Maine. Grass-roots groups, especially in rural areas, are increasingly opposing the practice of sludge spreading. Maine communities pressing for more local oversight include Clinton and Parsonsfield; at least a dozen others are considering similar action.

Sludge, known as biosolids in the waste management industry, has been used in Maine for more than two decades.

Objections have been raised over the years, often from neighbors who don't like the unpleasant odor that comes from sludge-covered form fields. Others worry about the potential danger of cadmium Two fields totalling 20 acres are targeted for sludge. One site abut: Hadley's property on Bear Pond Road, and another is on Haynes Road near Moose Pond.

"I wouldn't be half as opposed if it was Class A," Hadley said, referring to the cleaner form of sludge. "This has been my town for 42 years, and I am accustomed to cow manure being spread on fields, and horse manure. But this is altogether a different mix. It's scary, and there's a lot of things in there that shouldn't be because we're getting it out of Portland."

Hadley said the group is worried about contamination of nearby lakes, well water and public health. A summer camp for boys also is located downhill from one of the sites.

On June 14, Wheelabrator Bio Gro delivered the first six loads of sludge to the Bear Pond site next to Hadley's home. The sludge was supposed to be stockpiled there until after Labor Day, when it would be spread on the field.

## "The smell was unbearable," Hadley recalled.

Hadley and her neighbors had been told the odor would dissipate within three days, but it lingered. They made numerous calls to the DEP. Hadley was particularly perturbed that her family was unable to have its annual July 4 barbecue because of the stench.

The DEP field inspector visited the site four times, according to David Wright.

"There were odor complaints," he said, "and when (the inspector) went out to inspect it, what she found was that there were maggots on those piles, indicating fly cycles, indicating that it hadn't been properly lime stabilized."

Wright said Wheelabrator was told to examine its lime process, and to stop applying the material until the problem was solved. The sludge was removed July 14 and taken to a landfill.

But that does not rule out more spreading in the future. Hadley vows she's going to fight it.

"What's going to happen?" she said. "Are my great-grandchildren going to have five heads? Seriously, you just never know. We've seen these frogs with five or six legs; it can happen to human beings as well."

Most scientists would say that's unlikely.

## MAINE - WATERFORD - EXCERPTS FROM LONG ARTICLE - "THE SMELL WAS UNBEARABLE ... "THERE WERE MAGGOTS ON THOSE PILES, INDICATING FLY CYCLES, INDICATING THAT IT HADN'T BEEN PROPERLY LIME STABILIZED."

## NANCY MORRIS - LIVERMORE FALLS, ANDROSCOGGIN COUNTY, MAINE - JULY 2002

The sludge was spread in Leeds, Maine. The victims live just over the town line in Livermore Falls, Maine.

Excerpts from email to Helane Shields dated July 11, 2002

"I want to document with you some illnesses my husband and I have had since sludge spreading on May 28 - 29th on a field within 1000' of our home.

May 29th -- at night urge to vomit (dry heaves)

June 3rd -- Lung congestion, both my husband and I -- coughing uncontrollably. This went on for over a week. We took Hal's cough drops, Vicks and a cough syrup with an expectorant in it -- coughed up yellow junk . . .

June 11 -20th -- I had irregular breathing at night in my sleep, gasping for breath and not breathing at all for seconds at a time.

My husband was so concerned that he wanted me to call a doctor. I have an appointment with a pulmonary doctor but can't get in until September 27th.

I am propping myself up on pillows now to get some relief.

July 3rd -- My husband, all of a sudden, developed a strange rash on the left side of his back -- big welts -- itched intensely ....it was not poison ivy --- he had not been in the woods or fields. The rash did not ooze like poison ivy. Then the rash started on the right side of his back. We treated it with Benadryl and Calcimine solution. He said it felt like "needles" sticking into his back."

## MAINE SLUDGE VICTIMS SUFFER DRY HEAVES, LUNG CONGESTION, UNCONTROLLABLE COUGHING, THICK YELLOW MUCUS, IRREGULAR BREATHING, GASPING FOR BREATH; AND SKIN RASH

398 Strickland Loop Road

Livermore Falls, Maine 04254

August 13, 2002

Dept. of Environmental Protection

17 State House Station

Augusta, Maine 04330

Dear Mark,

I am responding to your letter of July 29, 2002.

In answer to your questions, my husband and I have not had any more occurrences like I described in my initial letter of 7-13-02. My husband did not seek medical attention. Our daughters are all nurses so we seek their advice first before spending money for a doctor's visit.

My experience was so bad with the gasping for breath in the middle of the night that I called my

physician. Their office got an appointment with a pulmonary doctor and unfortunately the appointment is not until Sept. 27th. My comment was, " I could be dead by then." They DO have me on a cancellation list.

I, also, have checked with other neighbors about any illnesses. They are as follows:

Lisa Lafreniere: a bronchial infection that (in her words) "hung on forever". Lisa did seek medical attention and is checking the dates of her infection. Her husband has purchased a treadmill and is now staying indoors to do his jogging. He is an avid jogger logging many miles per day and has, in the past, entered races. The kids stay indoors as Katie suffers from asthma.

Cindy Veilleux has complained of flies and has had trouble breathing.

Linda Stanhope has an unexplained sore throat that does not go away.

I am extremely concerned and afraid about the conditions when they cut the corn. Namely, stirring all the dust and pathogens that continue to live in the soil. What, exactly, to you and the DEP have in mind to protect our health at that time. I will be waiting for your answer.

Sincerely,

Nancy L. Morris

## MAINE SLUDGE VICTIMS SUFFER RESPIRATORY PROBLEMS INCLUDING DIFFICULTY BREATHING, GASPING FOR BREATH, BRONCHIAL INFECTION; FLIES AND PERSISTENT SORE THROAT - AUGUST 2002

## SLUDGE VICTIM - ED ROLLER, SPARTA, MISSOURI

Ed Roller had been a successful dairy farmer since 1979. In 1989, 1990 and 1991, Mr. Roller's neighbor spread sludge on an alfalfa field. Then Roller's neighbor stopped spreading sludge because they were having trouble (undefined) with their cattle.

5 C

The runoff from the neighbor's sludged alfalfa field carried onto Roller's land. In 1990, Ed had a herd of 145 cows. In the winter of 1991 his cows started dying. His Veterinarian could not find the cause. Ed sent cows for examination by the University of Missouri in Columbia. But they were unable to diagnose the problem.

Ed went to the Columbia library and found a reference to the Zander case in Washington. He called Linda who referred him to a Dr. Cook who told him how to test the foliage and the soil.

Since Ed was about to lose yet another cow, he sent it to the University of Missouri who killed it and sent organ samples to Iowa State university. The tests at Iowa State revealed the presence of the same heavy metals in the cows' organs that were contained in the sewage sludge. The scientists were particularly concerned with the phosphates and fluorides, as they effect the animals' bone structure and impact the milk the cows produce.

Ed noted that his cows would get sore feet, to the extent they couldn't move around and eventually would just lay down and die. He said one of the cows he left in the field after it died was never eaten by coyotes or vultures. He figures they are smarter than humans! After the remaining Roller cattle were removed from the area where sludge runoff from the neighbors' fields had accumulated, the animals' health improved and none have died, although some are so far gone they will probably not make it.

Ed Roller's personal health was adversely affected by immune system damage. Also, his father worked the farm with him -- and contaminants were found in his father's blood in 1991.

By 1994 Ed had lost 60 cows and was going broke. He filed a lawsuit against his neighbor. But all the local judges recused themselves from hearing the case. The neighbor he was suing is a prominent local resident and is on the bank board which held Ed's mortgage. When he started the sludge lawsuit, the bank started legal action against Ed Roller to foreclose his mortgage.

Ed Roller has filed for bankruptcy -- his health and his dairy farm destroyed by sewage sludge. Ed also told us about the case of a Missouri woman who let the City of Springfield spread sewage sludge on her farm -- and all the vegetation died.

Ed says appeals to the US EPA, Missouri Dept. of Natural Resources, state health department and other state agencies were met with callous indifference. No-one investigated and "no-one seemed to care".

Ed Roller, 5961 State Highway 14 F. Sparta, Missouri 65753 (417)634-4166 Ed's attorney: Alison Calton, PO Box 1245, Springfield, Mo. 65801 (417)869-0581

RU13 RN to Arkansis Section / Thursday, November 2, 2000

## pian Scott residents fend off fertilizer

## ARKANSAS DEMOCRAT-GAZETTE AUSTIN GELDER

cormorants hunt the deeper water, and grandchildren splash in the shallow. Pelicans and geese bob on the surface, and lucky fishermen pull SCOTT -- A breeze frequently blows across Old River Lake, where catfish from the bottom.

It's clean and quiet here in this small community in southeast Pulaski County, and 300 members of the Save Scott and Old River Association are determined to keep it that way.

sewage sludge from being used as fertilizer on an 800-acre parcel in The group declared victory this week after an 18-month battle to keep

said John Riles, a broad-shouldered sportsman and grandfather of three Arkansas River carved a new course and left the Old River Lake behind He lives on the shore of the ear-shaped lake that was formed when the "We have something really wonderful here that's worth protecting,"

will be hauled elsewhere. Department Wednesday morning when it was announced that the sludge Riles and about 25 others gathered at the Scott Volunteer Fire

Scott and Old River Association. about sludge in Scott," said Jerry Butler, who is chairman of the Save "This is hopefully the last time we'll have to call a press conference

along Colonel Maynard Road with byproducts from waste-water Marlene Lantrip spotted a legal notice about a permit request before the Department of Environmental Quality in the newspaper. The Wilcox and and Cattle Co. was planning to fertilize portions of an 800-acre plot The battle for a sludge-free Scott began in April 1999, when resident

treatment plants. The stench would drive residents indoors and property values down,

can't see. and wetlands into the lake, contaminating drinking water with "bugs you antrip feared. Butler worried that sludge would seep through sloughs

The Wilcox Land and Cattle Co. has spread similar loads of waste

organized in May 1999 when George Wilcox's permit application was approved, and the nascent organization appealed the Arkansas nearby over the years without many complaints from neighbors, but Department of Environmental Quality's decision. Lantrip, Butler and others spoke up about this latest effort. They

claiming Wilcox had a history of violating environmental laws and Save Scott and Old River Association attorneys presented a report regulations. Wilcox withdrew his sludge permit application five weeks ago after

Environmental Quality to deny permits to applicants with histories of Arkansas Code Annotated 8-1-106, which allows the Department of noncompliance with environmental laws. Attorneys Allen Perkins and Julie Greathouse based the appeal on

property, said Albert Thomas, his attorney. Wilcox now plans to put mobile homes on his Scott community

Not only did the state Pollution Control and Ecology Commission turn Wilcox was not immediately available for comment Wednesday "He just decided to change his business direction," Thomas said

down the Wilcox Land and Cattle Co.'s plan to dump sludge in Scott, but the panel also agreed to terminate the permit permanently

Wednesday. "It's over. You've saved Old River Lake," Perkins told the group

members of the association's water quality committee for an impromptu glass jar after Wednesday's press conference, while Riles gathered plans to disband. Secretary Marilyn DeRoche collected donations in a big meeting in the parking lot. Though this battle appears to be over, the community group has no

with plans to dump sludge in Scott. Members said they want to be ready in case anyone else comes along

After all, they say, there's something here worth protecting

This article was published on Thursday, November 2, 2000

**OFF SLUDGE DUMPING PLAN -- FEARING STENCH WOULD DRIVE RESIDENTS** ARKANSAS - SCOTT - NOVEMBER 2000 - NO VICTIMS HERE!. RESIDENTS FEND WATER "WITH BUGS YOU CAN'T SEE." INDOORS -- PROPERTY VALUES DOWN -- AND CONTAMINATE DRINKING

## **JSA TODAY** ULY 13, 2000

## 2 mothers, 2 deaths, too many questions

A federal health agency is urging stricter standards for the processing of sludge, human waste that is treated and converted to fertilizer (Cover Story, 1D). Scientists with the Centers for Disease Control and Prevention say that the most widely used type of sludge, called Class B, could contain dangerous levels of bacteria and viruses. Class B is treated with a method that removes most, but not all, pathogens.

CDC scientists would like to see the federal Environmental Protection Agency, which runs the sludge (or biosolids) program, require all sludge to be treated to the higher standard, Class A, in which all pathogens are killed.

Nobody needs to convince Brenda Robertson and Joanne Marshall, two mothers from the Northeast, that sludge can be harmful. Both claim that sludge killed their sons. USA TODAY's John Tuohy tells their stories.

## Sickness was in the air, but officials wouldn't blame sludge

"Nobody's ever died from it, nobody's got-ten sick."

For 41/2 years that mantra was ottered by government officials in response to Joanne Marshall's inquiries about whether sludge - sewage that is treated, then used as fertilizer - could have killed her son Shayne Conner. 26, on Thanksgiving Eve in 1995. Marshall thinks that when

sludge was spread by the truckload on a field 100 yards from her Greenfield, N.H., home for a month straight, her son inhaled some type of fatal bacteria in the mixture and was infected.

Everybody in the family got nauseous, nosebleeds, headaches, stomach cramps, fatigue," Marshall says. "We had to hold our breath when we went out of the house. I am sure that is what killed my son.

The official cause of Shavne's death is still listed as undeterinined: Two years ago Marshall sued the waste treatment plant that made the sludge, the hauler that transported it and the grower who persuaded a landowner to use at. A trial has been scheduled for April, says Marshall's attorney, Finis Williams

Marshall says her home was downwind of the sludge, and the "stench was so bad, it made me sick to my stomach."

Three days before Shayne died, be came down with a severe case of larvogitis. On Thanksgiving Eve. starshall's other son woke her at 4 trouble breathing. Para-medics were called, but Shayne was dead when he arrived at the hospital.

At the same time, evervone in the family was feeling ill, and they won-dered whether their lives were in danger. Marshall says. "We could barely grieve for him because

the rest of the family

Mark Weidman, the president of Bio Gro of Millersville, Md., the company that transported the sludge, says there is "no scientific basis" to Marshall's allegations.

Investigations by the New Hampshire Department of Envi-ronmental Services and the medical examiner's office concluded that sludge was not linked to the death, Weidman says,

He adds that sludge has to meet strict requirements and has been

used safely in the USA for decades, Marshall says she feels that the government has stonewalled her search for an answer to Shayne's death. The lawsuit, she says, is her

only recourse. "I wanted to work with them," says Marshall, who once worked at the Department of State. "Activists approached me and wanted me to join with them, and I said no because | thought the government would help me get to the bottom of this.

She says she suspects the Environmental Protection Agency made a mistake with its sludge program and doesn't know how to back away without admitting culpability.

"Sometimes people make mis-takes and don't realize it until years later," she says, "Maybe at the time they thought it was all right and it wasn't going to hurt anybody. I think there were people who wanted to help, but their hands were tied.

Forced to sue: Joanne Marshall wanted to work with officials to find the cause of Shayne Conner's death.







Shayne: Killed by

in her latest order. "The court finds that this evidence is deserving ic issues in this trial and allowed a level of flexibility," writes outset of this case, the court recognized the complexity of the r testing and, therefore, that it constitutes good cause sufficient to further continuance of this case."

arate issue, Coffey also granted a request by attorneys for prator for an evidentiary hearing into alleged misconduct by an for Wheelabrator.

od that this alleged misconduct may have occurred." mbined with the plaintiffs allegations, creates a substantial wrote in her order that "The court finds that the history of this

ys for Wheelabrator argue that charges of any misconduct are Ē

ting Wheelabrator, "we look forward to providing our evidence ns of misconduct," said Barry Needleman, one of the attorneys gard to the hearing on April 9 looking into the plaintiffs arrow issue and proving their claims to be incorrect "

to have violated a previous court order, issued Nov. 3, 2000. laughter, a Washington D.C.-based attorney for Wheelabrator, is conduct alleged by the plaintiff stems from a hearing in which

e of hearings on the defense motion to exclude the plaintiffs re by both sides of expert witnesses and reports and established a ely to lead to admissible evidence." The order also required full is at depositions of the plaintiff's expert witnesses to "matters that rder, Coffey stated that attorneys for the defense were to keep stumony.

ers of proof indicate that Slaughter may have engaged in dilatory ," writes Coffey. that may have violated New Hampshire's Rules of Professional

# **3ED WITH MISCONDUCT, VIOLATION O** 30 PLAINTIFFS CAN INVESTIGATE NEW

## Statement of Joanne Marshall

My name is Joanne Marshall and I come from a small town, Greenland, New Hampshire. Greenland is a suburb of Portsmouth, New Hampshire where the Portsmouth Naval Shipyard and the former Pease Air Force Base reside. It was once a rural community, and has a few remaining hay farms left and one dairy. The neighborhood where we live, is a quiet neighborhood, where folks gather while shoveling snow, planting their gardens or walking their dogs. I used to call it "God's little acre." A great place to raise families until it was disturbed in October of 1995, when large tractor-trailer trucks began rolling down our street, in the early morning hours before most people were stirring. These trucks were depositing truckload after truckload of some smelly, murky stuff and piling it on a field next door.

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At first there was a faint smell of something in the air. Being down wind from the field, I smelt it most. In all my thirty or so years of living on this street, I never smelt anything like that. I was told the truckers were dumping, in short, a four-letter word beginning with s and ending with t. -- Sewerage, human waste. I remember thinking how inconceivable this was. On October 31<sup>st</sup>, a week later, I arrived home from work in a hurry. It was Halloween and my little girl was late trick or treating. Grabbing my bags I bolted out of the car only to be greeted by such as stench, it took my breath away. Nausea hit me like a ton of bricks and as soon as I was inside I ran for the bathroom. That frightful night became the turning point or our serene neighborhood and the beginning of nightmarish weeks and months to come.

We called the police department, who knew nothing of the dumping and then the chairman of our Selectmen, who said he also knew nothing. We then called the owner of the field, an elderly widow, who told us that her hayer persuaded her to use this stuff on her field. She said she was told that this stuff would be beneficial to the environment. She was very sorry for the smell, but assured us, as she was assured, that it was healthy and okay.

As days and weeks went by we became sicker and sicker. Not just my family, but our whole immediate neighborhood. We all shared the same symptoms; first nausea and vomiting followed by severe stomach cramps and migraine headaches. Then fever and flu like symptoms, more respiratory. There was a continual battle of thick mucous, one that made it hard to swallow and discharge. At times it appeared as if our reflex system had slowed because you would gag on the mucous and sometimes choke to dispel it. Often it would wake you because your breathing passages were blocked by it.

Upon discovering that my neighbors were experiencing the same problems, I contacted the Governor's office, which directed me to Health and Human services, Risk Assessment. The gentleman I spoke with said that our symptoms were symptoms of sludge exposure. I

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asked if we could have someone come out and test this stuff, but he said he was not the one to do it. He gave us several names stemming from people of DES to the Regional EPA office in Boston. Our efforts to contact these people were fruitless. Our phone calls were not returned and if they were, we were treated rudely or given another name to contact. Between my neighbors and myself, we went full spectrum in the contacts we were given, which resulted in nothing.

Approximately three days later, the evening of Thanksgiving, I kissed my son, Shayne of 26 years, goodnight, for the last time. Around four am that morning, I was awakened to a frightful scream from my other son, who was home from college during the holiday. When I ran to the room, Shayne appeared unconscious, yet he seemed like he was gasping. 911 was called and all I could do was hug him and wait for the paramedics. We spent what seemed like an eternity in the hospital waiting room, only to be told my son was dead.

The weeks that followed were even more brutal if that were possible. We couldn't grieve for our son, because we were too busy fighting illnesses and spending sleepless nights, watching over my little girl sleeping, trying to pass the mucous in her throat and fighting viruses. Trips to the doctors and hospital emergency rooms became a frequent thing for my neighbors and us. As one who seldom ever was administered an anti-biotic in her lifetime, I went through approximately seven prescriptions of antibiotics within a year. Two of us were diagnosed with Pleurisy. Three to four or us developed abscesses and cysts that needed to be lanced. There were recurring allergenic illnesses in the young babies of the neighbors that the doctors could not pinpoint the cause. The men suffered severe nosebleeds that were unstoppable. Some of the children suffered unbearable migraine headaches. Both my neighbor and I had tumor masses surgically removed from our breasts. One neighbor suffered heart failure and one was bedridden for weeks. The list goes on and on. By the end of two years, five cats (all mousers) (two mine and three my neighbors as well as my other neighbors older dog died, all from tumors.

Again to get someone to help us proved futile. Even when noted violations to the 503's were cited, those, whose salaries are paid by us, seemed unconcerned and closed a deaf ear. Even the death of my son, was not enough to rouse them and investigate the possibility and/or eliminate the connection. Instead they fumbled at trying to find other causes to prove it wasn't the sludge. Even when the autopsy report stated the immediate cause as respiratory and the underlying cause as inconclusive; none of our officials sprang to action. All our phone calls, eventually, went unanswered and we were left to deal with the unknown ourselves. Doctor's wouldn't or couldn't help. Their reply was that they didn't know what they were dealing with. Yet they were sure to load us up with plenty of antibiotics. It didn't seem to matter that one life was lost and no one knew why. It didn't seem to matter that proven records of healthy citizens prior to the sludge dumping, were all experiencing illnesses of various kinds and medical problems. This was not a concern. Our officials and the people responsible appeared indifferent and uncaring; after all, it was only one life.

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I'd like to take a few minutes to tell you about that one life lost. At a very young age Shayne learned that he could do anything he set his mind to doing with faith and God and determination. In kindergarten we learned that Shayne had a learning disability and when educators said that Shayne would never be able to read, Shayne learned to read fluently within a few month of first grade, with the help of a devoted Special Ed teacher. When they said he would never be able to function in a main stream school environment. Shayne's determination merited him all mainstream classes by his senior year in high school, with the help of another devoted teacher. Shayne was noted for giving 110% in every thing he did. When they told him that could never go to college, Shayne applied to a vocational college and was accepted and attended. Shayne loved sports and where most would have been rejected to play on school teams, Shayne won the admiration of his coaches and peers through his determination and was often awarded the most improved member of the team. In college he was given the Coaches Award for his merit, example and dedication to the team. Through his achievements, Shayne became an example and inspiration to all, particularly those like him.

However, what Shayne was particularly noted for was his love and sensitivity with people. He could pick a troubled person out in a crowd go to them, befriend them and put a smile on their face. If you needed him, no matter who you were, stranger, family or friend, he would drop everything and be there for you. Mourners came from miles around at Shayne's wake. He had touched the lives of so many people; it was hard to conceive. Even after extending visiting hours, the funeral home had to close the doors on people who were still lined up to pay their last respects. Today, people still come up to me and tell me how much they miss my son.

So, you see ladies and gentleman, one life does make a difference and one life is very important even though he may not be some famous person or celebrity. And I'm afraid we take these lives for granted, with an attitude that all life is a risk or one of indifference.

Today we spend millions of dollars, investigating crimes, tracking down criminals who perpetrate the rights of other individuals. We spend more monies providing them a fair trial and then when convicted more monies in providing them food and shelter and rehabilitation in our prisons. I am not against this. Yet, when one good citizen dies of unknown causes after a new and potentially unexplored substance had been deposited on a field next door, a preliminary autopsy is held with minimal funds, and then no more is done. There's something to be said of this. At the same time, when it comes to insure the health and safety of our citizens, money seems to take the forefront at the risk of lives. I want to quote what one representative, of the company that dumped the sludge, said when l expressed concern of the risks involved and whether there was a more ecological way of disposing this stuff. He said, "all life is a risk, lady!" And there are more ecological ways, "but they're too expensive." Yet they have given this substance to unsuspecting farmers for free. What does that say? At the expense of saving a dollar, we take the risk of expending

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good lives, lives of good citizens. Citizens that make this country what it is and what it will be tomorrow. In my experience, the indifference in regard to these matters is profound.

My question is one. Are we band-aiding our problems by coming up with more medicines and methods to cure our ills? Or, are we spending the time and effort to get to the root of these problems and eliminate the source. Scientists such as those who have spoken here today, are finding that sludge dumping can affect the health of people and pollute land and water. Are we listening or ignoring the warnings of these scientists?

In closing, I will leave you with this one thought. Shayne faced many disappointments and obstacles in his lifetime, but he always found a way around them, over them or through them. Our First Lady wrote a book called "It Takes A Village" to raise a child, however, it took a huge conglomerate, greed and indifference to destroy him!

Joanne Marshall, 183 Tuttle Lane, Greenland, NH 03840 431-6983

## BOSTON SUNDAY GLOBE, FEBRUARY 15, 1998

Joanne Marshall of Greenfield says she doesn't need a study to tell her something is wrong with

sludge. Her son died on Nov. 24, 1995, a few weeks after he walked through a hayfield where some 4,000 tons of sludge from a waste treatment plant in Portland, Maine, had been spread.

The state medical examiner's office ruled the cause of his death as unknown. Then Acting Chief Medical Examiner James Kaplan immediately ruled out the possibility that the sludge played any role in 26-year-old Shayne Conner's death.

But his mother won't accept that. In the weeks before Conner's death, she says, three of her neighbors were rushed to the hospital for breathing problems; three others were treated for outbreaks of lesions on their backs, chests, and limbs.

Jonathan Balthaser, 24, developed a skin rash that he said resembled a bad sunburn, and Cathy Hamilton, a registered nurse, was bedridden with nausea and severe diarrhea.

On the day the last load of sludge was hauled in. Dave Delfino, a retired plumber, said a foul stench filled the air that burned the inside of his nose so bad it bled.

Officials of BioGro, the division of Wheelabrator Technologies that oversees the company's sludge business, say Greenfield residents blamed the sludge for their illnesses because they didn't like its odor. But there is no proof, they say, that sludge spread by BioGro caused any ailments.



Tom and Joanne Marshall believe sludge dumped in their area may have contributed to the death of Joanne's son, Shayne Conner.

NH - GREENLAND - VICTIMS SUFFER BREATHING PROBLEMS, NAUSEA, DIARRHEA, NOSEBLEEDS, SKIN RASHES AND DEATH.

## Mom's lawsuit says sludge killed her son

## By David Clancy

BRUTWOOD, N.H. — Joanne Marshall of Greenland, N.H., has filed a lawsuit in State Superior Court alleging the BioGro division of Wheelabrator Technologies Inc. caused the death of her son, Shayne Conner.

In the lawsuit, which seeks an unspecified amount, Marshall said Wheelabrator deposited sewage sludge in a field near her home. She alleges the sludge was hazardous and said her son walked through the field several weeks before he died in November 1995.

The state medical examiner was unable to determine a cause of death at the time. Acting Chief Medical Examiner James Kaplan ruled out the sludge as the cause of death of Conner, then 26.

"There was no scientific conclusion to say that the sludge caused Shayne's death, and while his death is a tragedy, the medical examiner ruled that we. did not cause it," said Pamela Gratton, BioGro technical services director.

"We've been doing land applications for more than 20 years, and no claims have been substantiated. We have no reason to believe that this one is either," she said.

But David L. Lewis is not so sure. The medical examiner's work was inconclusive, said Lewis, a U.S. Environmental Protection Agency microbiologist offering testimony on Marshall's behalf.

"No tests were done that would elucidate the cause of death, so there are a host of potential causes," he said.

Lewis, a critic of sludge control efforts, said he has not been to the site. "I have read reports and seen photographs relating to this case, however. Whenever you have material blowing into houses, there are a lot of possibilities." he said.

Gratton discounts the possibility of sludge blowing into Conner's house and causing his death. "If that happened, how come he was the only one affected by it?" she said. \*

Marshall also has named the property owners; the Portland, Maine, Water District; and New Hampshire Department of Environmental Services Commissioner Robert Varney as defendants in the lawsuit.

- \*NOTES: (1) Shayne Conner was not "the only one affected" by the sludge. At least 20 other people in the neighborhood got sick, and many required medical treatment after the sludge was dumped.
  - (2) Rob Duff from New Hampshire Bureau of Health Risk Assessment was the only person in state government who treated Mrs. Marshall with a modicum of decency and concern. Mr. Duff told Mrs. Marshall that she and her neighbors were suffering from "sludge syndrome".
  - (3) Rob Duff disagreed with EPA's allowable concentrations of Arsenic, Mercury and Cadmium in sludge. Alan Rubin, EPA Office of Water, author of the 503s, wrote Duff a letter telling him to be prepared to defend in court his recommendations for lower levels of those toxic metals. NEEDLESS to say, Rob Duff is long gone from NH state government.

## Fear's scent remains over sludge

## By Susan Maddocks Heruld Stuff

GREENLAND — Each of the 70 people who filed into the stuffy besement of the local school carried a copy of the

ichool curried a copy or the sulopsy report. Signed by acting Chief Medi-cal Examinar James A. Kapian, It denied any connection be-iwom the unarpected death of a Soyrer old Tuttle Lane man and the site very near his home where tons of sludge was recen-ted sourced. Shavna Michael where tons of slidings was recent by dumped. Shayne Michael Conners. of 185 Tuttle Lane, cted in his sloep on Nov. 24. But the place of paper did

### What's in sludge'

According to researching at Cornell University and a report of the Ameri-ean Boolety of Civil Engineers, the televising substances are bring what is typically found in studier, which is the end product of yesterwater treatment

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ago, when Tuttle Lane neighlittle to same the fears of those sathered to learn more about the contantious subject which reared its head over a month bors first noticed a horrible amail wafting from a nearby field.

The sluding was spread by Wheelsbrater Clean Water Sys-tems, after It was trucked froms Portland's wastewater

from Portland's wastewsfor trainment conter, Since then, neighbors say they have been saging at small. Others have then FKK with vorniting, distribut, head-daches and breathing dirpi-culty. And most have remained angry that they were never not their of the procedure, and tearrou ful that the human waste may harm them.

harm them. Last night at the Oresoland Cantral School, print and rad (0 reporters, slong with taley/Sion

See Sludge. Page B



Stall photo by Deb Cram

Charles Reid of Nottingham, an organic farmer, describes ingredients he said are in the controversial human-waste tenilizer known as blo-solida. He spoke at a well-attended public meeting in Greenland last night.

## Greenland seeks answers

### Sludge from Page A1

aion craws from at least two local stations, lined one wall as officials from the state Department of En-vironmental Services and Jane Forste, a top spokeawoman from. Whetlabrator's Annapolis, Md., neadquarters, Beided questions and comments and comments.

'I'm looking at (the documents) and they say public access to the land has to be restricted for 30 days. What I'm saying is that this days. What I'm saying is that this shows there is a risk factor," said Tuttle Lane resident Charles Schladenhauffen, "Whan can the people go back? What exactly is the risk we're dealing with?" Forste explained that the sludge is to sais — tested for heavy metale and treated with lime to kill back teris — that she personally used it in her own back yard for fertilizer. "The asying there has never been a documented case of illness," cont

a documented case of liness," con-nected with sludge, "There, have been allegations," Forste said, before adding that she foll very com-fortable using it on her lawn.

However, if residents demanded it, she said Wheelabrator would work with the DES to study the heavy metal content and bacteria level of the property. Bob Duff of the state bureau of Public Health and Risk Assess-ment said he had done "cluster"

studies of areas experiencing ill-nesses, but those usually dealt with cancer patients. However, he would consider researching the APEA.

Meanwhile, the information against sludge continued to plie

against sludge continued to pue high. Local Conservation Commis-sion member Alison Brackett said that 100 dead fish were discovered. near the sludge area on Nov. 14. However, because the Fish and Came workere did not know of the sludge issue, the fish were dis. pueed uf before research could be-done. dons.

dons. And Nottingham organis farmer and crussder against sludge. Char-lie Reid, read aloud studies pub-lished in the New England Journal or Medicine which describe dis.

eases such as tuberculosis that manage to live in sludge. His comments were countered by a spokesman from the Portland wastewater Treatment center, who explained that most illness-causing agents were killed in the treatment process with lime. If any survived, they would need to be somehow ingested by a person who would then become its "host," a very unlikely possibility, he esid.

In the end, it was up to each resi-dunt to decide for themselves. Alian Dennis, the code enforce-ment officer for Lee, came to watch and learn. His town has been con-sidering having sludge applied to gravel pits to "reclaim" the land, he said. After the meeting, he was uncertain.

he said. After the meeting, he was uncertain. "I don't know," Dennis said. "I just think there are still a jot of questions that have to be an swered." He admitted he had never aitended a meeting that provided an autopey report first thing. He walked off with it clutched in his TLAND-

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Wednesday, January 8, 2002

Settlement reached in Greenland sludge suit

Man's death had been blamed on biosolids

By JAMES BAKER

Portsmouth Bureau Chief

died in 1995 allegedly after being exposed to biosolids spread near GREENLAND --- A 3-year-old court case involving a local man who his home has ended in a settlement

several weeks after nearly 650 tons of sewage sludge was spread for fertilization purposes on a 25-acre field less than 100 yards from Shayne Conner, 26, died in his sleep at his Tuttle Lane residence Conner's house

emitted from the sludge caused their son's death Subsequent to his death, Conner's parents, Tom and Joanne Marshall, sued Synagro Technologies, the owner of the Houstonbased company that spread the biosolid waste, contending the toxins

The lawsuit was initially brought against Wheelabrator Water Technologies, which was bought out by Synagro subsequent to Conner's death

Needleman, a Concord attorney representing Synagro County Superior Court, are being kept confidential, according to Barry Terms of the settlement, which was reached Friday in Rockingham

from Synagro's perspective, we're very pleased with the outcome, We had been working very hard on this settlement for some time, and "All I can say is the terms were mutually agreeable to both parties Needleman said

attorney representing the family in the case, could be reached for comment this Neither Conner's parents nor Finis Williams, a Concord-based

> scientifically conclude the toxins resulted in their son's death acknowledged that evidence presented in the case did not In a prepared statement from the settlement, the Marshalls

Conner's death, nor did the science prove that the sewage sludge caused any of the illnesses or injuries the other residents of Tuttle studge Synagro's predecessor applied on the Hughes Field in Lane allegedly suffered," the statement said. Greenland in October of 1995 caused or contributed to Shayne "The science developed in this case did not prove that the sewage

An affidavit filed in court on behalf of Conner's family by Conner's death the toxins from the biosolid waste could not have contributed to microbiologist Dr. David Lewis refuted testimony by Synagro claiming

supporting the contention that significant toxic gas emissions result from land-applied sludge, and there was no scientific evidence to application of the biosolids spread near Conner's home. Synagro attorneys contended that there was no validated data determine how much, if any, toxic gas emissions resulted from the

National Academy of Sciences have determined that biosolid recycling has proven to provide significant benefits and present Association, said in a prepared statement that sources such as the Ned Beecher, director of the New England Biosolids and Residuals "negligible risk."

case. We know from experience that sewage sludge is routinely sludge have been troubled by the kinds of allegations made in this "Those working daily to manage society's wastewater and sewage recycled safely.

using biosolids to enhance soil quality," he said scientific understanding of the environmental benefits derived from the rest of the population, so we found it hard to believe the Marshal "Wastewater treatment professionals are the people most exposed to sewage sludge and have been shown to be generally as healthy as case allegations. On the contrary, we are impressed by the growing

or jfbaker@fosters.com Portsmouth Bureau Chief James Baker can be reached at 431-4888

## **NEW HAMPSHIRE - SLUDGE DEATH LAWSUIT** SETTLED

## Marshall case settles.

Synagro Technologies, Inc. and others put out news releases this week regarding an out-of-court settlement reached in Marshall et al v. Synagro et al. Synagro did not reveal how much money they paid Joanne and Tom Marshall to settle. They emphasized that the Marshalls agreed to sign a statement that the cause of Shayne's death and illnesses reported by people in their neighborhood could not be scientifically proven. The press releases also emphasized that my work served as the primary scientific basis for the plaintiffs' case.

So far as the Marshalls having agreed to state that the science was not proven, plaintiffs' experts testified that exposure to sewage sludge, more likely than not, caused or significantly contributed to Shayne's death. Neither the Marshalls nor any of these experts have changed their opinion regarding probable cause. Winning the case did not require scientific proof of the cause of death.

When I agreed to serve as an expert on my own time and at my own expense, Joanne said that she just did not want Shayne to have died in vain. Shayne, she said, would have wanted to help make sure that what befell Shayne does not happen to anyone else. She wanted people all across America to know what happened to Shayne so that they could better protect themselves and their own children. She also wanted scientists to take another look at whether this practice is as safe as EPA and the industry claims.

As I sat at the rear of an airplane on July 13, 2000 and looked up the aisle, I could see <u>USA</u> Today open in every row to full-page stories on health hazards of sewage sludge and pictures of Shayne and Tony Behun. The CDC made new recommendations to protect workers, the House Science Committee held two hearings and introduced legislation to stop any more "For whom the bell tolls" letters from EPA, and the National Academy of Sciences was asked to take another look at the science behind the 503 rule.

I would say that Joanne and Shayne won, and won big.

There is a larger battle at hand now on which I have to focus. Synagro worked very hard at preventing scientific evidence from being introduced by the plaintiffs in the Marshall case. Synagro, at least one EPA official, and industry trade associations such as NEBRA worked together to spread false and misleading statements about my testimony, credentials, and experience. Several of these and other entities worked at preventing me from presenting our research at scientific meetings and publishing it in the scientific literature.

Now that the Marshall case has settled, Synagro and others boast that the science wasn't there. My job now is to see that appropriate institutions take a close look at what Synagro and others did to prevent scientific evidence from being published and introduced in court.

To start with, I filed a Labor complaint against EPA's Office of Water for, among other things, distributing Synagro's White Paper. The National Whistleblower Center plans to have much of the documentation regarding the White Paper up on their web site (www.whistleblowers.org) by Wednesday, January 16. This will include a thorough discussion of the nature of the many false statements in the document and the roles Synagro, one or more EPA Office of Water employees, NEBRA and others have played in distributing the material.

The EPA Office of Inspector General hopes to release its report on science behind the 503 rule on January 31. They asked me to review the draft report. It is both thorough and accurate.

Beyond this, other things are in the works that should be helpful toward improving the science behind the 503 rule and dealing with efforts by Synagro and others to prevent scientific evidence from being published and introduced in court.

## JANUARY 2002 - COMMENTARY BY DR. DAVID LEWIS ON THE SETTLEMENT OF SLUDGE DEATH LAWSUIT



FOR MORE INFORMATION, CONTACT: Kris Kolesnik (202)342-1903

## TOXIC SLUDGE PRODUCER PAYS HISTORIC SETTLEMENT Whistleblower Group Requests that Settlement Terms Be Made Public

The sludge industry has paid its first damage award as a result of a successful toxic tortwrongful death suit filed. On January 8, 2002, Synagro, Inc, the nation's largest sludge producer, paid the family of Shayne Conner an undisclosed amount of money in order to settle a wrongful death suit. The settlement is the first known payment of money to alleged victims of sludge-induced sicknesses.

"The settlement appears to be a complete vindication of the scientific critics of EPA sludge policies and industry practices" according to Kris Kolesnik, the Executive Director of the National Whistleblower Center. "It is inconceivable that a corporation such as Synagro, which has a reputation for aggressively defending sludge from any criticism, would pay a significant settlement award, if they did not fear losing the case," Kolesnik added.

Synagro was forced to settle its case as a result of the expert testimony offered by Dr. David Lewis, an internationally respected microbiologist and thirty-year veteran of the EPA's Office of Research and Development. Synagro deposed Dr. Lewis, who was awarded the EPA's Science Achievement Award by Administrator Carol Browner in 2001 for a groundbreaking article highly critical of the EPA's risk assessment of sludge, for five days.

As a direct result of Dr. Lewis' research on sludge, the National Whistleblower Center filed a complaint with the EPA Office of Inspector General, alleging that the EPA permitted toxic sludge to be dumped by companies such as Synagro, prior to the completion of six important scientific studies identified by EPA as needed to close gaps in scientific knowledge of health and environmental risk.

The Center provided the Inspector General's office with sworn testimony from EPA scientists who set forth their opinion that without the completion of these studies the EPA's approval of sludge dumping was "scientifically indefensible." The results of the EPA OIG investigation into the Center's complaint are expected to be released by the end of January 2002.

Additionally, as a result of the scientific concerns raised by Dr. Lewis, the EPA agreed to fund a

http://www.whistleblowers.org/release\_SludgeSettle.htm

1/18/02

The National Whistleblower Center has requested that the U.S. EPA obtain a copy of the settlement agreement in order to ensure that the agreement does not improperly gag the Marshall family from further exposing problems with the sludge rule. "Given the EPA's current approval of the dumping of toxic sludge, it is in the public interest for the EPA to obtain all of the information documenting the hazards of sludge which were uncovered during the Marshall litigation, " stated Kolesnik.

Kolesnik added, " The EPA also needs to know how much money was paid as a result of a law suit which alleged that an American citizen and taxpayer died as a result of exposure to a pollutant which the EPA permits to be dumped on land-sites which have no physical barriers preventing public contact with deadly pathogens."

The National Whistleblower Center has been able to obtain copies of some of the depositions taken in the Marshall law suit, including the transcripts of Dr. David Lewis' deposition. "In order to facilitate public understanding of the risks and hazards of sludge, the Center will make these documents available to the public. The public has a right to know the full story on sludge," Kolesnik said.

Sludge dumped by corporations such as Synagro, contains bacteria, viruses, fungi, and parasites that are potentially harmful to the public health and the environment. The NIOSH/Centers for Disease Control issued a Hazard Identification Advisory in August 2000 warning that sewage sludge contains human pathogens and that exposure to sludge may result in potentially serious to life-threatening infections.

\* \* \*



Nuclear Safety | Model Legislation | Whistleblower Legislation] Attorney Referral Service | Publications | Law Library | Legal Protections| Contributions | Forensic Justice Project | Search | Top of page | Home



http://www.whistleblowers.org/release SludgeSettle.htm

1/18/02

	EPA report COPPODER A PORT COPPODER A PORT COPPODER A PORT COPPODER A COPPODER STARE MARTIN STARE WRITER A U.S. Environmental Protection Agency microhiologist transferred after criticizing the agency over a lack of scien- tific investigation into policies that allow the spreading of sewage sludge on agricultural lands won some vindication this week. The EPA's Office of Inspector General issued a report that corroborated his con- cerns that the health and environmental risks from sludge-spreading need further evaluation. "The report shows that the EPA didn't get the science right and has no idea how much the public health and the environ- ment may have suffered as a result," said Dr. David Lewis.		nome   sports   Business   (		Sun con
	at a contractive half meeting in Arcadia last month. His presentation came at the invitation of anti-dadge activity Mari Hollingsworth of Pert Charlotte. Hollingsworth of Pert Charlotte. Hollingsworth began pushing for restrictions on shalper after two of her children, who lived on her former father- in-law's ranch in DeSoto County, came down with retavine. The ailment could have come from shalper spread on the ranch. Lewis staid. "Stories like the one described by Mari are occurring across the country, from the East Coast to the West Coast, and in Canada as well," Lewis said. Lewis is an employee of the EPA's Office of Research and Development. He was a member of the EPA research team that first revealed a decade ago the AIDS vinus could be spread by dental drills. But Lewis was transferred from that office to the University of Cienzia after he criti- cized the EPA in a 1929 attick published in the British journal "Name." The article cited EPA's failure to counted scientific evidence in making several pelicy decisions. Lewis cited not only shudge spreading but also an EPA tate adopted in the early 1990s that required that an pollution	FROM PAGE ONE	Classifieds   Charlotte News   Engley		FLORIDA
	Scientists had warned the chemical MTBE to be added to gasoline Scientists had warned the chemical would wind up in drinking water, a warn- ing that proved true. Lewis said an assistant administrator of the agency 'Took offense' at the article. Stripped of his lef's multi-nallion-dol- lar research budget, Lewis leanched a low budget study of sludge and health in the fate 1990s. He and an assistant sur- veyed 48 people residing near sludge operations who had complained of ail- ments and noxious odors. The cases studied also included a man who died in New Hampshire in 1995 and an 11-year-old boy who died in Pennsylvenia in 1994. He found that 25 percent of the people in the study were diagnosed with staphy- lococcus aureus – - including the two who died. Such infections would be expected in sludge workers, is estail. He also found that most of the people reported burning longs and coughing before getting ill. Lewis theorizes that chemical irritants in the sludge, including toxins that are left over after a certain basteria dies off, caused the inflammation. That would make those		wood News   North Port News   DeSc	THE An Audu	
-	People noce susceptible to infections. "I thought, hore's a tnechanism for infection that has not been considered before." He said. In Nowember 2001, Lewis presented his theory in a speech at the University of Boston School of Pablic Health. He also published an article about it. "That carned Juin the wrath of the sludge industry. "David Lewis." article' appears to be little more than lis fatest effort to improp- erty cloak his invalidated and unpub- lished theories on biosofids with the cred- ibility of the EPA," wrote Albert Gray, deputy director of the Water Environment Federation, in a February letter to EPA Administrator Christine Whitman. The OIG identified more than 10 major problem areas under the current sludge rule and warned that "the EPA cannot assure the public that current and appli- cation practices are protective of hurnan health and the environment." In response to the OIG's teport, Whitman called for the 'National Academy of Sciences to expedie the completion of its research on the topic The NAS report is due act month.	The Sun /Saturday, April 6, 2002	to Nev	SCH1	

## SLUDGE VICTIMS - BOB AND JUDY WITHINGTON, CANAAN, NEW HAMPSHIRE

In January and February 1997, shortly after feeding his herd corn silage recently purchased from an area farm, Bob and Judy Withington's dairy cows got sick and started dying. The adult cattle suffered from severe diarrhea, dehydration, weight loss, decline in milk production, problems breeding back, stillbirths and death. Some of the calves appeared to die of toxic shock.

Despite the best efforts of his veterinarian, 33 cows died. Desperate for help, Bob contacted the State Veterinarian, State Milk Inspector and Dept. of Health and Human Services. On April 10, 1997, Bob called Mike Rainey, NH DES sludge office. Bob had noticed gobs of a gray substance mixed in with the silage which was delivered to his farm. He told Rainey his cows were getting sick and dying and he thought SLUDGE might have something to do with it.

EVERYONE, INCLUDING RAINEY, BLEW HIM OFF. They refused to investigate and did nothing.

Later in the Spring, 1997, Bob got sick. He lost the feeling in his hands and arms; his legs and feet were cold and numb; the doctors were baffled and suggested it could be some kind of a neurological disease such as MS, or a brain tumor ... basically they were clueless. Bob suspects his disease is related to whatever killed his cows. The State Health agency took blood samples and fingernail clippings from Bob, and blood and hoof scrapings from the surviving cows. They said there was no evidence of heavy metals.

Bob Withington contacted me the last week of December, 1997. I checked my files and this is what I found:

(1) From September 1995 through December 1995, BFI stockpiled 353 tons of Class B sewage sludge from the heavily industrialized City of Springfield, Mass. and 256 tons of paper mill sludge on the farm where the corn silage Bob had purchased was grown.

(2) In May 1996, BFI applied to NH DES for permission to landspread this sludge which had been stockpiled on site for over 6 months.

(3) UNH Cooperative Extension Service SOIL TEST REPORT dated May 17, 1996 on this farm site indicated a pH of 7.1 and calcium saturation of 87.1%.

UNH report says selected crop: "CORN SILAGE FOR 1996"

The Report also says: "The pH already exceeds the desired range of 6.4 to 6.6. Additional lime is not recommended. Because the calcium saturation exceeds 80% DO NOT APPLY WOOD ASH OR LIME-STABILIZED BIOSOLIDS to meet lime requirement (if any)."

(4) In letter dated August 8, 1996 to NH DES, BFI said they wanted TO SPREAD THE LIME STABILIZED BIOSOLIDS from Springfield, Mass. on this site. (Which had been stockpiled there since Fall 1995).

(5) Test of the Springfield sludge on this site dated October 24, 1995 indicated a molybdenum content of 11.4 mg/kg (parts per million) and a phosphorus content of 5900 mg/kg (ppm).

CORNELL WASTE MANAGEMENT INSTITUTE, 'CASE FOR CAUTION' (regarding landspreading sewage sludge) says molybdenum availability in soils is enhanced by alkaline soil conditions and high phosphate fertilization. ...... Under such conditions, 2 to 3 mg/kg of total molybdenum in soil has produced forages WITH TOXIC CONCENTRATIONS FOR RUMINANTS.

MIKE RAINEY HAD ALL THIS INFORMATION IN HIS FILES WHEN BOB WITHINGTON CALLED HIM ON APRIL 10, 1997 AND pleaded for help. Rainey told him absolutely nothing !!. Molybdenosis in dairy cows causes severe copper deficiency. If Rainey had told Bob Withington the truth, his herd might have been saved by immediate treatment with copper sulphate!

I investigated further by filing a Freedom of Information request with Region 1 EPA and learned the following: At the same time BFI was hauling Springfield sludge to NH for stockpiling, (Fall 1995) -- the molybdenum content of that sludge doubled and even tripled!! (JULY 1995, molybdenum was < 9 ppm -- AUGUST 1995, molybdenum was 21 ppm --SEPTEMBER 1995 molybdenum was 33 ppm -- OCTOBER 1995 - MOLYBDENUM was 20 ppm.)

An analysis of some of the corn silage remaining from those fateful loads revealed MOLYBDENUM LEVELS 4 TIMES HIGHER THAN NORMAL.

It is interested to note the trucking company never billed the Withingtons for the last 2 truckloads of corn silage after they learned Bob's dairy herd was getting sick and dying. Judy asked about the bills (which total over \$1400) but the trucking company kept putting them off and never asked for payment. (Guilty conscience?)

The Withington's "Homeagin Holstein" farm -- Just another dairy herd destroyed by the toxins in sewage sludge and deceitful bureaucrats who protect the waste industry at all costs!

Bob and Judy Withington, RD#2, Box 25, Canaan, NH 03741 - 603-523-7771



## Subject: Sarcoidosis in Kansas City, Mo.

Date: Wed, 4 Apr 2001 05:29:35 EDT

From: TheBynums@aol.com

To: hshields@worldpath.net

Relene:

Sarcoidosis is a rare illness which is difficult for the doctors to diagnose. It is a suspect when nodules appear on or under the skin, calcium is high in the blood, or growths appear in the lungs. While it is a reoccurring illness with about a 5% death rate, most of the symptoms will disappear after a period of time.

The first confirmed case of Sarcoidosis that can be associate with the Kansas ity toxic sludge dump site was about four years ago when I was still in Texas. On a visit to Kansas City, I took a friend (Don D.) with me to inspect our farm which is contaminated by run off from the site. He and I both became lick shortly after our visit. The problem was he thought his illness was brought on by breathing fertilizer dust and I thought my problems were caused by old age.

It took over a year for the most recent case of reoccurring Sarcoidosis to be diagnosed. We thought Jerry Breeden, who had hunted on the farm, was going to die before figured out how to control his symptoms. It was only when the prowths appear in his lungs that the doctors finally made a diagnosis. It was they two weeks ago when I mentioned this to Don D. that he actually told me that he had been diagnosed with Sarcoidosis.

The primary difference between myself and Don D. being diagnosed with Darcoidosis was that he had better insurance and more time to consult with the doctors. Four are doing a great job. Tim Bynum

## MISSOURI - KANSAS CITY SLUDGE VICTIMS SUFFER SARCOIDOSIS

Subject: sarcodiosis/Gilmanton Date: Sat, 20 Jan 2001 12:28:54 -0500

and the substantial and a second state of the second states and the second states and the second states and the

3/6/01 10:34 AM

From: "Diane St. Germain" <dianes33@worldpath.net> To: Helane Shields <hshields@worldpath.net>

di San San

Talking to a nurse down-wind from sludge site. Said her neighbor-age 39-who developed sarcodiosis within the last few years, died last August. Her house is about 1500 feet downwind from sludge site. See the following discussion of 'etiology' of sarcodiosis:

The International Thoracic Teaching Resource: Diseases of Altered Immunity and Diseases of Uncertain Etiology

Jargoigosis

Jeffrey R. Galvin, M.D. Michael P. D'Alessandro, M.D. Yasayuki Kurihara, M.D. Peer Review Status: Internally Peer Reviewed

Clinical Sx:

Dif of the patients with Sarcoidosis are asymptomatic at diagnosis. Constitutional symptoms when present include weight loss, fatigue, weakness, and malaise. Symptoms of dulmonary involvement such as dry cough and shortness of breath develop in 20-30%. The incidence of coular involvement is about 10-30%.

Etiology/Pathophysiology:

The etiology is unknown. Granulomatous inflammation is invariably present and there is \*speculation that this is a response to inhaled toreign material\*. The most likely agents are \*mycobacteria\* and less likely gram-negative bacteria. However, culture from affected tissue is Almost always sterile. Additionally, there is no evidence of diman-to-human transmission of the disease.

## NEW HAMPSHIRE - GILMANTON - 59 YEAR OLD NEIGHBOR DOWNWIND OF SITE WHICH HAS BEEN SLUDGED FOR MANY YEARS, DIES OF SARCOIDOSIS.

2

## STATE OF NEW HAMPSHIRE

MERRIMACK, SS.

.....

## SUPERIOR COURT

MARCH, 1999

## SIERRA CLUB

v.

STATE OF NEW HAMPSHIRE and ROBERT W. VARNEY, in his official capacity as Commissioner of Department of Environmental Services

## 98-E-0417

## AFFIDAVIT OF JOHN CERIELLO

I, John Ceriello, being first duly sworn, do hereby depose and state as follows:

 My name is John Ceriello and I reside at 138 Deer Meadow Road in Webster, New Hampshire.

2. I am a member of the Sierra Club.

3. Approximately 2 years ago, Wheelabrator came with sludge from Lowell, Massachusetts and dumped it on a field across the brook and behind my house.

4. The odors and smell from the sludge made it inhospitable to live around my residence for weeks.

5. I am concerned about my daughter's health because her asthma flared and greatly got worse during this time period. In addition, after the dumping of the sludge, my daughter's asthma has been significantly worse than it was prior to the dumping of the sludge.

6. During a several week period after the sludge was dumped, my entire family would get nauseous, have dry heaves,

## NEW HAMPSHIRE - WEBSTER - SLUDGE VICTIMS SUFFER NAUSEA, DRY HEAVES, BURNING EYES, BURNING THROAT, WORSENING ASTHMA.
have burning eyes, and have throat burn. I am concerned about my family's long-term health effects from the being exposed to the sludge. The smell of rotting flesh would be a pleasant smell in contrast to the smell of the sludge.

., **.**,

7. My wife and I called the Department of Environmental Services ("DES") numerous times to complain about the sludge and received no help. The DES refused to come out and even investigate.

8. The nearby brook has been destroyed from the sludge.

9. I became active with the Town of Webster to get them to pass a town ordinance to ban sludge disposal. I spoke at the Town Meeting to ban sludge disposal. Webster passed a ban ordinance.

10. I am also aware of other neighbors in the area who have had similar difficulties to my family after the sludge disposal.

Jøhn Ceriello

. . [

STATE OF NEW HAMPSHIRE MERRIMACK, SS

Personally appeared before me the above-named John Ceriello who made oath that the foregoing facts in his Affidavit are true to the best of his knowledge and belief.

-mary ( Notary Public/ Justice of the Peace

#### SLUDGE DESTROYS TROUT STREAM.

2

#### STATE OF NEW HAMPSHIRE

MERRIMACK, SS.

SUPERIOR COURT

MARCH, 1999

#### SIERRA CLUB

v.

STATE OF NEW HAMPSHIRE and ROBERT W. VARNEY, in his official capacity as Commissioner of Department of Environmental Services

#### 98-E-0417

#### AFFIDAVIT OF ANGELA CERIELLO

I, Angela Ceriello, being first duly sworn, do hereby depose and state as follows:

1. My name is Angela Ceriello and I reside at 138 Deer Meadow Road in Webster, New Hampshire.

2. I understand the difference between telling the truth and telling a lie

3. I am 12 years old and the daughter of John Ceriello.

4. I remember when the sludge was dumped on the farm field near my house because it made me sick. My asthma got much worse and I could not breath. I had to go on medication for my asthma and my asthma is worse now than it was before the sludge was dumped on the farm field.

DATED: 3-16-99

Could Angela

1

#### Fear's scent remains over sludge

#### By Susan Maddocks-Heruld Stuff

GREENLAND -- Each of the

GREENLAND — Each of the 70 people who filed into the-stuffy basement of the local ichool carried a copy of the autopay report. Signed by acting Chief Medi-cal Examiner James A. Kaplan, it denised any connection be-tween the unaxpected death of a 26-year-old Tuitie Lane man and the site very near his home where ions of sludge was recen-uly dumped. Shayne Michael Conners. of 155 Tuitie Lane, oled in his sleep on Nov, 24. But the piece of paper did died in

#### What's in sludge'

According to rea ire at Cornell University and a report of the ean Boolety of Chill Engineers, the following sub typically found in sludge, which is the and produ are b suct of weat

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Chierinisted sevisides: DDT. delan, aldrin, andrin, anierdene, heatachor, Indane, mirst, kepone, I.d. - T. 8.4.- D
Heavy matsia scartis, andrimum, shromkum, copper, lead, mercury, nokel, sing
Bereire, viruses, preteises, parashte worms, fungi
Bereire, viruses, preteises, (abastes), perpisus products, in-Latrial solvens, ion, poli, nitrogen, prosphere, presenter, escium, escium,
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Perynusiaer aromatic hydroearbene.

little to same the fears of those

gathered to isarn more about the contentious subject which reared its head over a month

ago, when Tuttle Lane neigh-bors first noticed a horrible smell wafting from a nearby field.

The sludge was spread by Wheelsbrater Clean Water Systems, after it was bucked from Portland's wastews for

from Portland's wastewriter Trastment conter. Since then, neighbors say they have been maging at amall. Others have taken Sick with vomiting, diarrhea, head-daches and breaching dirp-culty. And most have remained angry that they ware never not-tified of the procedure, and fear-ful that the human waste may harm them.

harm them. Last night at the Oreenland Central School, print and rec 10 reporters, along with taley/Side

#### See Sludge, Page B



Staff photo by Deb Cram

Charles Reid of Nottingham, an organic farmer, describes ingredients he said are in the controversial human-waste fertilizer known as blo-solids. He spoke at a well-attended public meeting in Greenland last night.

## Greenland seeks answers

#### Sludge from Page A1

... and they say public access to the land has to be restricted for 30 days. What I'm saying is that this days, what I'm saying is that this shows there is a risk factor," said Tuttle Lane resident Charles Schiadenhauffen, "When can the people go back? When can the ani-mals go back? What saactly is the side we'r dealten with?" risk we're dealing with?" Forste explained that the sludge

Forste explained that the sludge' is so safe — testod for heavy matale' and treated with lime to kill becy toria — that she personally used it in her own back yard for fertilizer. "I'm saying there has never been a documented case of illness," con-nected with sludge. "There, have been allegations," Forste said, be-fore adding that she foll very com-fortable using it on her lawn.

However, if residents demanded it, she said Wheelabrator would work with the DES to study the heavy metal content and bacteria

sion crews from at least two local sistions, lined one wall as officials from the state Department of En-vironmontal Services and Jane Porste, a top spokeswoman from Wheelabrator's Annapolie, Md., headquarters, fielded questions and comments. "I'm looking at (the documents) end they say public access to the state of areas.

Meanwhile, the information against sludge continued to pile

against sludge conducted to phe-high. Local Conservation Commis-sion member Alison Brackett said that 100 dead fish were discovered. near the sludge area on Nov. 14.-However, because the Fish and Oame workers did not know of the sludge issue, the fish were dis-posed of before research could be-done. done.

done. And Nottingham organis farmar and crussder against sludge, Char-lie Reid, read sloud studies pub-lished in the New England Journal lished in the New England Journal of Medicine which describe dis.

sases such as tuberculosis that manage to live in sludge. His comments were bountered by a spokesman from the Portland Wastewater Treatment center, who explained that most tilness-causing agents were killed in the treatment process with lime. If any survived, they would need to be somehow ingested by a person who would then become its "host." a very unlikely possibility, he very unlikely possibility, he . an tri

In the end, it was up to each resi-dunt to decide for themselves. Allan Dennis, the code enforce-ment officer for Lee, came to watch and learn. His town has been con-sidering having sludge applied to gravel pits to "reclaim" the land, he said. After the meeting, he was uncertain

he said. After the meeting, he was uncertain. "I don't know," Dennis said. "I just think there are still a lot of questions that have to be an-swered." He admitted he had never attended a meeting that provided an autopay report first thing. He walked off with it clutched in his hand.

NEW HAMPSHIRE - GREENLAND - 100 FISH IN NEARBY STREAM KILLED BY SLUDGE

may 6, 1975 = To whom it may concern, WHITE FIELD'NH Our expierence with B.F.I. and spreading sludg is not a good one. The summer of 1994 for our family, living next to the Bean Farm was terrible. The smell coming from the sludge was nauseating We had more huge fleps around than we've ever seen. We all had upper resperatory problems well into the next year. Our sone baby came down with whoppin cough after the spreading + spent a week in the hospital Breathing the particles that flew into the air as the wind blew may have caused everyones immune supteme to be weakend. We could not enjoy our property, no use of our deck windows had to be closed in the worst helt of the summer months. We couldn't invite people to our ho. Cook outs ect.) because the smell was overwhelming. This was the theme for the whole year, Even after the spredding the smell was terrible, We went to our selectmen along with Mr. Been + B.F.I B.F.I. Went up to the farm with Mr. Bean, who agreed to till up the soil with more lime + mulch put on the top of the ground. Even after that, you still could smell the ader until we finally had a snow fall cover the ground. Neighbors should not have to be subjected to this kind of abuse! Sincerly Jerry Hufkin + > Blad Fulkin

NEW HAMPSHIRE - WHITEFIELD - SLUDGE VICTIMS SUFFER UPPER RESPIRATORY INFECTIONS, HUGE FLIES, NAUSEA, COUGHS, IMMUNE SYSTEM DAMAGE.

#### TILTON, NH - WELL CONTAMINATED BY SLUDGE - UN THE RECORD ...

On September 4, 1997, the Tilton Board of Selectmen met with Wheelabrator regarding their plan to spread 814 tons of Class B sewage sludge from the heavily industrialized City of Lowell, Massachusetts, in a Tilton gravel pit. This was to be Phase 1 of a 5-year sludge plan.

To prevent nitrates and other sludge pollutants from leaching into groundwater, Wheelabrator said they planned to spread newspapers in the gravel pit and put the sludge on top of the newspapers.

Mike Rainey, N. H. Department of Environmental Services (NH DES) told the Tilton Selectmen there has never been a documented case of a well being contaminated by sludge.

Mr. Richard Bachelder, 506 School Street, Tilton (286-4031) told the Tilton Selectmen that the well of his neighbor, Mrs. Terry Snyder, was contaminated by Lowell sludge spread 3 years ago by BFI.

Bachelder said Mrs. Snyder had her well tested before the sludge was spread. The water was time. After the sludge spreading, the test revealed the well was contaminated by E Coli bacteria. (Testing was done in accordance with accepted protocols by State Laboratory.)

Mr. Bachelder said Charlie Hanson (at that time still employed by BFI) came out, looked around, and told Mrs. Snyder her well contamination was caused by a bird feeder.

Mr. Bachelder said Mrs. Snyder complained to the NH DES. He said the NH DES did everything they could to AVOID "documenting" Mrs. Snyder's well contamination. Bachelder said based on the way the NH DES handled this case, "...there is no way any well will be documented!"

Mr. Bachelder told Mike Rainey that the NH DES "...did a horrible job" ... and that "...if you put an effort into investigating, there probably would be hundreds of cases (of contaminated wells)."

NEW HAMPSHIRE

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#### What's new?

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#### Keene's sewer plant no longer fouls the air in Swanzey (8-17-00)

By TEAL KRECH for SentinelSource

NORTH SWANZEY -- To one person, they look like balloons. To another, mini-octopuses. But, to the eye of Donna Hanscom, lab manager at the Keene sewer plant, they are dancing bouquets.

An odd vision, no doubt, of the condoms that survive their journey from Keene's toilets to the plant hidden behind Dillant-Hopkins Airport in North Swanzey.

They are not the only things that escape the teeth of the grinder that is supposed to chew up everything that heads into the plant.

There are all sorts of unflushables: A Sharpie pen, a pink maxipad wrapper and pieces of plastic churn in a massive vat into which up to 3 million gallons of sewage pours each day.

However, perhaps most importantly to neighbors, the plant doesn't (sniff, sniff) smell that bad -- amazing, considering that every time a Keene resident flushes his toilet, it comes out here. After 13 years of complaints about odors wafting from the sewer plant into neighboring back yards, the past two years have been pretty quiet, Hanscom said.

It wasn't always that way.

Since the day the first drop of sewage trickled into the plant in 1985,

#### NEW HAMPSHIRE - SWANZEY - VICTIMS OF SLUDGE COMPOSTING FACILITY REPORTED SKIN RASHES, NAUSEA, HEADACHES, WATERY EYES AND RESPIRATORY PROBLEMS.

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Hanscom has listened to neighbors' concerns. In the beginning, she concedes, there were things that didn't smell that good.

Such as the windrows. Those were the 12 piles, each 8 feet tall and 10 feet wide, of the leftover solids mixed with wood chips -- to ease the scent -- and laid out to dry.

"It was one of the few odors I ever smelled," she said. "It was musty, like a cellar, or when you kick a dead tree. It didn't smell that good. But it was one the first things we stopped doing."

Instead, starting in 1987, that sludge was sent to the city landfill. Now, at 569 per ton, the city ships 4,200 wet tons of the sludge to northern New Hampshire for disposal each year.

Neighbors still complained about the smells.

In response, the city updated the plant's technology.

The key is oxygen, Hanscom explained. Oxygen keeps sewage from "going septic."

In 1991, the city installed oxygen-injection equipment at a major sewage pumping station at Martell Court. In the late 1980s, the plant had stopped adding chlorine to the treated water before it emptied into the Ashuelot River.

At the time, chlorine was standard treatment to kill naturally occurring bacteria that, essentially, eat sludge. These little guys live for 12 to 30 minutes, just enough time to chow down and reproduce. Today, the plant instead uses ultraviolet lights, which sterilize the bacteria before they go into the river.

Also, a few years ago, the plant switched a major part of the cleaning process -- from mechanical mixing to diffused aeration. That reduced splashing and increased oxygen in the massive cleaning vat. "We switched to aeration for energy and efficiency reasons," said Kurt Blomquist, director of Keene public works. "A side benefit was the reduction of odor."

Air scrubbers over the sludge holding tank have also reduced odors, he said.

"But, odors are biologica!," Blomquist added. "The treatment of waste water has an odor. One way you can tell that everything is working right is how it smells." Neither Blomquist nor Hanscom has heard any sewer-smell complaints in a while.

"I haven't received any in the last two years," Hanscom said. "But that doesn't mean people aren't unhappy," she added quickly.

After neighbors' complaints, the state government conducted a series of air-monitoring tests and cancer studies in 1987 and 1998. However, nothing out of the ordinary was found.

In 1998, the state health department studied cancer rates in Swanzey. Residents had reported skin rashes, nausea, headaches, watery eyes and respiratory problems.

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The study found high rates of cervical cancer between 1987 and 1991, but concluded that the sewer plant could not have contributed to the increase. Rather, smoking, sex at an early age, multiple sex partners and a certain virus, called human papillomavirus, are known to be linked to this type of cancer.

Charles R. Beauregard Jr., chairman of the Swanzey selectmen, says he, too, hasn't "heard any complaints for more than a year now. "I assume there aren't any. But I guess you should never assume anything." True, considering Keene's sometimes rocky relationship with Swanzey. The question has been asked: Even if there wasn't anything legally wrong with the plant, was it ethically fair for the city to send its smelly sewage to Swanzey?

Many people have said no.

But Swarzey can reap some benefits from the plant. The town owns a portion of the plant, which is designed to process twice as much sewage as it currently does, Beauregard said.

Right now, West Swanzey has its own sewer plant, but people and businesses in the rest of town have their own septic systems. But if they ever want to tap into the airport plant, they can.



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#### **BIOAEROSOLS - SUFFER BURNING NOSES, EYES AND** LUNGS; NAUSEA AND VOMITING

But there are voluntary guidelines, which Kelly said pertain to being a good neighbor judgment in determining prevailing winds and weather conditions," and "in particularly much high-quality sand, neutralizing the odor. But he did not find fault with the city or Wojnilowicz said the compost will be used on Holes 8 and 12 and Green 7. "This has The guidelines include, "Avoid storage in densely populated areas," "use your best "I don't think it's fair to say that anyone didn't follow the guidelines or the mixing immediately, so they have been mixing as they need the material. "It got so wet and such a high nutrition value," he said, adding he would love to use it on his garden. Kelly said contractors generally immediately mix the compost with five times as He said he "highly doubted" the city would use the site again for compost. "I'm neighborhood all said they were not informed the compost pile would be there. Also, the manufacturer of the special sand had problems supplying it, he said. densely populated or high public-use areas, inform neighbors of the intended Bautis said weather prevented his workers from mixing all of the compost formula," said Kelly. "They're suggestions on our part, not a requirement." Three neighbors and the school principal in the fairly densely populated mucky in here," he said. "The weather didn't really cooperate with us. The information on this site is coperizitied and cannot be tensed without the permussion of The Union Leader. "They didn't say a word," said neighbor Steve Wall. "Not a word." Return to Front Page going to try to find a better site and utilize that." and are not motivated by health concerns. application dates." the contractor. "We're trying to deal with educating kids, keeping them focused on learning towards The odor is strongest when the compost is disturbed. And when the pile was dumped near the school Thursday morning, the smell and a white cloud were blown toward the LeMay and school nurse Pat Marsh-Thorell said they did not. "There were absolutely Fellow student Dustin Edson said he came close to throwing up. "I was about to, but the end of the year, and this is a big distraction," said Jill LeMay, the principal, who is As people caught a whiff, teacher Wendy Black said, the school was quickly "locked "It stinks, you know. Like if you dumped horse manure," said Ron Ludwig, director down" as if in some kind of emergency drill. Black said that as students and staff beat New England Organic's Ecker said company employees work with the material 250 "That was disgusting," recalled Jason Savoie, 10, who said he got sick "a little bit." no students who came to the school nurse's office ill," Marsh-Thorell said. She said Department of Environmental Service. A DES representative took samples Friday. Three teachers separately told The Union Leader they had been informed students About noon, a reporter found the odor mildly offensive, but hardly overwhelming. But when the material was moved about 5 p.m., he found the odor difficult to bear. "I'm not saying there weren't people who were feeling nauseous," Marsh-Thorell a hasty retreat from the nasty smell, someone yelled out, "The children are getting days a year without ill effect. "People get sick and kids get sick," he said. "I find it of parks and recreation. "It has an odor we're not always used to in the city these Still, a group of students playing on the jungle gym after school said about eight also concerned about a much larger pile of dirt from construction at West High Exactly whether students did vomit from the odor is not clear, however, she didn't see any students vomiting or any vomit outside. The only problem, Ecker and Kelly said, is the odor. had vomited, but none actually saw anyone get sick. then my teacher told me to go get a drink of water. school playground, where students were outside. highly unlikely that they got sick over this." School's athletic fields. students vomited.

Sick

and farmland under strict health and safety rules. There are no rules for applying this <u>Ecker described the material as "Grade A" biosolids</u> — different from the lime-stabilized studge, or Class B biosolids, that are sometimes applied to gravel pits

material, he said.

#### ROLLINSFORD, NEW HAMPSHIRE -- CLUSTER OF SICKNESS AND DEATH ADJACENT TO SLUDGE SITES

Between November 10, 1995 and December 27, 1995, (the same time period the sludge sicknesses and the death in Greenland, NH, occurred) 35 loads of lime stabilized Class B sewage sludge were dumped on the Viel farm fields in Rollinsford, NH.

(No public hearing had been held in Rollinsford. The hearing did not occur until March 1996.)

The sludge stockpiles were not covered, and neighbors say the odor was horrific when the spring thaw set it. The wind blows directly to a densely populated residential area near the fields. One field is about 500 feet from a secondary town water supply. Rollinsford has had problems with fecal coliform in drinking water.

School teacher Diane St. Germain of Barnstead, NH (603-269-7851) researched Rollinsford town records and talked with neighbors of the sludge sites and found the following clusters of sickness and death:

\* The brother of the operator of the Viel fields died in early June 1996.

\* Spring of 1996 - a 4 year old girl (abutter) begins a round of infections that antibiotics don't help. Several trips were made to Child's Hospital in Boston. Child still has gastrointestinal problems with viruses, etc. Immune system problems persist.

\* 14 year old girl who lives near the site was diagnoses with a tumor on her ovary after the sludge was spread. Surgery was necessary to remove the tumor.

\* 1996 - woman abutter was diagnoses with Parkinsons Disease. (She had never received a notice of the sludging.)

\* 1999 - a man three houses down from the woman with Parkinsons was also diagnosed with Parkinsons. (Parkinsons is related to zinc, copper, mercury, alkylated phosphates and organochlorides.)

\* An abutter to the fields died in July 1996.

- \* The operator of the Viel farm died himself in January 1997.
- \* Another abutter died in February, 1997.
- \* Another abutter died in March 1997.

\* A young mother has 1 1/2 pound baby at 6 mos. gestation about a year after the spreading. She had 2 normal pregnancies before the sludge was spread.

\* A 36 year old mother who was an abutter was diagnosed with cancer about a year after the sludge was spread. She died in April 1998.

\* Numerous other deaths of abutters, some within days of each other, after the fields are worked in 1997, 1998 and 1999.

\* As of January 2001, Viel, the same of the dairy farmer who spread the sludge, has all the land up for sale. We believe he has sold all the cows.

\* Numerous houses of spouses of deceased (abutters and those who live near the fields) are up for sale.

\* Joseph Williams of Rollinsford, NH - an abutter, tried to fight the Portland sludge in March 1996. He was the only opponent at the time, but had done a great deal of research and has all the facts about the deliveries. He withdrew from the fight and involvement in the sludge issue after it was spread. His telephone: 603-749-6392.

\* March 2001 - A young woman who lived near the sludge site gave birth to her first child (2 months premature); child has a serious heart abnormality; prognosis is uncertain at this time.



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Roland Veno	72	160 General Sullivan Way	04-14-00
Peter Valhos	84	Silver Lane	03-26-00
Henry Blais		215 Clement Street	11-04-99
George Lord	~-	422 Silver Street	10-14-99
Diane Mott	40	451 Silver Street	10-02-99
Gerard Caron	77	111 General Sullivan Way	09-19-99
Raymond Brown	70	216 Somersworth Road	09-11-99
Florence Eastman	85	478 Silver Street	09-11-99
Beatrice Day	67	162 Somersworth Road	09-09-99
Leonard Morin	76	553 Silver Street	08-17-99
Laurent Michaud	72	575 Silver Street +	08-14-99
Beatrice Goff	75	Pease Lane	06-01-99
Christina Janetos	-	250 Rollins Road	05-27-99
George Hannon	66	978 Portland Avenue	05-09-99
Edward Simmons		Roberts Road	04-24-99
Charles MacIntyre		Willey Street	03-01-99
Margaret Chambers		437 Stockdale Circle	11-26-98
Delores Lindbohm		279 Rollins	09-05-98
Patricia Zammit	36	424 Rollins Road	04-16-98
Leo Thivierge	52	601 Silver Street	02-12-98
Henry David Rogers		619 Silver Street	11-19-97
Ralph Adams Phipps		589 Silver Street	09-21-97
Rose Margaret Townes	69	476 Portland Avenue	08-12-97
James Porter Roberts		434 Silver Street	06-15-97
Rose Roberts		434 Silver Street	05-31-97
James Aikens		333 Sligo Road	03-18-97
Clyde Roberts		898 Portland Avenue	03-08-97
Ovid Roland Viel		71 Roberts Road	01-05-97
John S. B. Logan	56	7 Stockdale Circle Annex	10-05-96
Alice Brown	65	216 Somersworth Road	07-16-96
Albert O. Viel	85	439 Rollins Road	06-11-96
Lorraine Place	59	557 Silver Street	01-24-96
Eugene Berube		Willey Street	12-07-95
Donald Toy nes	67	476 Portland Avenue	-95

Deaths in Rollinsford—Residents in close proximity to sludge fields

# **Abutters Object to Sludge Spread in Bristol Hayfield**

182 tons of biosolids from a Nashua wastewater treatment plant on a 13-acre hayfield off Route 104 this week.

"We're going to take this to the zoning board to see what can be done," said Donna Norris, owner of the Fox Meadow Retirement Home.

John P. Morrison, Sr., owner of the property, said two-thirds of the sludge was spread on his field Monday and the balance yesterday. "There was absolutely no odor," Morrison said.

Town Administrator Dexter Bucklin said he visited the site Monday when the material was spread and didn't detect any odor. Bucklin said he also went into the sandpit where mounds of sludge mixed with wood ash were stored and didn't smell mything.

But abutters insist that town officials failed to uphold its order to Morrison and BFI Organics to remove all sludge stored at the site last fall. The town should have fined Morrison and the firm \$100 a day, as stipulated in the town's obnoxious odor ordinance, neighbors said.

A portion of the material which had been mixed with lyme was hauled away last fall but the balance - ris said.

BRISTOL — Abutters say town officials ignored — mixed with wood ash from the Ryegate, VL their concerns by allowing BFI Organics to spread power plant — remained at the site all winter, Mor rison confirmed.

Last week, abutters asked selectmen to halt the spreading of sludge because all neighbors weren't notified of a public hearing held by BFI earlier this month.

Norris said she sent a letter by fax from her attorney to BFI Organics Saturday and hand delivered a copy of the same letter to Morrison and selectmen the same day.

The letter stated her objections to the sludge spreading and noted that three abutters weren't properly notified as required by state regulations. Spreading the sludge also violates the nuisance provision of the town ordinance, according to Norris.

She told officials in the letter that she will pursue the matter through town boards, and possible the courts. Elderly residents, family members and slaff suffered health problems last summer from the ob-

noxious odors, Norris charged. "That stuff they left there doesn't smell until you dig into it, and then it smells to high heavens," Nor-

#### **NEW HAMPSHIRE - BRISTOL - FOX MEADOW RETIREMENT HOME - "ELDERLY RESIDENTS,** FAMILY MEMBERS AND STAFF SUFFERED HEALTH PROBLEMS LAST SUMMER FROM THE OBNOXIOUS ODORS."

# State suspends permit for spreading of sludge

Concern about nitrate levels in wells on Hooksett's Goonan Road led to the move.

#### By ANNE SAUNDERS

Union Leader Correspondent HOOKSETT — Elevated levels of nitrates in drinking water wells along Goonan Road have prompted the state to suspend a permit that allowed sludge to be spread in the King gravel pit off Route 3A

New England Organics of Chichester was officially informed earlier this month that the state Department of Environmental Services was suspending the permit. Since 1994, sludge — made up of biosolids and paper fiber — has been used to replace topsoil there to prevent erosion.

Periodically neighbors complained of odors, but elevated nitrate levels were not discovered until 1999, when state regulations changed to require monitoring.

In November of that year, testing at the gravel pit found nitrates at 50 parts per million, five times the limit, according to DES spokesman Charles Knox.

The state told NEO to stop bringing in studge and required retesting and additional monitoring wells to be installed. In March, NEO and the state began testing drinking wells at nearby homes.

Nitrates were discovered in six of 11 wells tested, but all were below the 10 parts per million that indicates a potential health risk, Knox said.

Nitrates are considered dangerous for pregnant women and infants six months and younger because the nitrates can convert to nitrites in the body and interfere with the absorption of oxy-

gen. Nitrates are most commonly found in fertilizers and in human and animal waste.

In October, DES told NEO to remove what remained of the sludge stockpile on the property and to prepare a groundwater management plan. "We're working cooperatively with the DES to try to figure this out," said Eric Meyers, senior program manager at NEO. "We've followed all the rules and permit requirements on this."

Residential wells along Goonan Road continued to be sampled over the course of last year and all remained below the 10 parts per million limit. One well, however, at 4 Goonan Road, tested close to the limit with 9.46 parts per million in December. That figure had gone down to 8.2 in late January, Knox said.

<u>"It appears, though, there is a link between the gravel pit recla-</u> mation and the presence of nitrates in those private wells," he said. "There could be other contributing factors."

Failing septic systems, for example, are also a common source of nitrate contamination, he noted.

NEO has voluntarily paid for bottled water for 4 Goonan Road after the nitrate levels were found to be so close to the limit.

The state Office of Community and Public Health says the well water is still safe to drink, according to David Gordon, health risk analyst with the Office of Community and Public Health<sub>1</sub>

The state Office of Community and Public Health has been in touch with area residents regarding the potential health risks posed by nitrates and continues to follow the efforts of DES, Gordon said.

Gordon and representatives from DES met with residents earlier this month to explain their plans and discuss any concerns.

The state will expand the testing to include roughly 10 other homes on Goonan Road. Properties across the Manchester town line nearby are not affected because they are served by city water. Karlee Kenison, a hydrogeologist with DES, said the extent and frequency of future testing will depend on what DES finds. The state began testing for bacteria last month and will continue to do so, though no bacterial contamination has been found thus far.

A couple of residents said they did their own testing and found bacteria, she said. Those residents were asked to share their results with DES, but she's received no information to date, she said.

In looking at possible mitigation, DES is examining whether the sludge was applied too thickly for the grass seed to absorb the nitrogen. If so, DES can order material removed from the site, she said.

DES continues to work with NEO to determine the source and flow of the nitrates. NEO will be required to draft a plan, known as a groundwater management permit, for mitigating the problem.

DES is leaving open the possibility that NEO could reapply in the future for reinstatement of its permit to spread sludge.

The King gravel pit, owned by King Enterprises of Manchester, is one of three sites in the state using sludge for gravel pit reclamation. Rob Tardif, a sanitary engineer with DES, said nitrate levels have not exceeded the limit at either of the other two locations.

#### NEIGHBORS' WELLS CONTAMINATED WITH NITRATES. SLUDGE COMPANY PAYS FOR BOTTLED WATER.

#### NEW HAMPSHIRE - HOOKSETT - SLUDGE RECLAMATION PROJECT RESULTS IN CONTAMINATED GROUNDWATER

#### **UPDATE:**

In September 2002, New England Organics ("NEO" - formerly BFI -Browning Ferris Industries) held an informational meeting to inform Goonan Road residents that the sludge company, NEO, would pay to connect them to City of Manchester water.

A Goonan Road resident later found out the N. H. Dept. of Environmental Services has declared her neighborhood a "ground water management zone" -to notify homeowners and potential buyers there is "contaminated ground water".

The contamination of Goonan Road drinking water wells resulted from NEO/BFI spreading large quantities of sewage sludge in a nearby gravel pit to "reclaim it".

Pollutants of concern in the wells include nitrates and manganese.

NEW YORK POST, FRIDAY, FEBRUARY 16, 1996

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# HERE is now the odor of two scandals hanging over the Hunts Point section of the South Bronz. The first one is the frightening 32 percent asthma rate among the students of PS Agencies refuse to test air around school



school within a mile of 48 on Spofford Avenue -- a age and garbage facilities. more than 40 sludge, sew-

why no city or state agency is willing to test the air quality directly around this school to find out which toxic chemicals are causing this epidemic. The second scandal is

The relevant city and state environmental and health agencies seent to be acting out the famous Thomas Nast cartoon - standing in a circle of guilt and pointing ac-

cusing lingers at the Next Guy.

The city Department of Environmental Protection told me it is not DEP's job to test air quality. Press spokesman John Bennett said, "Under the Clean

Air Act, **zinquality test**ing is the responsibility of the state DEC (Department of Environmental Conservation), NOL US."

The state Department of Health sent a five-page letter on Dec. 18 to the Citizens Environmental Coalition, claiming it had no reason to test the air around PS 48. Nancy Kim of DEC, who has a Ph.D., put in writing the

"I do not believe additional emissions testing or am-bient air monitoring in the vicinity of these facilities is necessary... Adverse health effects have not been found in studies of communities near sowage treatment plants following thoughts:

> ... There does not appear to be a special need to screen children with respiratory problems for lead." The letter scems almost comically deficient in realism and logic.

It ignores the daily neighborhood stench that gives hundreds of children torrential nosebleeds, nauses, vom-liting, stomach, cramps and wheesting, as well as an aithma rate three times the view starse... The stench is not fictional or psychosomatic. Neither are the symptoms, which affect the teachers, as well as

the pupils. You do not need the Nobel Prize in acience to suspect there is a connection between the sludge plants, the ceas-pool odors and the epidemic of respiratory aliments. On Sept. 29, John Robert, the district manager of Com-munity Board No. 2 in Hunts Point, wrote to Michael Za-gata, the state DEC commissioner. Robert informed the man in charge of air quality: "For the past aeveral months, we have been constantly experiencing foul-emelling air which, on contact with the names and dizzines. We have been in contact with the NYC Department of Environmental Protection and they are unable to perform an Air Quality Monitoring Study and review as requested.

"We are, therefore, appealing to you and your agency to help us determine the origin of the dreggy odors and their possible health hazards. If you are unable to fulfill this request, please direct us to the appropriate agency."

...(AND) AN ASTHMA RATE THREE TIMES **CAUSES CHILDREN TO SUFFER "** THE CITY AVERAGE **NEW YORK - BRONX - SLUDGE PLANT** VOMITING, STOMACH CRAMPS, WHEEZING **TORRENTIAL NOSEBLEEDS, NAUSEA** •

> DEP to convert ar wage into irritizer. DEP to convert ar wage into irritizer. DEP won't perform a test of the air pollution being cre-times for simple odor violationa. On Jan. 29, the principal of PS 48, Lora Lucks, wrote to DEP Commissioner Gelber, requesting the achool be are given input into DEP's negotiations with NYOPCO to be provided to the principal of the achool be are by the principal of the activity. NYOPCO's pending permit for a new sludge facility. On those issues with NYOF(X) executives, but PS 48 was a not notified. The principal's letter was never answered, just like the community board district manager's letter The DEC never even answered his letter. DEC's acting regional director, Paul Gallay, told me yesterday his agency had two fixed-base air monitors in The Bronx. Both are several miles from PS 48. Perhaps the agency most guilty of abdication is the city's DEP, and its commissioner. Marilyn Gelber. The leading suspect for the stench is the New York Or-ganic Fertilizer Co. studge plant four blocks from the school. NYOFCO is a creation of DEP. The plant's only John Robert, the Hunts Point community board district manager, told me, "I asked DEP to test the air quality around PS 48 last September. They told me they didn't have proper equipment to do it." "It is the city DEPs a duty to test the air around PS 48," says Bronx Borough President Fernando Ferrer. "For them to say that it's not their job is just bizarre." invisible. In DEC. sion into the open air of harmful or objectionable sub-Ferrer is right. The City Charter plainly states the DEP commissioner "shall regulate and control the emissource of revenue is a \$110 million annual contract from Bureaucrata act like the people of the South Bronx are

stances." If one-third of the kids in a school on Park Avenue had

asthma, the city and state would be fighting over who got the credit for conducting the first text to determine the cause of this public health crisis. If there was a sludge plant with four violations next to a school in Riverdale, the parents who are lawyers would

cility. be in federal court seeking an injunction against that fa-

But this is the forsaken, invisible South Bronx. These parents are not lawyers or journalists. They just love their children.

It is time for the federal EPA, the mayor and the gover

nor to step in, end all this buck-passing, and act deci-sively, before a child dies from asthma



#### JACK ANDERSON's Washington Merry-Go-Round

# Government fails to regulate sludge dumping

Published Friday, January 01, 1999 7:11 AM CST

Like many places in the late 1970s, the city of Augusta, Ga., had a problem: millions of gallons of sewage sludge and nowhere to put it. And like many cities, Augusta turned to the easiest, cheapest solution: spreading it on farmland.

Augusta city officials targeted two dairy farmers, R.A. McElmurray Sr. and Hugh Boyce, for sludge dumping.

Like all sludge, the Augusta variety was produced by running whatever was dumped into the city's sewer through a series of settling pools and chemical treatments. The treated water is discharged, leaving a highly concentrated sludge of industrial byproducts and human waste that has creatively been labeled "biosolids."

The dairymen accepted vast quantities of "biosolids." McElmurray took more than 71 million gallons through 1990, and Boyce took 23.4 million.

Around 1986 both McElmurray's and Boyce's farm managers began noticing some disturbing things: the leaves on their feed crops were twisted and the roots weren't forming properly. Their cattle were losing weight, giving less milk and their mortality rates were slowly rising. After carefully eliminating a range of possibilities, McElmurray attributed the farm's problems to the sludge and canceled his sludge contract in mid-1990. But city officials didn't miss a beat. They brazenly tripled the amount of sludge they dumped on Boyce's property while they scrambled to secure new dumping grounds.

By 1993 Boyce's herd and land were being ravaged. Mortality rates had quadrupled from 1980 and annual milk production had dropped significantly. Things continued to spiral downward as herd managers ruled out one possible cause after another. By early 1998 the herd's mortality rate was approaching 30 percent. Finally, Boyce canceled his sludge contract.

Soil samples from McElmurray's and Boyce's farm support what the dairymen had already concluded: the city's sludge was toxic, laden with high concentrations of heavy metals, volatile organics and petroleum byproducts. Boyce and McElmurray have filed a suit against the city in federal district court. When we asked Augusta city officials to respond to the allegations, we were told "our comment is no comment."

A growing number of anti-sludge activists say stories like Boyce's and McElmurray's are evidence that the spreading of sewage sludge is nothing but a way for government officials to escape liability for a highly concentrated toxic waste.

Former chemistry professor Stanford Tackett describes sludge spreading as "a scam of enormous proportions, driven mainly by money."

The greatest danger of sludge dumping, experts say, is that no one really knows what's in it. Among the more disturbing facts uncovered by the Augusta lawsuit is that the city was allowing extensive after-hours dumping. In a Feb. 13, 1995 memo, the city's director of Water Pollution Control acknowledges that "currently haulers who dump after normal business hours are on the honor system, and we have no control over what might be introduced to our plant."

Pat Costner, who owned and operated a small wastewater analysis lab before taking her current job with Greenpeace, told our associate Ashley Baker that "very few industries know what's in their discharge. They will know fairly broad parameters, but they won't know every chemical that's in there. If a city has a pretreatment program, it will only address a fairly limited number of chemicals." Another problem is that government agencies require relatively few companies to treat their waste before sending it down the drain. The New York City Department of Environmental Protection, reported that as of March 1994, there were 93,900 establishments of "possible concern" dumping dangerous and toxic substances down the drain. But in the end, the Department identified only 1,141 that "needed regulation." Even regulated companies are suspect. A 1993 EPA report found that 54 percent of the 30,000 industrial users nationwide were in "significant non-compliance with pretreatment limits or reporting requirements, or both." But rather than cracking down on such practices, the EPA has orchestrated and funded a massive public relations program to "educate the public" about the "beneficial uses" of sludge. We were surprised to learn that the EPA's top sludge regulator, Alan Rubin, had been loaned to the Water Environment Federation, the sludge industry's lobbying and public relations arm in 1995 while EPA continued to pay half his salary.

Rubin's response to our questions about the dangers of sludge was predictable. "In all of the years I have worked on this, I've never seen a documented case (facts are gathered, report is written and peer reviewed by qualified scientist) of a human getting sick from or a animal dying from biosolids or exposure to biosolids."

#### AL RUBIN NEVER SAW DOCU-MENTED CASE OF HUMAN SICKNESS OR ANIMAL DEATH FROM SLUDGE.

#### **NORTH CAROLINA - SICK SEWAGE WORKER**

Excerpts from email dated September 26, 2001:

My husband is now 43 years old and has Mast Cell Disorder -- possibly Mastocytosis -but his bone marrow biopsy came back negative. But he has a high Tryptase level which indicates he does have some sort of mast cell disorder.

He first became sick while working in a manhole on a very hot August day in 1992. He almost passed out - became ill - quit sweating. No-one from work took him to the ER -- I guess they just thought he had gotten too hot.

A few days later he got lost driving our daughter home from school (we have lived here all our lives.) He was not getting better and went back to the ER. He was then admitted for his blood pressure which was out of control.

After many trips to doctors and to the ER, a cardiologist finally got his blood pressure and heart rate under control, but he has continued to have many episodes of sickness. Since he could no longer work in confined spaces, he was given the job of hauling sludge and watching the sludge filter press.

Over the years he has had facial swelling, tremors, chest pain, episodes of near fainting, severe gastointestinal problems, severe diarrhea, confusion, fatigue, anxiety and flushing. The doctors always knew something was wrong but did not know what. Many tests were run including a heart catheter at age 36 - and most were normal. However, last year a Tryptase test was run and the results were very high. He has had several more Tryptase tests and they were high, also.

He is still employed, but has not been able to return to work since the end of February 2001, so I am sure they will soon let him go and his insurance will go with that. My husband was very strong and healthy before he transferred to the sewer department. His Tryptase level has fallen slightly since he has been out of work.

ON MARCH 14, 2002, the wife of the sick sewage worker sent the following email to Helane Shields, sludge researcher, Alton, NH:

"My husband just lost his job of 23 years today because his health has deteriorated so greatly since he transferred to a sewage treatment plant to work in 1989. He had an acute episode which happened in a pump pit in 1992 which ruined his health. If you know anyone with a similar experience who could help please forward my email to them. Thanks for all the info you have sent. We appreciate it. He now has a rare immunological disorder."

\*\*\*\*\*\*\*\*

RESEARCH to try to help this sick sewer worker reveals that Dr. S. Abraham of Duke University Medical Center, North Carolina, is a leader in studying mast cell disease. The mast cells are pivotal in initiating the body's inflammatory response to enterobacterial infections and pathogens, including E. coli, Staphylococcus aureus, Salmonella, Klebsiella Pneumonia, Toxoplasma Gondii and helminth parasites -- all pathogens which EPA says are present in sewage and sewage sludge.

Unfortunately there is a potential "Jekyll & Hyde" aspect to the mast cells' response to pathogens -- and the immune reaction of the mast cells can cause severe illness (mast cell disease) which is what this sewage worker is suffering.

BECAUSE this case has yet to be resolved legally, I am at this time protecting the identity of the North Carolina family involved.

SEWAGE WORKER SUFFERS FACIAL SWELLING, TREMORS, CHEST PAIN, SEVERE DIARRHEA AND GASTROINTESTINAL PROBLEMS, CONFUSION, FATIGUE, ANXIETY, FLUSHING -- DIAGNOSED WITH MAST CELL DISEASE, AN INFLAMMATORY IMMUNE SYSTEM RESPONSE TO PATHOGEN EXPOSURE.

#### STATEMENT OF CECIL PATTON, WAYNESVILLE, OHIO - 513-897-2701

We have been exposed to the landspreading of sewage sludge which has been done by BioGro on neighboring parcels of land for the past 4 to 5 years.

They stockpile the sludge in the winter and spread it before spring so it doesn't smell. About a year ago they started spreading it closer to my house which has increased the adverse health effects, particularly the health of my daughter.

We contacted the local Warren County Health authorities to express concern, but they told me the sludge wouldn't hurt us and there isn't anything we can do about it. I contacted state regulators, but they said there wasn't anything I could do about the sludge -- that it is just like spreading fertilizer.

I contacted the US EPA. They came out, looked at the sludge which was spewed on the road, and made the sludge company clean it up. That was the end of it. They would not do anything else.

Effect on animals? We don't have any pets, but we have seen a lot of birds die in our neighborhood for no apparent reason.

HEALTH EFFECTS EXPERIENCED BY my family and myself from exposure to the sewage sludge:

Nausea, headaches, sore throats, throat irritation, hoarseness, nasal congestion, abdominal distress including cramps and diarrhea, breathing difficulties (particularly my wife -our bedroom faces the sludged field) -- palpitations ... my daughter has suffered from palpitations which started after they spread the sludge. Bronchitis? - yes. Thick, choking mucus? Yes, my wife has experienced excess mucus ... she gargles to try to get relief.

We have consulted with a doctor a couple of times with regard to the adverse health effects we have suffered from exposure to sewage sludge.

We have been more prone to illness after exposure to the sludge, and my wife seems to be experiencing more nervous or neurological symptoms

DATED/2-7-\_\_\_ 2000

Cecil Patton, 2265 E. State Rt. 73, Waynesville, Ohio 45068

#### STATE OF OHIO

ATE OF OHIO COUNTY OF Mannen Personally appeared before me the above named Cecil Patton who made oath that the foregoing facts in his statement are true to, the best of his knowledge and belief.

Kit-OTINU MOREAN MOOT PUBLIC

#### STATEMENT OF BILL BURTON, GERMANTOWN, OHIO - 513-855-3069

BioGro has spread sewage sludge twice on a neighboring farm. They spread the sludge in the fall. There was a metallic smell that lingered in the air and makes you sick, which lasted all winter until spring. ķ

When they first spread the sludge, we experienced shortness of breath which lasted for about a week.

We have cattle which seem to be getting foot rot this year. But we do not know whether that is attributable to the sludge.

1 did not complain to anyone because I knew it would not do any good.

DATED /2 - //- 2000

BILL BURTON, 11551 Friend Road Germantown, Ohio 45327

STATE OF OHIO COUNTY OF MUNTENNEUR

Personally appeared before me the above-named Bill Burton who made oath that the foregoing facts in his statement are true to the best of his knowledge and belief.

Jenne E Brat

JEANNE E. BURTON, Notary Public In and for the State of Ohio My Commission Expires November 28, 2001

# AKRON BEACON JOURNAL

FAMILIES SAY SLUDGE HAS HURT

#### OHIOANS BLAME EPA-APPROVED RECLAMATION SITE FOR SICKNESS, SMELL, BAD WATER. COUPLES SUING COMPANY

Tuesday, September 10, 1996 Section: OHIO Page: A1\ BY BOB DOWNING, Beacon Journal staff writer Illustration: PHOTO: Color / MIKE CARDEW / Beacon Journal \*\*\* MAP: Shows location of sludge site / Beacon Journal

Caption: Kathy and Bob Hunt in front of their home, where tests show high levels of fecal coliform bacteria in their well water. They blame sludge-covered fields bordering their land for that, and for a terrible smell.

The plan to ship New Jersey sewage sludge to Ohio frightens Patti Baker to death.

The Columbiana County woman, her husband, and another family say they have been victimized by sewage sludge shipped from New Jersey, New York and Pennsylvania by the same company involved in the latest proposal. The sludge, they say, polluted drinking water, affected their health and resulted in an offensive stench for two years.

The two couples have filed a \$9.8 million lawsuit against the companies involved in dumping that sludge on a nearby mine reclamation site from 1992 to 1994 and against neighbors who allowed sludge to be spread on their land. The suit is pending in Cohumbiana County Common Pleas Court in Lisbon, south of Youngstown.

In court papers, the companies deny any responsibility for the problems cited by Baker, her husband, Wilson, and neighbors Kathy and Bob Hunt.

Wheelabrator Water Technologies Inc. -- now the parent company of Bio Gro Inc., the company involved in the sludge hauling -- declined comment, citing litigation, said spokesman John Goodwin.

"It's been a nightmare," said Patti Baker, 42. "They've taken away my life. ...



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10/5/98 6:0 \*\*

This was a peaceful place in the country until sewage sludge turned our lives upside down. Nobody should ever go through what we've been through."

Her 52-year-old husband, an autoworker, has tumors on his liver. Patti Baker has two diseases her endocrinologist says are linked to the sludge.

The doctor told Patti Baker to stop drinking her well water or move. The Bakers got their well tested and were shocked to learn it was contaminated with ammonia. But they could not afford to move.

The couple and Patti Baker's 17-year-old son, Keith Dunkel, drink only bottled water. They also haul water weekly from her mother's house in Canfield outside Youngstown, a 56-mile round trip.

Dunkel was forced to stop raising animals for the 4-H Club because the family had <u>no means to provide safe water for the animals</u>.

Even today, the Bakers disinfect their washing machine and dishwasher, fearful of health-threatening germs in their well.

Tests showed the Hunts' well to have high levels of coliform bacteria. A Youngstown State University lab that tested the well advised the Hunts not to bathe in their water, not to allow any open cuts to come in contact with it and to boil the water before using it.

They rely on bottled water for drinking and haul water from a relative's house in Lisbon for dishes. But they say they have no choice but to shower and bathe with the polluted water.

The Bakers and the Hunts say the stench from the sludge site was overpowering.

"It just took your breath away and hurt your eyes, throat and noses," said Bob Hunt, 53. "The smell was so thick it could almost choke you to death. It was so bad that the birds left."

The main odor was an ammonia-urine smell that got worse when it rained and when it was hot and humid, they said.

"Frankly, we were prisoners, forced to stay inside our homes for two years," said Kathy Hunt, 51.

"You ran from your car to the house because the odors were so overpowering. You had to keep the doors and windows closed all the time and the air conditioner running. Friends and relatives stopped coming by because the odors got to them and would make them sick when they visited," she said.

At the height of the odors, Patti Baker would frequently drive her son,

2 of 4

10/5/9

violently ill, to her mother's house in the middle of the night. His vomiting would end as they left the Elkton area.

During a three-month stretch in early 1994, the family spent perhaps three nights in the house because of the odors, she said.

The stench was so bad the Bakers bought a wood furnace because their oil furnace brought in offending odors from outside.

Patti Baker said a five-story-high white haze of foul-smelling gases migrated from the sludge site to their property.

The sludge problems the two families cite began in 1992.

That's when the Ohio Environmental Protection Agency and the Ohio Department of Natural Resources approved the reclamation project in a one-time strip mine northeast of Elkton in Elkrun Township.

The project came about after the Ferris Coal Co. of East Palestine went bankrupt. The state ordered the reclamation.

Bio Gro started hauling sludge to the 1,300-acre site from New York City, Pittsburgh and four sewer districts in New Jersey.

Wheelabrator is the company that wants to haul as much as 50,000 tons of sludge from the Passaic Valley Sewerage Commission in Newark, N.J., to 16 counties in Ohio. That includes Summit, Stark, Wayne and Portage counties.

That project has been halted, at least temporarily. The Ohio Environmental Protection Agency has revoked its permit for the project, citing a technicality. It has ordered a second review that includes public input, which the first review did not include.

What is proposed for the Passaic Valley sludge differs from what happened in Columbiana County. Far more sludge can be applied on reclamation sites -- up to 65 tons an acre -- than on farmland, a maximum of five tons an acre.

The strip mine site was permitted to get as much as 237,000 tons of sludge. That is an amount nearly equal to the sludge all of Ohio's sewage plants produce annually.

No one agrees on how much sludge was spread. The Ohio Department of Natural Resources estimates 458 acres were reclaimed with 17,216 tons of sludge. Some of that acreage got as much as 65 tons an acre, equal to a layer 4 inches thick.

But the Bakers and Hunts contend that far more sludge went down. More than 70 trucks a day often headed for the reclamation site and nearby private farms, they say. There are places on the reclamation site where the sludge is

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up to 8 feet thick, they say."

The project was terminated in 1994, amid widespread complaints about odors and water problems.

The odors remain, but nothing like it once was, Hunt said.

The streams around the site are often filled with mountains of suds from ammonia runoff, the Ohio EPA says.

The Ohio EPA is aware of some problems around the site, but it has no evidence of health-threatening problems like those suggested by the Bakers and Hunts, said agency spokesman Mark Stump.

The odor problems were more numerous than most other sites and local streams were fouled with sludge-based pollution that has had a slight impact on aquatic life, he said. The EPA cited the company for problems at that time.

The agency can step in if there is evidence of problems from the sludge site, but it has no firm evidence, Stump said.

The sludge site -- now largely overgrown with weeds -- cannot be used for additional sludge dumping without new approval from the EPA, he said.

At least one other family has sued over the sludge dumping and settled out of court with the companies. Terms of the settlement remain secret.,

Now, the Bakers and Hunts are the only ones fighting the sludge.

Said Parti Baker, "Why doesn't it stay in New Jersey and out of our back yard?"

# Families say sludge has hurt health, life

Ohioans blame EPA-approved reclamation site for sickness, smell, bad water. Couples suing company

(1999-VICTIMS PAID OFF-FORCED TO SIGN "GAG ORDERS")



Kathy and Bob Hunt in front of their home, where tests show high levels of fecal coliform bacteria in their well water. They blame sludgecovered fields bordering their land for that, and for a terrible smell.

APPEALS FOR HELP TO STATE AND FEDERAL OFFICIALS GOT "NO ACTION". VICTIMS SAY US EPA MORE INTERESTED IN PROMOTING LAND APPLICATION OF SLUDGE THAN PROTECTING THE ENVIRONMENT.

#### STATEMENT OF DON CARPENTER, GERMANTOWN, OHIO 937-855-4886

Sewage sludge has been twice applied to a farm adjacent to my property in Germantown, Montgomery County, Ohio. The sludge was applied by BioGro. They bring the trucks in late at night. The property owner may be paid to allow the sludge disposal on his land.

I called my Township to ask what could be done -- they told me we had to get ahold of HoGro. I called the US EPA - they wouldn't do anything.

l called BioGro to complain -- they said it is perfectly safe.

We have a well within about 40 feet of the field where the sludge was spread. They do not care about the close proximity of our well. We have stopped drinking the water from the well. We use bottled water to drink, although we still use the well water for bathing.

The runoff from the sludge site is onto my property. I have animals -- pigs and horses which I am concerned about, although there have not yet been any apparent adverse effects to the animals.

HEALTH EFFECTS we have experienced since being exposed to the sludge: It smells so bad it makes your head hurt. Nausea was experienced when they first applied the sludge. Other health effects: headaches, sore throats (suffered by other family members), throat irritation, burning in nasal area, nasal congestion, abdominal distress including champs, breathing difficulties (it is so bad you cannot open your windows in the summer when they apply the sludge), shortness of breath, asthma and bronchitis - yes .... when it was first applied you cannot go outside. We feel we are more prone to illness since our exposure to the sludge.

(Telephone statement made to Helane Shields in November 2000 by Don Carpenter, 11621 Friend Road, Germantown, Ohio 45327)

OHIO - VICTIMS SUFFER NAUSEA, HEADACHES, SORE THROATS, BURNING NOSES, NASAL CONGESTION, ASTHMA AND BREATHING DIFFICULTIES AND RESPIRATORY DISTRESS. EPA IGNORES VICTIMS' CALL FOR HELP.

#### STATEMENT OF LLOYD COMBS, XENIA, OHIO 937-372-8333

Sludge has been applied, usually in the spring and summer, to the same area near my home in Xenia, Ohio, for the past 4 years. The 5-acre site where the sludge is being applied used to be a hog farm. After the hog farm discontinued operations, the property changed ownership and has been used since then primarily for sludge disposal.

When the sludge is brought in, they use semi-trailers hauling 30 or 40 tons a load, which run from 6 a.m. to 6 p.m., one right after the other. Sludge spreading usually occurs on weekends. Thousands and thousands of tons of sludge have been deposited on this small tract of land over the past 4 years. The most recent sludge disposal activity occurred this past summer, 2000.

I am a farmer and I am familiar with agronomic rates -- the amount of nitrogen needed to grow a crop. It appears huge amounts of sludge are being disposed of on this site, far in excess of nitrogen needs of any crop. This is not a reclamation site where the purpose is to reestablish vegetation after mining or other disturbance of the land.

About 4 years ago I called the US EPA about this sludge site. They came and talked to me, but nothing changed. I called the Health Department in Green County. They said it was none of their business, that they had no control, and that this was up to the US EPA.

I went to my Township Trustees about this sludge site. The Trustees said it was none of their business, the same as the Health Department told me.

My experience in seeking help from federal and local authorities is that no-one would listen to me and no-one would respond to my concerns.

HEALTH EFFECTS I have experienced since this sludge activity began include nasal irritation, burning of the nose, and difficulty in breathing when the winds blowing over the sludge site in the direction of my home.

(Telephone statement taken on November 26, 2000 by Helane Shields from Lloyd Combs, 1040 Gultice Road, Xenia, Ohio 45385

#### OHIO - LOCAL HEALTH OFFICIALS AND US EPA REFUSE TO HELP SLUDGE VICTIM.

### Fertilizer plant faces more testing

#### By RAYMOND L. SMITH Tribune Chronicle

WARREN --- The new human waste-to-fertilizer plant may have to spend more than \$19,000 to have its emissions control system tested and approved by ing is based on an estimate givthe Ohio Environmental Protece en by a company that does simi-tion Agency. lar testing. "Based on what tion Agency.

I has is something that is be-kinds of blds we receive, it could ing required by the northeast beless." Truax said. Ohio office," said Paul Truax. Although the city has been director of the city's Nature's mandated to do the testing of the Blend biosolids plant. "There are odor control system, it has not facilities around the country that been given a deadline. Truax are similar to ours that don't said he benes the testing with the are similar to ours that don't said he hopes the testing will be have the requirement to test the performed as soon as possible. odor control system.

or emissions system, is tested specialized sprinkler system de the city a permit for three years, odors coming from the plant. The city then will be required to The new system has nothing to get a renewal

The EPA mandate is strictly Several property owners liv-for the odor control system. Tru- ing near the plant have com-ax, in remarks to City Council plained about the smell. members. Wednesday, said the

learned what is supposed to be plant opened coming out of the smoke stacks.

area companies to do the testing. sprinkler system.



The \$19,000 price for the teston Agency. lar testing. "Based on what "This is something that is be-kinds of bids we receive, it could

In a related issue, the Na-Once the odor control system, ture's Blend plant has installed a and approved, the EPA will give signed to reduce the level of do with the EPA mandate.

members Wednesday, said the <u>One resident. Deborah L.</u> facility could, if necessary, oper-ate without the system. <u>been days when she could not go</u> He said he would not be sur-prised if after a few permit peri-ods the testing requirement claimed the number of house would be eliminated, because the fies around her property have EPA by that time will have markedly increased since the

Truax said the plant is fine-The city will seek bids from tuning the operation of the

#### **OHIO - WARREN - VICTIMS SUFFER** FLIES, SORE THROATS, HEADACHES, NAUSEA, SEVERE STOMACH CRAMPS, CONTINUOUS COLD SYMPTOMS, **IMMUNE SYSTEM DAMAGE - LAWSUIT** FILED.

#### STATEMENT BY DEBI BURNS, 4194 SO. MAIN ST. EXT., WARREN, OHIO 44481

Since the sewage sludge composting plant started operating in fall 1997, my husband, my children and I have suffered continuous adverse health effects. We have been plagued by odors and flies.

My youngest son was ill for several weeks. No doctor could figure out what was wrong with him. The tests showed he had a high sed rate -- the highest the doctor had ever seen -- which means his body was fighting off some kind of infection.

My middle son was rushed to the hospital with severe stomach cramps. The doctors never figured out what caused them.

My whole family has suffered sore throats, runny noses, headaches, nausea and continuous cold symptoms.

My youngest son had strep throat almost continuously. The doctors cannot figure out why his immune system has gone crazy.

When I am outside, the emissions from the sludge composting plant cause my nose to run non stop and my throat is raw. The odor literally makes you throw up and my husband is suffering severe headaches from the odor.

From emails received by Helane Shields on 5/5/00 and 4/9/01.

## Couple sues over fertilizer MAY 1, 1999

By RAYMOND L. SMITH Tribune Chrohicle

WARREN - A Weathersfield Township couple who criticized a Warren fertilizer plant before it opened filed a lawsuit for more than \$50,000 against the city because of the offensive odors emanating from the facility.

Donald and Deborah Burns complained that there are days when closing their windows and doors is not enough to keep the odors from the plant from seeping into their home.

The couple's property is about a half mile southwest of the giant plant which produces, Nature's Blend, a fertilizer product made from the waste sent Incumbent Mayor Henry J.

through the city's sewer system. Through a heat and lime pasteurization process, the pathogens in the product are removed and upon completion, a marketable fertilizer is produced.

In addition to the complaints about odor, the couple alleges that the city violated its ordinances as well as state and federal laws in operating the plant.

In the suit, the Burnses complain that they have lost the use of their property, have seen their property drop in value, have felt physical discomfort, and been exposed to health risks. Attorney Dennis W. Tackett represents the Burns.

Angelo introduced the concept of using sewer remains as fertilizer when he was the director of the city's Water Pollution Control Division. Angelo and the current operators of the plant have argued that the Nature's Blend facility already has saved the city thousands in operation costs and is expected to earn the city money through the marketing and selling of the product.

During the last two years city officials have talked about and tried numerous methods of reducing the odor emanating from the facility, including using a special chemical created specifically for drying fertilizer, placing a portable wall on the south-

# PUBLIC WORKS

esidents object to composting facility's operations. This case, Penland, et al., vs. Redwood Sanitary Sewer Service District, was sent back to the appellate court on remand from the Oregon Supreme Court, 327 Or I, 956 P2d 964 (1998). In its original opinion, 146 Or App 225, 934 P2d 434 (1997), the appellate court held that, regardless of whether the defendant district's operation of a composting facility constituted a nuisance, the operation was shielded by "discretionary function" immunity under the Oregon Tort Claims Act (OTCA), and, thus, the trial court had erred in enjoining the facility's operation. The state Supreme Court reversed, concluding that discretionary function immunity under the OTCA \*confers immunity on public bodies only from liability for damages and does not confer immunity from injunctive actions" including, particularly, an action to enjoin a nuisance.

On remand, two issues that were initially deferred were addressed: First, is the composting operation a nuisance? Second, if so, does the balance of equities warrant issuance of permanent injunctive relief? The appellate court answered both questions in the affirmative and consequently affirmed the trial court's ruling. Its opinion states in part:

**OREGON - SLUDGE VICTIMS UNABLE TO EAT, SUFFER** 

**GAGGING, NAUSEA AND HEADACHES** 

"The district operatessewage-related facilities, including a sewage treatment plant, in rural Josephine County. As part of the sewage treatmentprocess, the district reduces incoming rawsewage to sludge, or biosolids, a bacteria-laden condensed form of sewage, by draining the liquids from the solids. Before 1988, the district trucked the sludge to various sites for land application, which involved spreading the sludge over a large area for agricultural and disposal purposes.

"In 1988, the district's manager," Webber, who was charged with day-today oversight of its operations, institued a small-scale pilot composing

Public Works # www.pwmag.com

operation at the treatment plant. In July 1990, the district instituted composting on a permanent basis.

"In the initial stages of the composting process, sludge is solidified by being poured into an outdoor levee, or 'drying ring,' which is exposed to the open air. After about two weeks, the material loses enough moisture to be mixed with organic material for composting. The reduced sludge, or biosolids, is then mixed with organic materials, such as wood, animal bedding, including animal waste, and yard waste, provided by local residents and businesses. The bacteria in the sludge break down the mixture. In order for the bacteria to decompose the sludge, the mixture must be exposed to air. Thus, the mixture is placed in a large pile, approximately nine ft high, 20 ft wide, and 100 hundred ft long, and exposed to the open air. The composted material is first piled over a perforated pipe for aeration. After two to three weeks, the pile is removed from the pipe and is turned every two weeks for aeration. There are normally seven piles at one time, each in a different stage of the composting process. Defendant uses heavy equipment to move the piles as they decompose and to load the finished product.

"After approximately 90 days, the material becomes finished compost, which defendant sells to the public as mulch or soil amendment. The product, called Jo-Gro, contains no nutrients for fertilizing but is valuable for retaining moisture in soils.

"If the sludge mixture is not aerated, it becomes anaerobic and, as a result, generates hydrogen sulfide." Hydrogen sulfide can cause headaches, nausea, and throat problems, and its odor is akin to that af rotten eggs. Hydrogen sulfide is generally released whenever a compost pile or the sludge pool is disturbed, but some level of hydrogen sulfide is always present as a result of the composting operation.

COURT ENJOINS COMPOSTING PLANT ODORS = "PUBLIC NUISANCE"

"Plaintiffs are landowners and homeowners who live in rural losephine County near the plant and composting operation. Many lived in the neighborhood before the district instituted the permanent composting operation. The closest plaintiffs, the Penlands, live about 180 ft from the property where the composting activities take place. Plaintiffs and other neighbors began to notice odor, noise, and dust, which they associated with the composting operation, in October 1991. Beginning in February 1992, plaintiffs and others complained to the district that, because of the odor and noise they ascribed to the plant, they were unable to enjoy outdoor activities, such as gardening, sitting on their porches, and barbecuing. In response to those complaints, the district undertook several measures, including placing sound deflection panels on the electric wood grinder. Plaintiffs apparently found those measures to be inefand their complaints fective continued.

"[In the summer of 1994, after receiving the recommendation of an advisory committee, the district's board of directors voted] to continue the composting operation at the sewage plant while implementing 21 of the ad hoc committee's recommended mitigation measures. Those measures included using a quieter loader, constructing vegetation screens, adding sound mufflers to equipment, eliminating construction lumber demoliapplying a commercial ůon, deodorizer, mixing the sludge more rapidly and efficiently, using fly bait, and adding dust-reducing spray mis-

"In August 1994, plaintiffs filed this action, seeking to enjoin the continuation of the composting operation. Plaintiffs alleged that that operation created a nuisance in that it created excessive odor, noise, and dust and interfered with the reasonable use of their properties."

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In determining whether the composting operation constitutes a nuisance—i. e., whether it substantially and unreasonably interferes with the use and enjoyment of plaintiffs' property—the appellate court assessed five factors: 1) the location of the claimed nuisance; 2) the character of the neighborhood; 3) the nature of the thing complained of; 4) the frequency of the intrusion; and 5) the effect upon the plaintiffs' enjoyment of life, health and property.

The trial court, in oral remarks that comported with its ultimate written findings and conclusions, explained its application of those factors:

"I do find that the nature of the defendant's use of its property has substantially changed since most of the plaintiffs purchased their property. It's changed from a use that would have been consistent with just the sewage treatment facility plant, with the rural residential nature of the surrounding properties, to a use that's more akin to, in the words of one of the defendant's witnesses, an industrial site. The changing nature, in this respect, of the defendant's use of the property, I do not believe could have been reasonably foreseen by the plaintiffs.

"I find the plaintiffs to be credible in their testimony. With respect to the noise regulations, the defendant's witnesses testified that they are to be enforced at the county level, not by DEQ (Department of Environmental Quality); that DEO lacks both the authority and the staff to pursue noise complaints, and that the county has not done any testing as to the noise complaints on this property, nor pursued really any complaint in that respect. The acoustical expert hired by the county, by the sewage district, stated his opinion that the noise level at one point at least did result from the composting operations and that they exceeded established levels.

"I am completely convinced that the nature of the odor that's produced by the defendant's composing operations does cause some of the plaintiffs" to gag, to be nauseated, to have headaches, to be unable to eat, and to

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be unable to sit in their yards or patios or otherwise utilize their yards. And by doing so, that the odor substantially and unreasonably interferes with the plaintiffs' use and enjoyment of their property. I also am convinced that the nature of the noise and the frequency of the noise at the site caused by the composting operations also substantially and unreasonably interferes with the plaintiffs' use and enjoyment of their property."

The appellate court agreed with the trial court that the composting operation is a nuisance. The district's sewage treatment plant, including the composting operation, is located in an area zoned RR-1 (rural residential one-acre) on the Rogue River. Many, and perhaps all, of the plaintiffs live or own property within one-quarter mile of the facility.

The district pointed to testimony by other witnesses, including scientists and experts in sewage treatment, that the composting operation did not generate an offensive odor—oratleast not an odor that could be consistently detected as offensive at plaintiffs' property. In a related sense, the district argued that, given expert meteorological evidence based on evaluation of wind-direction data and the timing of certain plaintiffs' complaints, the source of the odor plaintiffs' witnesses described was a dairy across the river from the treatment plant.

Conversely, many of plaintiffs' witnesses testified that they could distinguish the dairy smell from the compostsmell: "It's a characteristic sewage smell. It's completely different from any agricultural or dairy-type smell." "We had cows so we knew what the cows' odor was." "I have never found a dairy odor so offensive that I could not stand it." It was further noted that many of the plaintiffs who testified, albeit not all, owned their property before the composting facility began full-scale operation.

Reduced to its essentials, the district's position is that plaintiffs' witnesses either collectively imagined, were mistaken, or lied about the odors. emanating from the composting

operation. The trial court, which observed the witnesses, expressly determined that plaintiffs' witnesses were credible. The appellate court gave that assessment "great weight," and, given the balance of the evidence, affirmed the trial court's determination that the composting facility generated offensive odors that were consistently detectable on plaintiffs' property.

It further affirmed the trial court's finding that the odor did, in fact, substantially and unreasonably interfere with plaintiffs' use and enjoyment of their property. Plaintiffs testified that the odor made them nauseated and prevented them from sitting on their decks or outside, or even from leaving their windows open at night for a summer breeze.

Regarding the second issue of whether the equities warrant the issuance of an injunction abating the nuisance, the trial court observed:

"With respect to the balance of the equities in this case, and the remedy, I want to state first of all, I have no intention to join the Board of Directors of the sewage service district. I don't intend to micro-manage the affairs of the sewer service district. So for that reason I can't really get into a situation where I'm setting what needs to be done to remedy the situation. I considered the alternative of damages because of that difficulty, but quite frankly, I don't think I can ascertain the damages because I think what the damages might be today might be different two years from now once the capacity of the plant has doubled. And I don't think that damages, for that reason, are easily ascertained in this situation, nor do I think it would be a final solution. I think you would just be inviting further litigation down the line if I tried to go that route.

"[T]he defendant, since they have been aware of the plaintiffs', complaint, have expanded their operations and further invested in the composting operations on site, after becoming aware and having been notified of the complaints that were being made in this case. And I think

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that by doing that, quite frankly, it art of the defendant, as well as, doing b, they did it at their own risk. So I'm fecting any consideration of the cost at has been expended since they've en aware of these complaints in bal-Fing the equities. I don't think y're entitled to go out and make subintial expenditures when the case is litigation and to try to use those as brne way to avoid responsibility.

"[A]s I said, balancing the equiies in this case is really the most diffibull I don't deny that there are other people who are not in this courtroom---the other patrons of the district who are going to be affected by my decision-and that's been the hardest part probably of making this decision is those considerations. But having considered that and considered the lack of any other remedy that I feel like would fit in the premises, I am going to grant the request for an injunction."

In York vs. Stallings, 217 Or 18, 22, 341 P2d 529 (1959), the appellate court enunciated the standard for issuance of injunctive relief. Once a nuisance is established, "it does not follow that an injunction should issue as a matter of course. The court may refuse an injunction in certain cases where the hardship caused to the defendant by the injunction would, greatly outweigh the benefit resulting to the plaintiff. The injunction does not issue as a master of absolute or unqualified right but is subject to the sound discretion of the court."

Thus, the appellate courf had to compare the benefit to plaintiffs with the hardship to the district resulting from a permanent injunction. The benefit to plaintiffs is the ability to enjoy their property in a manner consistent with its rural character---- to garden, and eat outside, and keep their windows open on summer evenings. For plaintiffs, an injunction would mean being able to use and enjoy their property as they did before the nuisance came to them-to live, and breathe, free from a pervasive, nauseating odor.

The court found that the condemonstrates some arrogance on the \_ comitant detriment to the district is essentially, but not completely, economic. If use of the existing composting facility is enjoined, the district has, at least, two arguably feasible alternatives: 1) move the composting activities to another site; or 2) return to its prior practice of trucking the sludge and applying it to acceptable agricultural sites. Either of those options, even if otherwise practicable, would substantial additional involve expense. In addition, a return to the district's prior practice of land application would result in loss of significant environmental benefits.

> The district's plant manager, Robert Webber, and Steven Gilbert, an environmental engineer retained by the district, testified that composting was an environmentally superior alternative to land application of biosolids. Webber explained, in some detail, why returning to its previous practice of land application was no longer a feasible alternative for the district, notwithstanding the fact that many districts and nearby municipalities in southern Oregon, including the city of Grants Pass, continue that practice. The concerns that Webber identified include groundwater contamination monitoring, site constraints, land use restrictions, sludge runoff, and grazing restrictions.

In contrast, the district's objections to relocating the composting operation to an alternative, non-residential site appear to be purely financial. That is, in contrast to land application, there is no evidence that practical or legal impediments, including land use or environmental restrictions, would somehow preclude such relocation. The capital cost of relocating the existing composting operation (as distinct from any expansion of that operation to accommodate projected population growth and demands) would be approximately\$1 million. The district currently serves approximately 1,800 households. The additional capital costs associated with relocating, amortized over a 20-year period,

would result in a \$5.00 per month rate increase per household over that penod. In addition the district's annual operating costs would increase by about \$100,000, representing the expense of trucking the present volume of big-solids/sludge from the existing treatment plant to the newlyrelocated composting operation.

Assessing those alternatives, the appellate court concluded, as did the trial court, that the hardship to the district from the issuance of an injunction does not "greatly outweigh" the benefit to plaintiffs. There is no question that relocating the composting operation will, in fact, be expensive. Nevertheless, two factors especially bear on its assessment of the equities.

"First, although a precise apportionment is impossible, the district's relocation expenses have been exacerbated by actions and additional expenditures that the district undertook after becoming aware of the Penlands' initial complaints in 1991 and of other plaintiffs' complaints by late 1992. This was not merely a case of the nuisance coming to the homeowners, but of the district expanding its operations after plaintiffs protested.

"Second, although the additional cost to the district will be substantial, the impact will be ameliorated because it can be spread among the district's rate-payers-over 1,800 households. If the district and those whom it serves are committed to the environmental values and benefits of composting, that may well be laudable. But the cost of that commitment should be commonly borne and not visited solely upon a handful of 'involuntary contributors who happen to lie in the path of progress.' We emphasize that this is not a case of simpleminded "NIMBY" parochialism-of narrow-minded refusal to assume burdens that are, reasonably and necessarily, part of living as a community. It is, rather, a clear and compelling case of living next to a public nuisance. The equities favor the issuance of an injunction."

The appellate court affirmed the trial court on both issues. PW

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VOL 112, NO. 535 2 SECTIONS 30 PAGES COVERING NEW HAMPSHIRE & SOUTHERN MAINE SEACOAST REGIONS THURSDAY, AUGUST 10, 2000 SOE SINGLE COPY

# is dangerous says sludge Government

Greenland family may use CDC report

 By James Buchanan
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 Staff Writer
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Portsmouth Herald (N.H.), Thursday, August 10, 2000-A11

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#### PENNSYLVANIA - PANTHER VALLEY SLUDGE VICTIMS: MINERS SUFFER DIZZINESS, NAUSEA, FLU-LIKE SYMPTOMS, BLOODY VOMIT.

AN 11 YEAR OLD BOYS DIES 8 DAYS AFTER RIDING HIS DIRT BIKE THROUGH FRESHLY APPLIED SLUDGE. CAUSTIC SLUDGE CHEMICALS OPEN LESIONS ON CHILD'S ARM AND LEG; CHILD WAS KILLED BY VIRULENT STRAIN OF STAPHYLOCOCCUS AUREUS - A PATHOGEN U.S. EPA ACKNOWLEDGES IS PRESENT IN SEWAGE SLUDGE.

#### Canned Italie Workers of America

LOCAL 1303 PRESIDENT JOHN P. ACEY, JR. P.O. BOX 31 RAMEY, PA 16671 814-378-5940



December 08, 1999

NIOSH Nancy Burton, M.P.H., M.S., C.I.H. 4676 Columbia Parkway Cincinnati, Ohio 45226

Dear Nancy,

Several UMWA (United Mine Workers of America) members became ill after Class B non-exception quality sludge was spread within feet of their work area and haul road. The symptoms experienced by the men at the Power Operating Co. Inc., Beaver Site in Centre County, PA are very similar to organic amine toxic gas exposure. These symptoms ranged from burning eves, sore throats, generation of mucus, headaches to nausea and vomiting. One employee had to seek medical attention due to these symptoms (including blood in his vomit).

It appears that exposure to high concentrations of organic amine gas can cause damage to the mucus membranes, lungs, liver and other internal organs. Such irritation and damage to these tissues can serve as a port of entry for viral and bacterial pathogens that are still active in Class B sludge.

The UMW's HHE (Health Hazard Evaluation) request was submitted prior to our men's illnesses from the exposure to Class B sludge. Due to new information and studies available on organic amine gas we would like to request an amendment to our original HHE. We would greatly appreciate if NIOSH would include organic amine gas exposure to the UMW's HHE investigation.

The UMWA would also appreciate if NIOSH would address the large amount of biologically active sludge that can not be properly incorporated into the soil. We are concerned that this practice, allowing the majority of sludge to be left on the surface, raises the risk of exposure to airborne contaminates, toxic gasses and vector attraction.

The EPA 503 regulations based Class B sludge safety on site restrictions and good management practices (incorporate or cover with soil within 6 hours). The EPA's pathogen risk methodology did not consider airborne particles as a significant pathway. They base the dismissal on the premise, that with daily cover, the contaminated surface will only be exposed for a brief period.

As the UMW observed during the visit by NIOSH to the Beaver site on August 26, 1999 and from speaking to other mine workers at other sludge sites, site restrictions and proper incorporation are not being met.

Thank you for your time and assistance on this request.

ohn P. Acey Jr. John P. Acey, Jr.

UMWA Local 1303 President

PENNSYLVANIA

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MINE WORKERS SUFFER BURNING EYES, SORE THROATS, GENERATION OF MUCUS, NAUSEA, VOMITING (INCLUDING BLOODY VOMIT).
### hshields

From:	Len Martin <lcmartin@csrlink.net></lcmartin@csrlink.net>
Sent:	Thursday, November 08, 2001 7:02 PM
Subject:	Re: SLUDGE - THE TRAGIC DEATH OF TONY BEHUN, PA DEP'S INCOMPETENT
•	INVESTIGATION, THE UMWA'S ILLNESSES, RUSH TOWNSHIP SUED BY SYNAGRO

Alison Harmelin of ABC Fox 23 on (11/16/00) did an investigative report on the death of Tony Behun. The program started with this introduction: "A little boy with a dirt bike dies under suspicious circumstances. A community begins searching for answers. Six years later a trail of deception leaves many people still wondering - if there was nothing to hide - why try to bury the truth?"

September 1994 - Class B Non Exceptional Quality Biosolids, from the city of Philadelphia, PA, began being hauled to an active strip mine site in Centre County, Rush Township, Pennsylvania. By the end of September, approximately 5,600 tons of sludge had been spread at the rate of 304 tons per acre. Because of the rocky mine surface and large quantity of sludge applied, the majority of sludge remained exposed to the surface, literally inches thick.

October 13, 1994 - 11 year old Tony Behun rode his dirt bike through this freshly applied sewage sludge. Sadly no signs were posted warning Tony of the dangers that lay ahead. Even though the land owners sign contracts requiring them to restrict public access from 30 days, up to a year after each application, the EPA and DEP unfortunately fail to enforce site restrictions. Even so - if signs had been posted stating "Biosolids Utilization Area" - what child would know the meaning of Biosolids? Tony was covered head to toe with black putrid smelling material. His mother made him remove his clothes in the garage and bathe immediately. His bike was hosed down to remove the sludge that was caked on it.

October 15-17, 1994 - Tony Behun became ill; he had lesions on his arm and was treated by a doctor for flulike symptoms.

October 19, 1994 - Tony Behun illness worsened and again was taken for medical treatment. He was lifeflighted to Pittsburgh where a team of medical professionals were baffled. Tony's parents were asked by the doctors "what may have Tony gotten into that was out of the ordinary?" At the time they didn't think of sludge or Tony's exposure to it because they had been told it was perfectly safe.

October 21, 1994 - At 7:35am, 11 year old Anthony (Tony) Behun was pronounced dead.

October 1994 - A mine worker, at the site where Tony was exposed to sludge, said several co-workers became ill and they were afraid to say anything for fear of losing their jobs. He said when the trucks left the site, sewage sludge, which was caked on the tires was deposited and scattered on the Township roadway for nearly one mile. He and Decatur Township supervisor, Dave Cowfer believed that sludge was the cause of Tony's death from day one.

February 21, 1999 - Tony's father, Joe Behun sent an abstract of Tony's death to the CDC (Centers for Disease Control and Prevention) stating Tony rode through sludge just days prior to his death. Mr. Behun wanted the CDC's help in identifying the cause and source of his son's death.

February 1999 - Five area representatives (including township supervisors Dave Cowfer from Decatur and Jack Shannon from Rush) met with PA DEP in Hawkrun to voice their concerns regarding a proposed 522 acre sewage sludge land application site which was in close proximity to the area's water supply. During the meeting the speculation of sludge causing young Tony Behun's death was mentioned. DEP official Doug Saylor with laughter in his voice said "it was the boy's fault because he was trespassing and had no right to be there in the first place."

\* PLEASE NOTE: Tony's age and full name was mentioned at this meeting \*

March 16, 1999 - At a DEP public hearing held for the proposed 522 acre site, the speculation of a young child's death was mentioned again. Out of respect to Tony's parents - Tony's name was not mentioned at this public meeting. Over 300 concerned residents attended. Rick Ryver, a concerned parent, asked Richard Stehouwer, Penn State University Professor (who normally attends DEP public hearings for PA DEP) "What if a truck hauling this stuff, whatever you want to call it, sludge, passes our schools and wrecks, are there any health risks to the children in that school? Yes or No? Are there health risks due to the bacteria, fungi, parasitic worms, et cetera, that is in this stuff? Are there health risks to the children, my children, the children of the people here tonight? Are there any health risks, yes or no?" Mr. Stehouwer answered: "Well, if you are asking for an absolute answer, the answer has to be yes. There are risks." This was written word for word from the actual transcript of the hearing.

June 18, 1999 - In response to the 522 acre studge site permit application - The Pennsylvania Department of Environmental Protection released this information; "Department of Environmental Protection had investigated the claim that a young child allegedly contracted a bacterial infection while riding his four wheeler on a biosolids amended site, which resulted in the death of the child." DEP concluded "the child died from a bacterial infection from a bee sting while riding a 4 wheeler prior to any biosolids being spread in the area." This statement was sent to area residents by PA DEP and was also published in "The Progress", a Clearfield County newspaper.

June 19, 1999 - Prompted by DEP's erroneous statement - truck weigh slips for the site next to Tony's house were retrieved from the Rush Township office. The slips indicated approximately 5,600 tons of Class B Sewage Sludge (243 truck loads) had been delivered and spread prior to Tony's death.

June 25, 1999 - Joseph Behun, Tony's father, infuriated with PA DEP for releasing false information requested the hospitals release all his son's medical records and x-rays to him. After receiving the records he sent copies to EPA Microbiologist Dr. David Lewis and also to a head Pathologist of a leading medical college.

July 7, 1999 - Wheelabrator Water Technologies Inc., BioGro Division spread Class B Non - Exceptional Quality Biosolids from the city of Philadelphia, Pennsylvania, on two strip mine sites in Rush Township Centre County, PA. Several mine workers became ill. \* Please see UMWA synopsis below (at the end of Behun's synopsis) \*

On July 7, 1999 - When DEP Doug Saylor was asked how DEP investigated Tony Behun's death, he answered, "we spoke to the parents." This was not true and when confronted, Mr. Saylor said "he had made a mistake, they had spoken to friends of the family instead." When Mr. Saylor was asked for the names of the friends who DEP spoke to, he could not provide one name.

July 8, 1999 - Centre County, Rush Township supervisors unanimously adopted a sludge ordinance in order to protect the health, safety and welfare of it's residents. However, the day before the supervisors were to vote on the ordinance, BioGro spread sludge on two sites located in Rush Township. This appeared to be an attempt by BioGro to grandfather themselves under the Ordinance.

November 4, 1999 - Rush Township supervisors adopted a Tipping Fee Ordinance (1999-II) that requires a \$40.00 fee for each ton of sludge land applied in Rush Township. The Ordinance was adopted to protect health, safety and welfare of the area residents, because of concerns of Tony's death and because of strong odors at a sludge site in 1996; <u>http://www.pahouse.com/george/prold/sludgenews1.htm</u>. The tipping fee pays for the independent testing of the sludge to ensure it's compliance and safety under existing regulations.

November 1999 - Because of national exposure (article published in Time Magazine, October 4, 1999 - Vol. 154 No. 14) PA DEP initiated their second attempt at investigating the death of Tony Behun. Centers for Disease Control (CDC/NIOSH) employee Joseph Cocalis, P.E., DEE, CIH reviewed the abstract of Tony's death and made these statements to Time Magazine which appeared in the Oct. 4 article; "The problem, Cocalis says, is that Class-B sludge is "biologically active" when dumped. The EPA places a 30-day restriction on public access, but pathogens can survive much longer. And surrounding dumps with earth mounds won't keep out trespassers like Tony Behun, 11, who died after riding his bike through sludge in Osceola Mills, Pa. Nor will they keep toxic gases or wind-borne pathogens from reaching high-risk residents – infants, the elderly and the immune-system compromised." http://www.friendsofthecreek.org/time\_article.htm

November 9,1999 - Pennsylvania Department of Environmental Protection (PA DEP) investigators Robert Abernethy and Tony Martinelli from the Office of Chief Counsel, Bureau of Investigations, Williamsport, PA showed up at Brenda (Behun) Robertson, Tony's mother's home at 5:20PM. Abernethy flashed his badge and said he was from PA DEP.

One of the first questions that investigator Abernethy asked Brenda was; "*Did Tony play in the creek?*" -Robertson; "*No, I know the water was no good*". - Abernethy; "*We just found that out 2 weeks ago*." -Robertson; "*We would cross the creek on our bikes. Tony lived here for 9 years and nothing happened. The creek doesn't look good on your (DEP) part*." - Brenda said Mr. Abernethy hung his head. After DEP had questioned Tony's mother it was learned from an employee of the state (and a relative of the DEP investigator) that PA DEP was going to accuse raw sewage from a creek and/or a chipmunk bite as the cause of Tony's death. Entities profiting from the land application of sludge are now stating Tony died from riding through a sizable stream which was possibly contaminated with improperly treated sewage discharges. First of all, the creek DEP is referring to is not even remotely close to Tony's residence and the size of the creek is so small (1 to 2 feet across, tops) you could compare it to a ditch not a stream. Secondly, Tony wasn't anywhere near this creek for months prior to his illness and death, he wasn't bitten by a chipmunk or stung by a bee. Tragically the truth is, he unexplainably died shortly after being severely exposed to sludge.

May 3, 2000 - Wheelabrator Water Technologies Inc., BioGro Division took Rush Township to the Pennsylvania State Court seeking special relief against Rush's ordinances. In an attempt to have the case heard in State Court it appears BioGro included PA DEP (Pennsylvania Department of Environmental Protection) as a defendant. The State Court Judge ruled "DEP was not a defendant in this case, therefore the Commonwealth Court of Pennsylvania does not have jurisdiction over a Township" and moved the hearing to Centre County Court. NO. 189 M.D. 2000

PA DEP requested that it specifically be dismissed as a party to the case and on May 31st 2000 the Commonwealth Court of Pennsylvania granted PA DEP's request.

May 12, 2000 - Two PA DEP investigators forced Tony's mother to accept a copy of their report entitled "Report on the Investigation into the Application of Biosolids at the AI Hamilton Mountain Top Mine Site and the Death of Tony Behun" signed by DEP Secretary, James M. Seif. http://www.dep.state.pa.us/dep/biosolids/Testimony/BiosolidsReport0500.htm

The investigators told Brenda if she did not accept a copy of the report she would find it in her mail box. Tony's father found his copy that same night shoved in his mailbox without any postmarks on it. Why was It so important for Tony's parents to receive a copy of this report in such a hurry? Because it was to be used just days later in Harrisburg, PA at a one sided House Appropriation hearing on sludge.

May 17, 2000 – State Rep. Camille "Bud" George said "a one-sided House hearing today was an attempt to mask the state's deception and incompetence surrounding sludge and the death of an 11-year-old boy." HARRISBURG SLUDGE HEARING MASKS DECEPTION BEHIND BOY'S DEATH: http://www.pahouse.com/george/prold/sludgeday0517.htm

May 12, 2000 - Enclosed with the DEP's report, the Secretary of the Department of Environmental Protection (DEP), James Seif, apologized to Tony's mother admitting his agency distributed false information about a bee sting causing Tony's death in June 1999. Mr. Seif claimed his department did not know the name of the child until October 1999.

How can an investigation be performed and a conclusion be made about the cause of someone's death, if the victim's identity is unknown? DEP was given Tony's name prior to June 18, 1999 and if they could not recall it, as Tony's mother stated "all they had to do was ask." DEP stated in its report that Leonard Martin mentioned the death of a young child at a hearing on March 16, 1999 but yet they claim they were unable to determine the identity of the child before releasing false information. Why didn't they call Mr. Martin? PA DEP May 2000 report:

http://www.dep.state.pa.us/dep/biosolids/Testimony/BiosolidsReport0500.htm

FACT: Tony did not die from a bacterial infection from a bee sting and indeed sludge had been spread near his home prior to his death.

DEP's May 2000 report claims "Pa DEP met with Joel H. Hersh who is the Director of the Bureau of Epidemiology, Pennsylvania Department of Health. Mr. Hersh reviewed the death certificate and had other medical records reviewed, all of which are confidential and not a matter of public record. Mr. Hersh reports that the death had as a probable underlying cause a pathogen which is not known to be found in bio-solids, nor is the bio-solid environment known to be a suitable media for propagation of this pathogen." DEP's May 2000 report also refers to a NIOSH (National Institute of Occupational Safety and Health) study conducted for the UMWA (United Mine Workers of America) that found no human enteric pathogenic bacteria in bulk samples of sludge. DEP concluded "Our investigation and the conclusion of the Department of Health and NIOSH can not offer you an explanation for the cause of your son's tragic death. The most we can say scientifically and medically is that there is no evidence to suggest that biosolids was the source of the pathogen that caused the death of your son."\* For the facts surrounding NIOSH, please see the UMWA's synopsis below. \*

May 12, 2000 - Tony's mother, Brenda (Behun) Robertson and Leonard Martin, via a telephone conversation, contacted the PA Department of Health, Bureau of Epidemiology director Joel Hersh. Mr. Hersh was asked "how he concluded the pathogen responsible for Tony's death is not known to be found in sludge." He said he would have to call them back. When he phoned back five minutes later he said "he made the conclusion from the advice of his staff." He said if we could prove different he would revisit the issue. He also stated "if the pathogen is known to be found in biosolids - biosolids could be considered a probable cause in Tony's death."

May 16, 2000 - Brenda sent a letter to Mr. Hersh at the PA Department of Health. Brenda enclosed with the letter the EPA's Pathogen Risk Methodology in which the EPA has listed Staphylococcus aureus, the pathogen identified in Tony's Medical records as a pathogen known to be found in biosolids. Mr. Robertson's letter contained the following; "During our conversation you indicated a pathway is necessary for sludge to be a probable cause and you were under the impression Tony's exposure was from falling into sewage sludge. In fact; Tony's exposure was from riding a motorcycle across an open field which had freshly applied Class B sewage sludge dumped on it. My son was covered head to toe with this material." "We now understand the EPA believes with public access site restrictions and with good management practices Class B sludge is safe. But yet there were no signs warning my son and I of the risks associated with exposure to sewage sludge (if there had been, I am sure we would have avoided contact with this site)." "After the release of PA DEP's 2nd attempt to investigate my son's death I consulted with medical professionals who reviewed Tony's medical records. They all agreed one (1) pathogen was identified (Staphylococcus aureus). As you stated you concluded (through the advise of your staff) the pathogen identified is not known to be found in Biosolids. Please review the EPA's Pathogen Risk Assessment Methodology for Municipal Sewage Sludge Landfilling and Surface Disposal" PA/600/R-95/016 August 1995. Staphylococcus aureus has been identified by the EPA as a pathogen that poses a public health concern found in Biosolids (sewage sludge). Also you stated if we could show the pathogen in question to be found in Biosolids you would revisit this issue." "I hope your department with this accurate information can clarify the conflicting misinformation released by PA DEP's investigative report."

June 19, 2000 - The Commonwealth of Pennsylvania, Department of Health's attorney Grace R. Schuyler (Senior Counsel) responded to Tony's mother in a letter refusing to release information to her and stating the Department of Health had very limited involvement in the investigation on Tony's death. Ms. Schuyler continued to stress that any further inquirers would have to be directed to PA DEP. Sections of the letter go as follows: "Dear Mrs. Robertson, Your letter of May 16, 2000 and the accompanying consent for release of information addressed to Mr. Joel H. Hersh, Director of the Bureau of Epidemiology has been referred to me for review and response. The Consent for Release of Information is not appropriate in this instance. Typically, the Department of Health requires a consent authorizing Department of Health personnel to release records to the person or their legal representative if the Department of Health has records relating to medical examinations, tests or other health related measures for that particular individual. In this instance, the involvement of the Department of Health and specifically the Bureau of Epidemiology, was very limited and occurred a substantial time after the unfortunate death of your son. The Department of Health was involved in a limited capacity in reviewing materials relating to the investigation conducted by and/or through the Pennsylvania Department of Environmental Protection." "The questions that have been presented to Mr. Hersh in the section entitled "Information Requested" are in appropriate for further discussion by him or the Department of Health."

PA DEP apparently based their entire conclusion on the theory that the pathogen that caused Tony's death is not known to be in biosolids. However, EPA microbiologist Dr. David Lewis said "Medical records provided to me by the parents of Tony Behun state that the final diagnosis was "Acute sepsis" with a "questionable etiology." In layman's terms, this means that Tony died from a rapid-onset bacterial infection of his blood, and that doctors could not determine how he picked up the infection. Hospital lab reports identified Staphylococcus aureus as the cause of the infection. This is one of the pathogens listed by the U.S. Environmental Protection Agency as posing a public health threat from biosolids." Dr. Lewis said "Tony's strain of Staph appeared to be a mean hospital variety which was resistant to several antibiotics Tony was treated with."

Dr. Lewis sent an E-Mail message to Dr. Joel Hersh of the Pennsylvania Department of Health stating: "An otherwise healthy 11-year-old boy rides his motorbike across a mining area ankle deep in sewage sludge." "Within hours he develops lesions on an arm and a leg, runs a high fever within two days, and is dead in eight days from Staph aureus septicemia. It shouldn't be surprising that covering a child with wet caustic sewage sludge (containing strong irritants to skin, e.g., lime, ammonia, organic amines) is likely to give him a superficial Staph infection that may progress to septicemia. (Some of the Staph comes from what gets flushed down toilets in hospitals where people are being treated for virulent strains of the organism, and what goes into sewer lines from mortuaries where they drain all the bodily fluids.)"

June 1, 2000 - David Hess, deputy secretary of PA DEP, appeared on PCN Call-IN (Pennsylvania Cable Network) along with PA Rep. Bud George. The show focused on Sewage Sludge and the health risks associated with its use. During the show David Hess openly admitted the PA Dept. of Health identified the pathogen responsible for Tony Behun's death as *Staphylococcus*. Hess insisted and stood behind DEP's theory that this pathogen is not known to be found in Biosolids.

The PA Department of Heatth and PA DEP's theory of *Staphylococcus aureus* is not known to be found in Class B Sludge is inaccurate. *Staphylococcus aureus* is one of the pathogens of concern identified by the U.S. EPA for land applied sewage sludge (Page 4-4 of "Pathogen Risk Assessment Methodology for Municipal Sewage Sludge Landfilling and Surface Disposal" EPA/600/R-95/016 August 995). http://www.epa.gov/cgi\_bin/claritgw?op-Display&document=clserv:epa-cinn:4290;&rank=12&template=epa \*\* To open this document you must manually copy and paste (or type) the above web address in the address location area - after opening the document - go to the bottom the page to "specify page"... type in 40.... click on "go to page"... this will get you to 4-4 where the EPA identifies staphylococcus aureus in sludge. Please review Pages 37 through 40 (4-1 - 4-4) \*\*

June 11, 2000 - According to the Pittsburgh Post-Gazette article, the federal Centers for Disease Control and Prevention and the U.S. EPA corroborate that Staphylococcus aureus can be found in sludge. http://www.post-gazette.com/hegithscience/20000611sludge4.asp

"I don't know why it couldn't be," said Nancy Burton, an industrial hygienist who has investigated complaints of sludge-related illness for the National Institute for Occupational Safety and Health. "It occurs in the human body. It just depends on what's flowing into the waste water in the treatment plant." "Whether it was in a particular sludge at a given time all depends on what was going into the waste water, what was coming out of the hospital, what kind of people were living there at a certain time," said James E. Smith, an EPA environmental engineer. "I wouldn't want to say it couldn't be. I wouldn't want to say it could be."

JUNE 2, 2000: PA REP. GEORGE REQUESTS DEP INVESTIGATION OF BOY'S DEATH http://www.pahouse.com/george/letters/depsludgestudy2.htm

"Two weeks ago, you sent a letter to Brenda Robertson, apologizing for factual errors in your department's investigation of her son's death. After reading the report your office sent her, I believe an additional apology is in order." " I find that report to be incomplete, inaccurate, and lacking the depth and quality that this tragedy deserves."

June 13, 2000 - Brenda (Behun) Robertson sent a registered letter to Governor Tom Ridge pleading for him to put an end to PA DEP from distributing false information surrounding the death of her 11 year old son, Tony. Her letter has gone unanswered.

Brenda's letter contained the following; "Representative Bud (Camille) George has publicly accused the DEP of deception and incompetence in handling the matter of my Tony's death. I cannot tell you what a heart-

wrenching experience it is for me to learn that Secretary Seif and his department have disseminated, and continue to disseminate, false information about my child. I am also deeply troubled that the DEP unfairly attacks those, such as Dr. Lewis, who would correct their misinformation and that the Legislature would prevent anyone from testifying concerning the true facts." "When Dr. Lewis spoke in Harrisburg, he called upon you to look into the misinformation being disseminated by Secretary Seif. Dr. Lewis said that he is still willing to meet with you or your staff to discuss ways of laying this matter to rest. In fact, we would both be willing to meet with you and discuss ways in which you could clear up any misinformation and remedy the mistakes made by the DEP, which are making the tragic loss of my child all the more painful for me and my family." \* (EPA Microbiologist, Dr. Lewis was flown from Georgia to Harrisburg, Pennsylvania to meet Tony's mother and to offer expert testimony at the House Appropriation hearing on sludge. The House Appropriation leaders refused Dr. Lewis was not an employee of the Environmental Protection Agency.) \*

June 15, 2000 - With their theory rapidly deteriorating the PA DEP retrieved five samples of sludge from the site where Tony was exposed. DEP submitted the sludge to the Pennsylvania Department of Health Laboratories for Staphylococcus Aureus culture. PA DEP posted the results on their web site, next to Tony's investigative report, stating "The five samples that were submitted to the Department of Health Lab for Staphylococcus Aureus culture all found: "No Staphylococcus aureus Isolated."

What was wrong with this behavior you might ask, well for starters, the samples of sludge DEP collected was land applied in 1994 which means these samples were nearly 6 years old. Staphylococcus aureus would certainly die off in a 6 year time span. The EPA lists the "Survival Times of Pathogens in Soil and on Plant Surfaces" for Bacteria as absolute MAXIMUM - ONE YEAR. Why didn't DEP collect and analyze fresh samples of Class B sludge from the city of Philadelphia (Philadelphia is where the sludge originated from - which Tony was exposed to). The fact that PA DEP even attempted to find staph/aureus in the soil 6 years after the sludge was applied and then posted the results on their web page next to their May 2000 report on Tony's death - either shows their ignorance for bacterial survival or is an attempt to deceive the public. PA DEP Biosolids - Sampling at Mountain Top Site on 6 year old sludge: <a href="http://www.dep.state.pa.us/dep/biosolids/mountaintop/SampleResults.htm">http://www.dep.state.pa.us/dep/biosolids/mountaintop/SampleResults.htm</a>

June 28, 2000 - State Representative, Camille George sent a letter (on behalf of Tony's mother) to Robert Zimmerman, Secretary of Pa. Department of Health: "Dear Secretary Zimmerman: Last month, the state Department of Environmental Protection apologized to Mrs. Robertson for stating that her son died from an infection resulting from a bee sting and for stating the site had not been sludged before the incident. In his apology to Mrs. Robertson, Mr. Seif said his department found no medical or scientific evidence that Tony Behun's death was linked to sludge. The DEP based its conclusion, in part, on evidence collected by Joel H. Hersh, director of the Health Department's Bureau of Epidemiology, Considering the DEP's horrific track record in this case, it is only natural that Mrs. Robertson would want to examine the information that lead the agency to conclude that no link was found between sludge and her son's death. In a letter to Mr, Hersh that I've enclosed, Mrs. Robertson requested additional information concerning the investigation into her son's death. Mrs. Robertson also filed a consent for release of information. The Health Department, in a letter I've attached from Senior Counsel Grace R. Schuyler, denied Mrs. Robertson's request, saying the Health Department's involvement in the investigation was "very limited." Ms. Schuyler also suggests that Mrs. Robertson write to DEP for the information. However, I have been stymied trying to obtain information from the DEP. It also makes little sense for Mrs. Robertson to request the information from DEP because it is that agency's veracity she is trying to determine. According to the DEP, Mr. Hersh reported that the boy died of a pathogen "not known to be found in bio-solids." That statement has been refuted by two accredited scientists, Dr. David L. Lewis, a microbiologist with the federal Environmental Protection Agency, and Nancy Clark Burton, an industrial hygienist with the National Institute for Occupational Safety and Health. As Mrs. Robertson informed Mr. Hersh, the EPA lists the pathogen as being present in sludge and as posing a public health threat. In short, Mrs. Robertson has good reason to question the DEP's conclusion concerning her son's death. It's a cruel game being played." "Consider the treatment Mrs. Robertson has received so far from state agencies: Told her son died from a bee sting. DEP later retracted and apologized. Told incident occurred before sludge applied to land where he played. DEP later retracted and apologized. Told no medical or scientific evidence links her son's death to sludge. Denied information compiled by Health Department leading to DEP's conclusion. Told to seek information from DEP. In the name of decency, I urge you to reconsider your department's refusal to release the information to Mrs. Robertson. There can be no closure on this tragic story without it."

August 7, 2000 - Robert Zimmerman, Secretary of Pa. Department of Health sent a letter to State

Representative, Camille George stating "the Department of Health was involved in a limited capacity in this matter and, in fact, did not conduct an investigation into Tony Behun's death. Any OPINIONS offered by Mr. Hersh were based solely on the limited information from the patient's record and the death certificate six years after the patient's death. The Department of Health is not refusing to release information on this matter to Mrs. Robertson but advising Mrs. Robertson that she should work with the DEP as they are the responsible agency handling this matter."

July 28, 2000 - The National Institute of Occupational Safety and Health (NIOSH) released a Hazard Identification entitled: Workers Exposed to Class B Biosolids During and After Field Application. http://www.cdc.gov/niosh/hid10.html The report, released by the CDC's (Center for Disease Control) National Institute of Occupational Safety and Health, found:

\* Enteric organisms that may be found in Class B biosolids include, but are not limited to, Escherichia coli, Salmonella, Shigella, Campylobacter, Cryptosporidium, Giardia, and enteroviruses.

\* Exposure to it may result in disease or a carrier state where disease can be spread to others \* Class B sludge stored before it is applied contains high levels of coliform.

Workers may be exposed to disease-causing organisms while handling Class B sludge.

\* Potentially disease causing bacteria were found in bulk and air samples at a land application sludge site.

Aug. 3, 2000 - HARRISBURG, State Rep. Camille "Bud" George, Democratic chairman of the House Environmental Resources and Energy Committee, today called for the immediate suspension of all Class B sludge applications in Pennsylvania.

http://www.pahouse.com/george/prold/sludgeban08021.htm

"The Centers for Disease Control's latest study confirms that workers may be exposed to

disease-causing organisms while handling or disturbing Class B sludge on farms or mine reclamation sites, said Rep. George, D-74 of Houtzdale." "The state Department of Environmental Protection must immediately halt Class B sludge dumping and begin protecting workers and the public," Rep. George said in a letter to DEP Secretary James M. Seif.

### Aug. 3, 2000 - Rep. George's letter to DEP Secretary James M. Seif:

http://www.pahouse.com/george/prold/seifsludge08031.htm

"The tragic story of 11-year-old Tony Behun, who died a week after playing in Class B sludge in Clearfield County, illustrates the threat to the public. As the NIOSH study notes, pathogens were found in air samples." "Two months ago, I wrote to you urging the DEP to launch a full-fledged investigation into the Behun boy's death, including a health survey of sludge applicators. I have yet to receive a response from you on the matter. However, I hold out hope that this new health data will spur the DEP to action."

Sept. 12, 2000 - Biogro/Synagro-WWW Inc. withdrew it's Centre County Court lawsuit against Rush Township, PA. According to Sharon Hogan of Synagro, the Centre County suit was withdrawn on the advise of legal counsel.

Sept. 14, 2000 - Synagro-WWW Inc. (formally BioGro) filed suit for \$2.7 million in damages against Rush Township in the UNITED STATES DISTRICT COURT (Federal Court) For The Middle District Of Pennsylvania.

November 16, 2000 - PA DEP representative Dan-Spadoni made the following statement during his interview with Alison Harmelin which aired on ABC Fox 23. "A follow up investigation that was done by the National Institute of Occupational Safety and Health - ah - NIOSH - ah - both came to the same conclusion that there was no connection between - ah - the boy's illness and ultimate death and the biosolids." \* PLEASE NOTE -Secretary of the Pennsylvania Department of Environmental Protection (PA DEP), James Seif also referred to NIOSH several times in his erroneous May 12, 2000 report. One example of Seif referring to NIOSH: "Our investigation and the conclusion of NIOSH can not offer you an explanation for the cause of your son's tragic death." \*

On what basis does PA DEP claim; "NIOSH concluded that there was no connection between the boy's illness and death and biosolids." The National Institute of Occupational Safety and Health has since stated ""NIOSH does not have the authority to investigate public health, since our agency only investigates workers health complaints, we had no involvement, and NIOSH did not investigate Tony Behun's death nor did the agency make the conclusion that PA DEP claims." "NIOSH is not aware of any investigation, comments or

conclusions made by the department surrounding the death of Tony Behun." In a letter dated June 7, 1999 from NIOSH to a local stone quarry safety director - NIOSH wrote: "The hypothetical example of a worker riding a four-wheeler through freshly applied Class B biosolids is an activity which presents a high degree of health risk to participants" "It is an activity with a high potential for exposure through both direct contact and inhalation" This letter was given to the PA DEP investigators prior to the release of their May 2000 report.

To put this into perspective neither the Department of Health or the National Institute for Occupational Safety and Health (NIOSH) conducted a scientific or medical investigation into Tony's death. Factually PA DEP only has one mere opinion to support it's theory. An opinion that is incorrect.

Since the EPA and the sludge industry continuously hides behind DEP's unreliable and irresponsible reports, then I challenge them to quantify the amount exposure and severity of health risks of riding a motorbike through freshly applied Class B Non-Exceptional Quality sewage sludge (biosolids). They can not scientifically discount the connection between Class B sludge and Tony's death. Sludge contains multitudes of contaminates and disease causing organisms (including *virulent strains* of Staph aureus) that in conjunction with one another could be responsible for taking Tony's life. Regardless how reluctant the EPA may be at accepting responsibility, these facts remain the same. Hopefully the EPA will open their eyes before another child like Tony, needlessly loses their precious life.

The NIOSH investigation DEP keeps referring to is a NIOSH Health Hazard Evaluation (HHE) that is being conducted at the request of the UMWA (United Mine Workers of America). Please review the UMWA synopsis below.

### UMWA SYNOPSIS

June 20, 1999 - John P. Acey, Jr., President of the UMWA (United Mine Workers of America) local 1303 sent to NIOSH (National Institute of Occupational Safety and Health) division of the CDC (Centers for Disease Control and Prevention) a request for a health hazard evaluation (HHE). In the HHE request Mr. Acey described the possible hazard as: "Working within feet of Non Exceptional Quality Class B Biosolids that contain endotoxins, pathogens and dioxins within the restricted 30 day period will be a health hazard to all employees. Employees will have the risk of disease and illnesses caused by viruses, bacteria, protozoa, fungi and intestinal worms present in Class B Biosolids." Mr. Acey knew the site restrictions established by EPA to protect public health from sludge exposure did not apply to workers.

July 7, 1999 - Wheelabrator Water Technologies Inc., BioGro Division spread Class B Non - Exceptional Quality Biosolids from the city of Philadelphia to an active strip mine operation in Centre County, PA. BioGro's sludge site was literally feet away from the UMWA's work area. Thomas M. Reed and another UMWA member experienced dizziness, nausea and bloody vomit. Six of their co-workers also were sickened with flu-like symptoms. Symptoms ranged from burning eyes, sore throats, generation of mucus, headaches, nausea, vomiting, numbress of the face, skin disorders, dizziness, diarrhea, and other gastrointestinal symptoms.

July 1999 - The UMWA (United Mine Workers of America) Safety Representatives notified NIOSH (National Institute of Occupational Safety and Health) of their men's illnesses and requested that NIOSH begin their Health Hazard Evaluation.

August 16, 1999 - In response to their men's illnesses UMWA International Safety Representative, James Lamont scheduled a meeting with PA DEP of Hawkrun. At the August 16, 1999 meeting two DEP representatives, John Vamer and Doug Saylor, became hostile - and made the statement, "the only way to become infected is if you would walk through sludge barefooted you may get ringworm." This is the same DEP office which earlier (June 18, 1999) released a false bee sting theory being the cause of young Tony's death.

August 16, 1999 - The same day of the DEP meeting EPA Microbiologist Dr. David Lewis was contacted about the men's illnesses. Dr. Lewis was asked if the symptoms experienced by the mine workers could be from sludge exposure.

August 17, 1999 - Dr. Lewis responded to the mine workers illnesses in an email: "Although I am interested in pathogen problems, I have of late been looking into what appears to be potentially serious problems with some of the odor-causing gases generated by sludge." "Exposure to sufficiently high concentrations of gaseous organic amines (from sludge) can cause severe irritation of the eyes and skin, and damage to mucus membranes leading to pulmonary edema (bleeding in the respiratory system). These toxic gases can also cause damage to the lungs, liver, and other internal organs. Initial symptoms include eye irritation, skin rashes, burning in the mouth, nose, or throat, generation of mucus, headaches, nausea, and vomiting. Such damaged tissues can serve as a port of entry for bacterial or viral pathogens, leading to flu-like infections, pneumonia, or bacteremia/septicaemia." "The effects of organic amine poisoning are serious, sometimes irreversible, and can lead to life-threatening complications. In my opinion, this is a potentially significant public health problem that should be seriously investigated."

August 26, 1999 - NIOSH visited the UMWA site and took 10 samples of sludge to have analyzed. Nancy Burton, Certified Industrial Hygienist from NIOSH wore a mask and protective clothing while taking these samples.

August 27, 1999 - UMWA James Lamont met with PA DEP and several representatives from the coal company where the miners were employed. Both the PA DEP and the coal company representatives insinuated the affected workers had blue flu - meaning the miners were making their illnesses up. Mr. Lamont feit this statement was really out of line and very unprofessional, especially since Mr. Reed had to seek medical attention and was treated at a local hospital for his illnesses.

December 8, 1999 - UMWA John Acey sent a letter to NIOSH requesting an amendment to their original HHE investigation to include toxic organic amines gas exposure. The letter contained the following: "Several UMWA (United Mine Workers of America) members became ill after Class B non-exceptional quality sludge was spread within feet of their work area and haul road. The symptoms experienced by the men are very similar to organic amine toxic gas exposure." "The UMWA's HHE (Health Hazard Evaluation) request was submitted prior to our men's illnesses from the exposure to Class B sludge. Due to new information and studies available on organic amine gas we would like to request an amendment to our orginal HHE. We would greatly appreciate if NIOSH would include organic amine gas exposure to the UMWA's HHE investigation. The UMWA would also appreciate if NIOSH would address the large amount of biologically active sludge that can not be properly incorporated into the soil. We are concerned that this practice, allowing the mejority of sludge to be left on the surface, raises the risk of exposure to airborne contaminates, toxic gasses and vector attraction. As the UMW observed during the visit by NIOSH to the Beaver site on August 26, 1999 and from speaking to other mine workers at other sludge sites, site restrictions and proper incorporation are not being met."

January 11, 2000 - Nancy Burton of NIOSH sent a letter to UMWA John Acey acknowledging their men's illnesses and stating "We received your letter which requested additional items be added to the issues listed for the health hazard evaluation (HHE) request submitted in June 1999." "These include: (a.) an evaluation of exposures to organic amines compounds" "and (b.) the issue of incomplete incorporation of sewage sludge" "which leaves the material exposed on the surface. I have added this information to the current HHE project file and will address these issues if a return visit is possible."

2000 - The Journal of Agromedicine released a publication (Volume 7, Number 1 2000 - ISSN: 1059-924X). This report summarizes the conclusions from a workshop including participants from, Duke University, the Environmental Protection Agency (EPA), and the National Institute on Deafness and Other Communication Disorders (NIDCD) regarding the potential mechanisms responsible for health symptoms from ambient odors. ABSTRACT: "Complaints of health symptoms from ambient odors have become more frequent in communities with confined animal facilities, wastewater treatment plants, AND BIOSOLIDS RECYCLING OPERATIONS. The most frequently reported health complaints include eye, nose, and throat irritation, headache, nausea, diarrhea, hoarseness, sore throat, cough, chest tightness, nasal congestion, palpitations, shortness of breath, stress, drowsiness, and alterations in mood." " for sensitive individuals such as asthmatic patients, exposure to odors may induce health symptoms that persist for longer periods of time as well as aggravate existing medical conditions." " There is considerable epidemiological evidence predominantly from urban settings that exposure to increased levels of particulates is associated with increased mortality risk, especially among the elderly and individuals with preexisting cardiopulmonary diseases, such as chronic

obstructive pulmonary disease (COPD), pneumonia, and chronic heart disease. There is also epidemiological evidence that particulate exposure can increase the risk of respiratory and cardiovascular morbidity such as increased hospital admissions or emergency room visits for asthma or other respiratory problems, increased incidence of respiratory symptoms, or alterations in pulmonary function." To obtain a complete copy of this JOURNAL contact: JANETTE A. KEMMERER JKemmerer@haworthpressinc.com OR call toll free: 1-800-429-6784 OR FAX: 1-800-895-0582.

February 10, 2000 - UMWA, Safety Administrator, Joseph Main sent a letter to Linda Rosenstock, Director of the NIOSH division of the CDC (Centers for Disease Control and Prevention) in Washington, DC: "The seriousness of this situation should be apparent at this point. This material will contain live bacteria, viruses, and an unknown number other hazardous contaminates that could, and in some instances have, caused significant health risks to those who come in contact with it." "from conversations we have had with individuals from the Cincinnati office of NIOSH, that the sludge had been in the open environment too long to to afford any meaningful test results. There was a lag time of approximately 60 days between the spreading of the material and the sampling." \* Even before NIOSH released their interim report - the UMWA suspected the results to be meaningless. Unfortunately NIOSH could not collect fresh sludge samples at the UMWA site because no sludge has been applied since July 7, 1999. \*

March 3, 2000 NIOSH released to the UMWA an interim report which included the analysis from the 10 sludge samples. The NIOSH report stated: "The purpose of the monitoring was to determine if enteric organisms could be detected after the biosolids had been exposed to environmental conditions for several weeks (from July 7, 1999, until August 26, 1999)." The NIOSH report found "[n]o human enteric [intestinal] pathogenic bacteria, such as Salmonella, Shingella or E. Coli, in bulk samples, indicating that there was no residual biological activity specifically related to the sewage sludge." "FUTURE PLANS: NIOSH intends to conduct bioarerosaol monitoring for human enteric pathogenic bacteria, other bacteria, fungi, and enteroviruses at various distances from the application site (on freshly applied biosolids). We would also conduct air monitoring for trace metals and organic compounds, including amines, which may be found in biosolids." \* NIOSH's interim report did not address the men's illnesses. Since the release of this report - DEP has been using it to promote the safety of sludge and they are using it to say NIOSH concluded there is no connection between sludge and Tony's death. \*

May 12, 2000 - Pennsylvania Department of Environmental Protection released their report entitled "Report on the Investigation into the Application of Biosolids at the Al Hamilton Mountain Top Mine Site and the Death of Tony Behun" signed by DEP Secretary, James M. Seif.

http://www.dep.state.pa.us/dep/biosolids/Testimony/BiosolidsReport0500.htm

\* This report refers to NIOSH and the UMWA several times \*

May 16, 2000 - In response to DEP's May 12, 2000 investigative report UMWA Safety Representative, James Lamont sent me the following letter: "I received then reviewed the DEP report labeled, "Investigation into the application of Biosolids at the Al Hamilton Mountain Top Mine Site and the Death of Tony Behun," dated May 2000. Page 5 of the report gained my particular attention in that I can testify that certain parts of this page are grossly in error, and are downright false. If you will go to page 5, and pick up where the DEP states,: "Martin also alleged that DEP District Mining Manager Mike Smith had attempted to have the NIOSH investigation halted. In an attempt to confirm the allegation, the Department again spoke with Nancy Burton. Ms. Burton stated that neither Mike Smith nor anyone else from DEP had asked that the investigation be halted. Rather, she said that Mr. Smith asked that he be sent a copy of any report that NIOSH issued." After reviewing this Len, I couldn't believe what I saw. I pulled from my files, personal notes that I take of every phone conversation. From that are the following: On Tuesday, October 12, 1999 Nancy Burton (Industrial Hygienist from NIOSH) called. Nancy informed me that a Mr. Michael Smith, a Supervisor for DEP at the Hawk Run, Pa. Office called her. Mr. Smith, she said, believes that Power Operating Inc. will soon be sold, and that the UMWA isn't pushing the sludge issue anymore. She told me that she thought I would be very interested in that conversation... I told Nancy that no one from the UMWA made any such claim, and that the UMWA International is involved and had no intentions of backing off of this issue. I thought you would be interested in knowing the truth of what actually should have been addressed in the DEP report."

May 30, 2000 - The UMWA, Safety Administrator, Joseph Main sent a letter to NIOSH, Nancy Burton, M.P.H., M.S., C.I.H. in Columbus, Ohio: "The (NIOSH) interim report failed to cite the fact that NIOSH delayed collecting samples at the mine until about 60 days after the sludge had been dumped and the miners."

became sick. That gap would have been sufficient to allow many of the enteric pathogens, which were the focus of the NIOSH study, to die off. We have also questioned the extensiveness of the NIOSH testing for other harmful elements, particularly given other findings where sludge was dumped. In previous conversations the UMWA expresses concerns that incomplete information contained in the March 3, 2000 interim report would be used by promoters of Sludge dumping who would ignore the health risks. We were disturbed to hear that Pennsylvania DEP had apparently interpreted your findings that dumping of the Sludge has no ill effects. What is more disturbing in this case however is that DEP was aware of the interim report shortcomings, but chose to ignore them." "The fact of the matter is that the issues the Union brought to the attention of the Agency has not been adequately addressed and the interim report is being utilized by others as a comprehensive endorsement of current practices." "At a recent legislative hearing conducted in Harrisburg Pa., excerpts from your Interim Report, were used to paint a glowing picture for continued spreading of Sludge without the need for any further precautions. No one at this point can determine the extent of damage these proceedings have had on workers protection."

July 28, 2000 - The National Institute of Occupational Safety and Health (NIOSH) released a Hazard Identification entitled: Workers Exposed to Class B Biosolids During and After Field Application. <u>http://www.cdc.gov/niosh/hid10.html</u> The report, released by the CDC's (Center for Disease Control) National Institute of Occupational Safety and Health, found:

\* Class B sludge stored before it is applied contains high levels of coliform.

\* Exposure to it may result in disease or a carrier state where disease can be spread to others

\* Workers may be exposed to disease causing organisms while handling Class B sludge.

\* Potentially disease-causing bacteria were found in bulk and air samples at a land application sludge site.

The disturbing part about DEP using NIOSH's UMWA interim report is;

#1. NIOSH collected the UMWA's sludge samples 50 days after it had been applied. July 7, 1999 sludge was spread - Aug. 26, 1999 NIOSH collected the samples. In a recent letter from NIOSH to Rep. George - NIOSH stated they can not say for certain what human enteric [intestinal] pathogenic bacteria were present when the sludge was first applied.

#2. NIOSH investigators focused on the absence of enteric (intestinal) bacteria in the sludge. The absence of these (intestinal) bacteria in 50 day old samples taken from sludge applied years after Tony's death are not, by any means, a reliable basis for concluding that *Staphylococcus aureus* was not present in the sludge to which Tony was exposed. NIOSH's UMWA interim report had nothing to do with Tony's death, the actual site or the sludge Tony was exposed to.

#3. DEP was given information on a NIOSH Health Hazard Evaluation performed in LeSourdsville, Ohio 1998-1999 # 98-0118-2748. NIOSH identified and detected enteric pathogens in air samples which were collected at an area where fresh sludge was being applied. The evaluation indicated a potential for occupational exposure to disease-causing organisms through ingestion or inhalation of the sludge. This report states "Some of the bacteria found in the samples are opportunistic human pathogens such as Mycobacterium, Pseudomonas, and Staphylococcus".

\*\* This Ohio HHE report was given to PA DEP investigators in November 1999 - seven (7) months prior to the release of their misleading and erroneous investigative May 10, 2000 report which stated *Staphylococcus* is not known to be found in sludge. \*\*

#4. Instead of using NIOSH's Ohio study that was conducted on freshly applied sludge - DEP opted to use and to refer to a study conducted on sludge that had been exposed to the environment for 50 days.

ABC Fox 23 Alison Harmelin countered Dan Spadoni's erroneous statement by displaying NIOSH's HAZARD IDENTIFICATION # 10 which was released on July 28, 2000. <u>http://www.cdc.gov/niosh/hid10.html</u> Alison pointed out and referred to Key Point #1. Workers may be exposed to disease-causing organisms while handling, applying or disturbing Class B Biosolids.

As Alison stated earlier in her report: "Six years later a trail of deception leaves many people still wondering if there was nothing to hide - why try to bury the truth?"

### **Relevant News Articles:**

[11/20/00] KHOU Television, the Houston, TX affiliate of CBS that broke the Firestone tire story, began its series on risks of Class B sewage sludge. This first program focuses on hazards from trucking the material. Reporter Anna Werner shows a film clip of a highway accident involving sludge and interviews individuals experiencing problems from exposure to sludge plus proponents, who advise improving the current practice. <u>http://www.khou.com/news/stories/5682.html</u>

(10/25/00) By BOB LAYLO Of The Morning Call: Lehigh Coal pulls request to spread sludge. Company's plan to reclaim mine land with waste drew protests. http://themorningcall.com/html/news/top/a\_pg001a1\_1sludge.htm

[10/11/00] BOB LAYLO of the Pennsylvania Morning Call writes: "UMWA member Thomas M. Reed left his shift at a Centre County mine early, complaining of dizziness, nausea and bloody vomit. Seven of his coworkers also were sickened with flu-like symptoms. More than a year later, Reed still believes that sewage sludge spread on an adjacent property to grow vegetation made him ill. http://themorningcall.com/html/news/top/a\_pg001a1\_sludge.htm

(10/5/00) USA TODAY; Faced with faulty science, EPA muzzles critics http://members.aol.com/lewisdavel/USATodayRusso.htm

[7/28/00] CDC (Center For Disease Control) Releases recommendations to protect workers. The CDC HAZARD IDENTIFICATION #10 report warns workers of human disease causing organisms found in Class B Sludge which can be hazardous if inhaled or ingested.: http://www.cdc.gov/niosh/hid10.html

[7/13/00] CDC sounds an alarm on the risks of sludge Farmers use tons of treated sewage as free fertilizer By John Tuohy USA TODAY. http://www.usatoday.com/life/dcovthu.htm OFFICIALS WON'T BLAME SLUDGE: http://www.usatoday.com/life/health/general/lhgen250.htm TWO DEATHS - TWO MOTHERS - TOO MANY QUESTIONS !! http://www.usatoday.com/life/health/general/lhgen251.htm

[7/1/00] EPA's Secret Role in Toxic Sludge By Insight Magazine: http://www.insightmag.com/archive/200007246.shtml

[6/11/00] A terrible waste gets long look People are asking why a boy died after riding his bike over some sludge. By Tom Gibb Pittsburgh Post-Gazette. Sunday June 11, 2000: http://www.post-gazette.com/heatthscience/20000611sludge4.asp

[5/11/00] LA Times. "Bitter Dispute Sprouts Over Los Angeles' Sewage Sludge" Farming: When Kern County tried to curb flow, L.A. sued. With disposal options limited, stakes are high. By ERIC BAILEY, Times Staff Writer: http://www.latimes.com/news/state/updates/lat\_sludge000511.htm

[5/8/00] Insight magazine. (May 29, 2000.) Sludge Excuses Still Stink By Sheila R. Cherry: "Never mind what you think about the stuff in your toilet: The Environmental Protection Agency is spreading it around and says Americans should shut up and eat their sludge." http://www.insightmag.com/archive/200005293.shtml

[4/23/00] Insight magazine. Investigative report on the death of Tony Behun and Shayne Conner after exposure to sewage sludge applied in their neighborhoods. http://www.insightmag.com/archive/200005170.shtml

[3/22/00] Science Committee Hearing. EPA's Inspector General released a March 20 report critical of EPA's handling of sludge (Biosolids Management and Enforcement Audit report 2000-P-10.). Sensenbrenner quoted

it: "while EPA promotes land application, EPA cannot assure the public that current land application practices are protective of human health and the environment. http://www.epa.gov/oigearth/audit/list300/00P0010.pdf The hearing was strongly bipartisan. See coverage, for example, by ENVIRONMENTAL NEWS: http://ens.lycos.com/ens/mar2000/2000L-03-22-03.html

### For More Information

PEN (Pennsylvania Environmental Network) Sewage Sludge Home Page: http://www.enviroweb.org/issues/sludge/ EPA Microbiologist, Dr. David Lewis's web page: http://members.aol.com/lewisdavel/



### National Environmental Publications Information

**Basic Search - Results Image** 

### 4. 600R95016 Pathogen Risk Assessment Methodology for Municipal Sewage Sludge Landfilling and Surface Disposal

This is page 40 of 178.

The U.S. EPA has classified pathogenic bacteria into two categories: those of major concern and those of minor concern. Bacteria of major concern are those commonly found in wastewater and sludges and resulting in disease to the general population. Bacteria of minor concern are opportunistic pathogens that cause disease only in debilitated or immunologically compromised individuals. Bacteria of major concern are listed in Table 4-2. Some bacteria of minor concern include: Bacillus cereus, Clostridium perfringens, Euterobacter spp., Francisella tularensis, Klebsiella spp., Legionella pneumophila, Listeria monocytogenes, Mycobacterium tuberculosis, M. avium complex, Pseudomonas aeruginosa, Staphylococcus aureus and Steptococcus spp.

Salmonella spp. and Shigella spp. are the most common bacterial pathogens in municipal wastewater (Kowal, 1985). Although many Salmonella infections are symptomless, most of the serotypes affecting humans produce acute but transient gastroenteritis (Feachem et al., 1983). Direct human transmission of these serotypes is rare. Although the Centers for Disease Control reported only ~49,000 cases of salmonellosis during 1988, most cases go unreported, and there has been a steady increase in incidence over the past 35 years (CDC, 1989). Ingestion of contaminated food or drink is the main cause of an estimated two million cases in the United States per year (Domingue, 1983). Animals, including poultry, farm animals, pets and rats and mice, are an important reservoir of these organisms. Gastroenteritis from salmonellosis is serious only for infants or the elderly with underlying health problems.

Other Salmonella serotypes, including S. choleraesuis, S. ryphi and S. paratyphi, invade the tissues producing septicemia, typhoid fever (enteric fever) or paratyphoid fevers (Domingue, 1983). Food or water contaminated directly or indirectly from human excreta is the usual source of infection of S. ryphi; the primary source of infection of S. paratyphi is also humans, although animals are a reservoir for the organisms. In areas with high standards for sanitation and public health, these diseases are not prevalent. The mortality rate for paratyphoid is lower than that for typhoid; with the use of appropriate drugs, the mortality rate for typhoid can be as low as 1-2%.

### JOEL HERSH, PENNSYLVANIA DEPT. OF HEALTH SAYS <u>STAPHYLOCOCCUS AUREUS</u> "IS NOT KNOWN TO BE FOUND IN BIOSOLIDS, NOR IS THE BIOSOLID ENVIRONMENT KNOWN TO BE A SUITABLE MEDIA FOR PROPAGATION."

### US EPA SAYS <u>STAPHYLOCOCCUS AUREUS</u> IS A PATHOGEN WHICH CAN BE FOUND IN SEWAGE SLUDGE.

## July 10, 2001 By Paul Recer, AP Science Writer

## STAPH BACTERIA ACTIVE GENE SWAPPER

WASHINGTON (AP) - Staph bacteria can quickly swap genes with relatives to turn into virulent, dangerous germs that can cause disease and resist antiblotics, a new study shows.

In a report appearing Tuesday in the Proceedings of the National Academy of Sciences, federal researchers said they used a new technology to learn that Staphylococcus aureus could grab new genes from nearby bacteria to adapt itself to a changing environment.

Staphylococcus aureus, or staph, is an extremely troublesome bacterium that causes a variety of illnesses. It is a major cause of hospital-acquired infection. Staph causes such things as the scalded skin disease that strikes infants, toxic shock syndrome and systemic blood poisoning called sepsis.

Antibiotics once controlled the bacteria, but strains of staph are now resistant to the drugs.

"This is the first time we've been able to do such an extensive genetic comparison of these strains of Staphylococcus aureus," said Dr. James M. Musser, serior author of the study and head of a bacterial research lab at the National Institute of Allergy and Infectious Disease's Rocky Mountain Laboratories in Hamilton, Mont. NIAID is one of the National Institutes of Laboratories in Hamilton, Mont. NIAID is one of the National Institutes of Health.

In the study, Musser and his colleagues analyzed the genes of 36 of the most troublesome strains of staph and concluded that virtually any of the bacteria's 2,817 strains could acquire the genes to become resistant to antibiotics.

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"This is occurring at a far more greater frequency than we anticipated," said Musser. "The drug resistant strains can be created many times. It is not a single strain that is created once and then spreads."

Instead, he said the genetic combination that provides resistance can arise independently in many different places, many different times.

Such an easy evolution of drug resistance "has sent a wave of terror through people responsible for public health," said Dr. Abigail A. Salvers, a microbe researcher at the University of Illinois, Urbana. "They know this organism will become a major pathogen if antibiotics no longer work."

Salvers, who is president of the American Society for Microbiology, said the

work by Musseir and his group is important because a confirms what tas long been suspected - that whole gene structures can jump from buckeria to bactoria, creating new strains of antiblotic redistant bugs within a matter of hours.

"One of the important findings in this paper Is that the anti-bacterial resistance gene Is being acquired by lateral transfer," or from bacteria-to-bacteria, she said. This has long been suspected, but Salyers said the Musser paper presents new evidence.

Staph Is among the most common human bacteria, carried by about a third of the population. It can be picked up from countertops or door knobs, but is more frequently transferred through skin-to-skin contact, such as shaking hands.

The bacteria can Invade the body through breaks in the skin and set up a virulent systemic Infection, particularly among people with weakened immune systems - Infants, the elderly, the injured or the III.

Safyers said that thousands of people die annually of staph infection, but once the death tot! was even higher.

Before World War II, more than half of all fatalities in wars came from wounds that were infected by staph or other bacteria, said Salyers. A simple, untreated scratch on the hand or foot often was enough to set off a raging and lethal infection.

Antlbiotics beat staph into the medical background, but starting in the 1980s, antibiotic resistant strains evolved. Drugs that once worked suddenly did not.

Salyers said staph Is back and presenting a significant new threat while researchers scramble to learn more about ways to fight it.

"Virtually anything new we find out about staph aureus Is an important finding because of its potential as a major public health threat," said Salyers.

On the Net

American Society for Microbiology: http://www.microbe.org/index.html

Proceedings of the National Academy of Sciences: http://www.eurekalert.org

DANGEROUS GERMS THAT CAN CAUSE DISEASE AND RESIST ANTIBIOTICS STAPH BACTERIA CAN QUICKLY SWAP GENES WITH RELATIVES TO TURN INTO VIRULENT.

SUCH AN EASY EVOLUTION OF DRUG RESISTANCE "HAS SENT A WAVE OF TERROR THROUGH PEOPLE RESPONSIBLE FOR PUBLIC HEALTH,"

### UNTRUE STATEMENTS MADE BY MR. ROBERT BASTIAN, US EPA TO NAS/NRC COMMITTEE, AND BY WATER ENVIRONMENT FEDERATION (WEF), ASSOCIATED METROPOLITAN SEWERAGE AGENCIES (AMSA) AND MR. ROBERT ODETTE, SYNAGRO, REGARDING THE DEATH OF TONY BEHUN IN PENNSYLVANIA:

### MARCH 13, 2001 - ROBERT BASTIAN OF US EPA TO NAS/NRC COMMITTEE:

"Finally, EPA is tracking the reviews being conducted by others of several other incidents and situations involving land application of biosolids. These include: 1) a wrongful death lawsuit regarding the death of a young man in New Hampshire; 2) the allegation that exposure to pathogens in biosolids caused the 1994 death of an eleven year old boy in Pennsylvania who road his motorbike through a mine reclamation site; 3) concerns that pathogens are emitted from a composting facility in Tennessee; and 4) a NIOSH investigation regarding the health of biosolids workers in Ohio. The first three reviews are still on going; HOWEVER, THE FINDINGS BY STATE AND LOCAL HEALTH OFFICIALS HAVE INDICATED THAT THE NEW HAMPSHIRE AND PENNSYLVANIA DEATHS ARE NOT ATTRIBUTABLE TO BIOSOLIDS."

### LETTER DATED AUGUST 7, 2001 FROM WEF TO THE WASHINGTON POST:

Last paragraph: "...The Washington Post can do better than print unsubstantiated claims and recycle scare stories about <u>TWO UNFORTUNATE DEATHS THAT HAVE SINCE BEEN</u> INVESTIGATED AND DISCOUNTED BY THE RESPONSIBLE PUBLIC HEALTH AGENCIES."

\*\*\*\*\*\*\*\*\*\*\*

### LETTER DATED AUGUST 24, 2001 FROM AMSA TO THE WASHINGTON POST

Second paragraph: "Furthermore, the article attributed <u>TWO DEATHS TO LAND-APPLIED</u> "<u>SLUDGE" DESPITE THE FACT THAT RIGOROUS SCIENTIFIC AND MEDICAL</u> <u>REVIEWS SHOWED CONSISTENTLY THAT SLUDGE WAS IN NO WAY RESPONSIBLE</u> FOR THESE DEATHS."

In an email dated November 5, 2001, Mr. Robert Odette from Synagro made the following statement:

"In the case of Tony Behun, <u>THE STATE MEDICAL EXAMINER SAID HIS DEATH WAS</u> <u>NOT ASSOCIATED WITH BIOSOLIDS</u>..."

LETTER DATED AUGUST 7, 2000 FROM PA. DEPT. OF HEALTH TO THE HONORABLE CAMILLE GEORGE:

Third paragraph:

"Because of this and as was pointed out by Ms. Schuyler in her June 19, 2000 correspondence to Mrs. Robertson, the Department of Health was involved in a very limited capacity in this matter <u>AND, IN FACT, DID NOT CONDUCT AN INVESTIGATION INTO TONY BEHUN'S</u> <u>DEATH."</u>



August 7, 2001

Letters to the Editor The Washington Post 1150 15th Street, NW Washington, DC 20071

To Whom It May Concern:

The vast consensus of the scientific community holds that land application as prescribed by EPA regulation is currently the safest science-based alternative for recycling biosolids, yet you quoted fringe opinion in "Health Fears over Sludge Spur Quest for Controls." Why were comments by the Water Environment Federation, a not-for-profit association with a 75-year history in public health protection, technical education, and dissemination of peer-reviewed research related to the treatment and management of wastewater, omitted from this story?

And to set the record straight on one glaring error, sludge was not "deemed too dangerous to dump in oceans." in 1991. The material was banned from ocean dumping because sludge nutrients increase algae growth, which depletes oxygen for marine life. Moreover, the material was not treated to today's standards--as opposed to the valuable resource now used in recycling efforts and strictly regulated under the Clean Water Act to protect human health and the environment.

While there has never been one fatality among the 100,000 environmental professionals who work at treatment facilities and have daily contact with raw wastewater or biosolids (the treated material), there is no question that research in biosolids recycling should continue to ensure our scientific knowledge remains current. And in the basic journalistic interests of accuracy and balance, The Washington Post can do better than print unsubstantiated claims and recycle scare stories about two unfortunate deaths that have since been investigated and discounted by the responsible public health agencies.

Sincerely,

Albert Gray, Ph.D., P.E. Deputy Executive Director - Technical Programs

### "... <u>TWO UNFORTUNATE DEATHS THAT HAVE SINCE BEEN</u> INVESTIGATED AND DISCOUNTED BY THE RESPONSIBLE PUBLIC HEALTH AGENCIES."

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يوديوندي جاري العاري الارتخاب August 24, 2001 Attention: Martha McAteer Letters to the Editor The Washington Post 1150 15th Street, NW Washington, DC 20071 Association of

Metropolitan

Sewenige Agencies

In Defense of Sludge

I feel it is critical to respond to the unusually lopsided coverage *The Washington Post* is giving to the use of sludge (i.e., treated waste) as fertilizer.

The Post first published an article on Aug. 6 titled, "Health Fears Over Sludge Spur Quest for Controls," which failed to recognize the critical steps being taken by municipal officials to protect the safety and health of their workers and the general public when land-applying sludge. Furthermore, the article attributed two deaths to land-applied "sludge" despite the fact that rigorous scientific and medical reviews showed consistently that sludge was in no way responsible for these deaths.

The Post then published an August 23 letter-to the editor by Caroline Snyder which denigrated the use of sludge without a reference to the fact that she is a noted activist for the Sierra Club, an organization with an outspoken environmental agenda that includes bashing the land application of sludge.

Yet, nowhere does *The Post* reference the formidable regulatory structure that ensures the safe application of this resource or the innovative environmental management systems (EMSs) increasingly used by wastewater treatment agencies to ensure public accountability in handling biosolids management issues.

The regulations governing the centuries-old practice of land applying biosolids are the product of a ten-year effort that includes the active involvement of numerous federal and state regulatory agency officials and eminent independent scientists from across the U.S. The data consistently concludes that treated, land-applied sewage sludge poses no health threat to the public.

Let's be honest — the fact that this resource is derived from human waste complicates efforts to gain broad public acceptance of beneficial reuse. People do not want to smell their own, or their neighbor's, "business". But odor should not be

confused with a demonstrated cause of illness, especially when the benefits from land applic: so well documented.

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Sincerely,

Ken Kirk Executive Director

"... <u>DESPITE THE FACT THAT RIGOROUS SCIENTIFIC AND MEDICAL</u> <u>REVIEWS SHOWED CONSISTENTLY THAT SLUDGE WAS IN NO WAY</u> <u>RESPONSIBLE FOR THESE DEATHS</u>."



### DEPARTMENT OF HEALTH

RUBERT S. ZIMMERMAN, JR., MPR SECRETARY OF HEAITH

### August 7, 2000

The Honorable Camille George Room 38-B Main Capitol Building (East Wing) House Box 202020 Harrisburg, Pennsylvania 17120-2020

Dear Representative George:

I am responding to your letter of June 29, 2000 regarding your request for information concerning the tragic death of Tony Behun. As a parent, I appreciate your advocacy on behalf of your constituent, Brenda Robertson, Tony Behun's mother. However, I must point out that the Department of Environmental Protection (DEP) is the lead agency on this matter and has exclusive jurisdiction on the use and regulation of biosolids, licensing of companies, inspection processes and all other related matters.

The Department of Health (DOH) plays an important role in matters of public health. As a general matter, should DOH receive a call from a Pennsylvania resident expressing concern about a sick family member or friend whose illness they believe was attributed to a potential environmental hazard, DOH would take the following steps: 1) confirm whether the person had sought medical treatment and advise to do so if timely; 2) request permission and obtain a release to speak with the patient's treating physician; 3) ask whether any tests were done which identified a pathogen and if done ask for results and clearance to follow-up with those who conducted the tests; 4) consider available information and contact DEP to conduct any joint investigation as necessary. In this particular situation, neither DOH nor DEP were made aware of the matter until several years after it occurred.

Because of this and as was pointed out by Ms. Schuyler in her June 19, 2000 correspondence to Mrs. Robertson, the Department of Health was involved in a very limited capacity in this matter and, in fact, <u>did not conduct an investigation into Tony Behun's death</u>. Any opinions offered by Mr. Hersh were based solely on limited information from the patient's record and the death certificate six years after the patient's death.

The Department of Health is not refusing to release information on this matter to Mrs. Robertson but advising Mrs. Robertson that she work with the DEP as they are the responsible agency handling this matter. By copy of this letter to Secretary James B. Seif, I will alert him to your request for assistance and urge you to continue to work with him and his staff.

Should you have questions or further information on matters within the jurisdiction of the Department of Health I would appreciate hearing from you.

Sincerely. merman. Jr.

cc. James B. Seif

" <u>THE DEPARTMENT OF HEALTH WAS INVOLVED IN A VERY</u> <u>LIMITED CAPACITY IN THIS MATTER AND, IN FACT DID NOT</u> <u>CONDUCT AN INVESTIGATION INTO TONY BEHUN'S DEATH."</u>

### Lower Mount Bethel: no more sludge

The supervisors plan for an ordinance to stop Hydropress applications and to go to court.

09/14/00

By FRED WALTER

Special to The Morning Call

Lower Mount Bethel Township will try to stop applications of a processed-lime and sewage sludge material on farmland.

The township supervisors Tuesday night agreed to consider joint action with Upper Mount Bethel Township, which is drafting an ordinance to ban the spreading of the material by Hydropress Environmental Services, Phillipsburg.

The Lower Mount Bethel supervisors will have their solicitor, Chris Spadoni, write a similar regulation.

The supervisors also will ask Upper Mount Bethel to support them in seeking an Injunction in Northampton County Court to stop the applications until the ordinances have been enacted.

The action was prompted by concerns from adjacent property owners along Gravel Hill Road who have been notified that hydropress intends to start spreading the material by Oct. 1 on the Barry Ott farm.

One of the affected landowners is Ron Angle, a county councilman. He is a resident of Upper Mount Bethel but owns land across the road from the Ott farm.

The company processes sewage sludge and combines it with time for use as a soll conditioner and an agent to reduce soil acidity.

The state Department of Environmental Protection ordered the company to stop spreading last Nov. 24 after complaints about strong odors affecting nearby residents.

The DEP has legalized the material for use on farmland as long as it meets pollutant limits.

Some residents said the material was being stockpiled on some of the land instead of being worked into the soll within six hours, as required by the DEP. The DEP has allowed Hydropress to resume the applications, but on a trial basis under stricter procedures, until Jan. 25, 2002.

Angle said many Bangor Area School District students and staft became III last year after they were exposed to strong odors from the material being spread on land near the district's complex in Upper Mount Bethel.

Angle said the smell eventually goes away, but he is more concerned about the levels of heavy metal compounds in the sludge, which could pollute water sources.

Atthough the DEP sets pollutant limits, Angle said the material shouldn't be allowed on the soll.

"I understand the plight of farmers," he said. "It's wonderful if you can get some free lime. But this is not the answer for the farms. Why would anyone want to take the risk of putting metals in the ground that aren't there?"

Angle said he also believes the value of his property will be lowered by being close to such applications.

Another adjacent landowner, Harold Swisher, had similar concerns.

"What am I going to do if I can't breathe because the stanch is so bad?" he said. "Do it out on Penn State research farms. Don't do a demonstration in our back yards."

Supervisor Chairman Anthony Gasparetti said the township had sought court action against similar sludge spreading but was unable to stop it.

Spadoni also said it may be difficult for the township to convince the court to stop use of the material, since it has been legalized by the state.

However, Supervisor Joseph Pulcini persuaded his colleagues to try for an injunction.

We can't get one unless we file," Pulcini said.

E-mell this story to a friend.

### PENNSYLVANIA - LOWER MOUNT BETHEL -SEPTEMBER 2000 - "... MANY... SCHOOL DISTRICT STUDENTS AND STAFF BECAME ILL LAST YEAR AFTER THEY WERE EXPOSED TO STRONG ODORS FROM (SEWAGE SLUDGE) BEING SPREAD ON LAND NEAR THE DISTRICT'S COMPLEX..."

## Dublin family returns to home after cleanup

After sewage flooded basement, members were plagued with ailments.

### 04/24/01

DUBLIN (AP) – T.J. and Nicholas Luzader have finally gone home.

T.J., 12, and Nicholas, 6, and their parents, Van and Christine, were allowed to move back into their house on Maple Avenue in Dublin last week – five months after they were told the home was a health hazard.

The family had been living in a neighbor's house, sleeping on sofas and air mattresses, since November. <u>Air tests done</u> in their house – after about 18 inches of <u>sewage from a</u> ruptured sewer line poured into their basement – showed high levels of salmonella and other bacteria.

Van Luzader paid approximately \$50,000 for the cleaning but hopes to recover the cost by winning a lawsuit against the company that ruptured the sewer line.

The family's woes began two days after Thanksgiving 1999 when they discovered 18 inches of raw sewage in the basement of their house. Apparently, contractors installing a new water line along Middle Road earlier in the week damaged a sewer line that eventually backed up and sent the sewage spilling into the basement.

The next day, a cleaning crew removed the obvious evidence of the vile spill. But six months after the spill, family

members began experiencing mysterious illnesses. T.J. Luzader suddenly developed respiratory problems. Nicholas began complaining of headaches and a constant itch and was plagued with occasional but fierce bouts of diarrhea. Then in September, Christine Luzader began itching all over, which eventually turned into a massive rash that covered her body.

Van Luzader said the couple spent \$8,000 for air quality tests that showed bacteria and molds allegedly left behind by the sewage. Since Nov. 19, no one has been able to go in, and nothing is allowed to come out of the house, Luzader said.

Ed Lynn, an insurance adjuster representing the contractor who caused the spill, said the contamination was caused by water seeping through the house's foundation for years. He termed it "clean water infiltration" -- essentially a leaky foundation.

Lynn said the insurance company representing Dagostino paid for cleaning up the spill and offered to reimburse Luzader \$3,200 for other expenses.

PENNSYLVANIA - DUBLIN - APRIL 24, 2001 - BROKEN SEWER LINE - VICTIMS SUFFER **RESPIRATORY PROBLEMS, HEADACHES, RASHES AND "FIERCE BOUTS OF DIARRHEA".** AIR TESTS SHOW "HIGH LEVELS OF SALMONELLA AND OTHER BACTERIA."



### Memo

To: UMWA Local 1303 Members

From: James P. Lamont

Subject: Those who were exposed to Sewer Sludge

Date: July 7, 2000

Some of the UMWA (United Mine Workers of America) members of Local 1303 became ill after Class B non-exceptional quality sewage sludge was spread on July 7,1999 within feet of their work area and haul road at the Power Operating Inc. Beaver site. Some of the symptoms ranged from burning eyes, sore throats, generation of mucus, headaches, nausea, vomiting, and numbness of the face. One employee had to seek medical attention due to these symptoms which included blood in his vomit. Other known effects from the exposure to sewer sludge include skin disorders, dizziness, diarrhea, and other gastrointestinal symptoms.

Sewage sludge can contain infectious disease causing bacteria, viruses, parasites, fungi, as well as over 70,000 industrial chemicals, cancer causing agents, (carcinogens) and harmful toxic gases from sources such as hospital waste, funeral home waste, prison waste, and industrial plant waste.

We are in the process of trying to have changes made to that ensure every miner in the country has adequate protection against the hazardous health risks associated with the forced exposure to sewage sludge contaminates. Your cooperation in this matter may help us obtain that goal.

Below is a list of symptoms. Please check the ones you may have experienced after your exposure to the sewer sludge on July 7, 1999.

Thank you for taking the time to fill out the questionnaire.

V	Burning Eyes
	Sore Throat
$\checkmark$	Generation of mucus
$\checkmark$	Nausea
<u></u>	Vomiting
V .	Numbress of the face
	Blood in my vomit
$V_{j}$	Skin disorders
	Dizziness
$\checkmark$	Diarrhea
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	Fever
<b>/</b> .	Respirator symptoms
$\checkmark$	Other gastrointestinal symptoms
•	Other symptoms not listed above. Please explain: Locs of motor skills
- <del>6</del> .	150/ Atra Decipals of times.

 Medical attention received. Please explain: Moshapoca Valley Nedical Carter referred me to a Specialist in State College for my threat. T am still expresencing some of these symplection

Name:	Thomas	M. REED	
Address:	<u>R.R #2</u> Wood Inn	Box 353A J Pa 16881	 •

Telephone: (8/4) 8572112

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Please mail this to me at the UMWA in the self addressed envelop enclosed.

Thanks again.

The Express-Times	ECO-lime wreaking	, havoe in UMBT
<ol> <li>MT. BETHET TWP. &amp;mdus! Area School District's Five Point Superintendent John Reinhart sai</li> </ol>	i; The odor was so offensive around the scampus Monday that, if it continues t d, "I'll close the place down."	e Bangor oday, <i>November 23, 1999</i>
Ie briefly mentioned ill children was so bad he sent the school po he spreading of ECO-lime on fie	and teachers, without giving numbers, a lice to two nearby farms to see if they o lds.	and said it could stop
hbor Ruth Marshall compared it to "d ood." She said it was so heavy in the <i>i</i> nas' Greenhouse on Route 512, about	ead fish rotting in the sun" and "spoiled in she could not leave her home next to a mile from the schools.	Fisher said the sludge comes from sewage plants in Y( Edgewood, Hoboken and Rahway, N.J., but the final I from farms in New Jersey.
-lime, a product chemically mixed by of Harmony Township, contains lime.	Hydropress Environmental Services and sewage sludge.	Fisher said it is being spread in violation of DEP regul

township Sewage Enforcement Officer Rick Fisher asked the school board at its Upper Mount Bethel Township Supervisors Chairman Lewis Donatelli Sr. and Monday night meeting to demand the state Department of Environmental Protection closely monitor the spreading of ECO-lime.

such as chromium, selenium, lead and arsenic — as ECO-lime is applied Of particular concern, they said, is the accumulation of heavy metals & mdash; year after year.

"They don't go away," he said.

Hydropress General Manager Tim Moyer said its soil treatment is better and safer than chemical fertilizers because it has lower levels of metals and higher levels of Company officials could not be reached Monday night, but during an ECO-lime demonstration last March for the benefit of Plainfield Township farmers, organic material. In company literature, the process to make ECO-lime takes four steps. "Biosolids" micro-organisms, and recycled into the soil to add "nutrients and organic matter." (sewage sludge) is mixed, dried and pasteurized to remove harmful

ECO-lime product is banned inkers, N.Y., and

ations. For example, he said,

measured 90 feet. He also said it is placed too close to some streams and homes. where the rules call for spreading no closer than 300 feet from a well, he has

He said DEP inspectors have been around the Five Points campus for several days but say they have found no evidence of odors.

A strong fish-like odor and cement dust aroma could be detected at 8 p.m. along Route 512 driving from the village of Mount Bethel to the campus. "They're dumping it like it's going out of style," Donatelli said Monday afternoon.

Donatelli is hoping that ECO-lime will go out of style. His ultimate goal, he said, is to eliminate it.

"Jersey isn't accepting it," he said. "Doesn't that tell you something? There are violations everywhere." The board agreed to take up the township's cause and will also invite local state legislators to its next meeting to address the problem.

### SUPERINTENDENT THREATENS TO CLOSE SCHOOL CHILDREN & TEACHERS MADE ILL BY SLUDGE PENNSYLVANIA - UPPER MT. BETHEL TWP. -

SLUDGE DUMPERS VIOLATE SETBACK REQUIREMENTS -- NO ENFORCEMENT BY PENNSYLVANIA DEP.

NDROME.	<b>NEIGHBOR'S DOG DIES OF TOXIC SHOCK SY</b>
IDE TO PLAY,	<b>KILLS FISH IN POND, CHILD CAN'T GO OUTS</b>
E DUMPING	<b>PENNSYLVANIA - KINGWOOD TWP SLUDGI</b>
"I agree that the short-term benefits are there, but I think the long-term effect should be studied," he said. "I think we have a real problem that is masked about the effects this will have over the next 50 or so years,"	
years ago.	
However, Kocsis was concerned about waste he said was dumped in the township	legally stand.
tarm from being entered into the program.	Township Attorney Joseph Novak also said it was unlikely a local ordinance would
cought in the farmland preservation program from using studge as lettuzer. However, if sludge was previously dumped on the farm, it would not prevent a	"I think it's a sticky situation," Doutt said.
The State Agricultural Development Committee has now excluded any farms	ordinance to enforce existing DEP policies would probably be illegal.
remaining sewage is either transported out-of-state or taken to an incinerator. Doutt said all sewage dumped in Kingwood is treated and analyzed.	Doutt said several attempts by local governments to pass ordinances to regulate several dimning were defeated by the DEP in court He olded that even a local
oceans. As of November, 1999 about 38 percent of the sludge is disposed of in state. The	"No offense, but you don't have brain surgeons on those spreaders," resident Frank Kocsis told Doutt.
Doutt said the state has been dumping sewage sludge in the area as long as it's been produced. He said that about half of all sludge was dumped into the ocean until 1991. After highly-publicized incidents of needles, tampon applicators and other materials washing up on shorelines, the state banned sewage dumping in	DEP officials periodically apply the material for farmers who request it for their soil. Several residents claimed that the DEP has over-applied sewage sludge on local properties.
Doutt suggested residents who witnessed mishandling of the sludge dumping should contact the DEP so the department could conduct an investigation.	Water Quality Supervisor Tim Doutt at the municipal building on Monday. Several residents urged the department to let Kingwood Township officials pass an ordinance to regulate sewage application.
"The DEP is a self-regulating agency," he said. "The problem is also about enforcement. Who would stand over and police something like that?"	<ul> <li><u>Syndrome</u>.</li> <li><u>Malgran</u> and about 20 other residents attended a seminar with DEP Division of</li> </ul>
uldn't even let ic shock	"The smell is a nuisance, but that's not the worst of it," she said. "I con my son go out and play for a while and the neighbor's dog died of toxi
nome on red in the	KINGWOOD TWP Donna Malgran claims fish in the pond at her l Barbertown Point Breeze Road died because of sludge that was dump township.
	By JOHN A. ZUKOWSKI The Express-Times
	July 17, 2000
	Sludge sparks messy debate

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### PENNSYLVANIA SLUDGE VICTIM SUFFERS DIARRHEA, CRAMPS AND ABDOMINAL DISTRESS, SEVERE FATIGUE, HEADACHES AND NAUSEA

STATEMENT BY LINDA CASHER, 582 Birch Run Road, Snow Shoe, Pa. 16874 814-387-4172

I was first exposed to sludge 4 days ago. I was working in my mobile home ... I had the windows open .... suddenly this outrageous smell wafted through ..... it smelled like dead bodies ... dead animals. I makes you absolutely nauseated. I am suffering severe headaches from the odors.

I live in a rural area .... in most families, both people work .... we are middle class people of modest financial means. I cannot afford to move away.

The sludge is apparently lime stabilized sludge from the City of Philadelphia, being spread by Biogro. It was 80 degrees -- I live in a trailer ... I don't have air conditioning. The sludge is about 500 -600 yards from my house. What makes me the maddest is they only have to notify the person connected to the sludge site ... they never notified anyone else ... but they "accidentally" put the sludge on land of the person between us and the sludged field ... and no-one notified us. They are very arrogant.

Adverse health effects we have experienced since being exposed to the sludge include diarrhea, cramps and abdominal distress, severe fatigue, headaches and nausea.

I contacted the Pa. DEP and Doug Sayer told me I would have to live with it -- it is an act of nature. I told him it is man made -- not an act of nature. He told me it was "not that bad". I contacted my State Senator and State Representative. My State Representative said I would get a letter within a week ... and my State Senator called Hawk Run .. the PA DEP -- and told me someone from there would call me. They said it would stop for a few days because of the smell. I am NOT the only one complaining. My State Representative told me this smell could go on for a year. Doug Sayer of PA DEP told me "they don't have their facts right."

They don't care about the effect it is having on us.

### \*\*\*\*\*\*\*

HERE IS STATEMENT by Linda's friend, Edward McCloskey, who went to her house to check out her sludge problem:

"It seem that they were spreading sludge right behind her house and she said that the smell was so bad that it was making everyone in that area very ill. So I told her that I would stop after work to see for myself. When I got there, I couldn't smell anything. But as evening came the air began to settle around her home and other homes which are in a valley right below the site.

I started to smell something but it smelled like a dead animal and I said, "is this what you're smelling? They said yes but that was mild compared to what it smelled like earlier. Then it came. It was so bad that it made me gag and almost puke. I couldn't believe it! It didn't go away either. It didn't smell like sewage. It smelled like a million of dead animals that had been in the hot sun for a month. I had never smelled anything like that before. My wife was in the car and it made her gag also. Its a shame that people have little or no rights when it comes to this and I really feel bad for the people who live there. I know that if it ever does come to Burnside Township, I will move and not take the chance of it harming my family. "

(Telephone statement and email to Helane Shields, May 7, 2001)



Stephanie L. Titus and Daniel J. Pennock are girlfriend and boyfriend just a few days before Daniel became fatally ill in 1995.

### State probes contention that sludge killed teen

### Suspicions about sludge

Many environmental activists and some scientists and state legislators believe processed human waste called biosolids – commonly known as sewage sludge – is a public health risk.

They suspect sludge as a contributing factor, if not the sole cause, in two deaths.

Anthony W. Behun, an 11-year-old Clearfield County boy, died in 1994 shortly after riding his bike through a sludge-covered field.

Shayne Conner, 26, of Greenland, N.H., died in 1995 after battling respiratory problems for a few weeks after sludge was hauled through his neighborhood.

State and federal environmental regulators and many farmers, who use the sludge as fertiizer, say it never has been proven that sludge caused an illness or a death.

### Sludge risks

C

1

The debate over the toxicity of sewage sludge, which is spread on 56 Berks County farms, has focused on pathogens — microorganisms that cause disease.

People can be exposed to sludge contaminants in several ways:

Eating farm animals that ingested sludge.

Inhaling sludge particles in the air.

Trinking water contaminated by runoff from fields spread with sludge.

Eating fish that lived in contaminated wa-

Source: "The Case for Caution," a study conducted at Cornell University.

### ©2001 Reading Eagle Company By Jason Brudereck Eagle/Times

That March was one of the warmest on record, so Daniel J. Pennock was in the driveway with his basketball.

He was making layups, foul shots.

The 17-year-old didn't feel good the next day — he had a headache and a sore throat — so he stayed home from school. The Conrad Weiser junior wasn't sick

often. He had a lot to live for, a lot to do.

But he would be dead in a few days.

And his parents would have six years to ask questions that went unanswered until someone finally offered an explanation for Daniel's death.

Daniel's parents contacted a microbiologist — known for his analyses of deaths that have been linked to exposure to processed human waste used as fertilizer — after learning about his work in a series of articles in a February edition of the Sunday *Reading Eagle*.

The microbiologist has told Daniel's parents he thinks he knows how Daniel died.

Now the state Department of Environmental Protection is investigating the contention that Daniel probably contracted a respiratory illness from the processed waste — called biosolids or sewage sludge — that was spread on a field across the street from the family's home.

But the investigation won't bring Daniel back.

He's a collection of memories now. Trying out for the baseball team,

spending time with his girlfriend and taking the Scholastic Aptitude Tests

### More on the Web



You can read in-depth coverage of the debate on sludge as a farm fertilizer and the potential hazards it poses in a series of stories published in the *Reading Eagle* in February. Visit www.readingeagle.com/sludge for the full reports.

were at the top of his schedule in March 1995.

Those things — they were important at the time — were put off for a few days as his headache turned into a fever on Saturday.

The reading on the thermometer climbed —101 degrees, 102 — but his condition wasn't alarming.

His girlfriend, Stephanie L. Titus, came to see how he was doing and they watched a movie at his house on Bunker Hill Road in Heidelberg Township.

Silent killer continues on A2



been posted across the street "I might have my son yet,"

"I wasn't even aware that this

He swears that he wouldn't

He said he is especially an-

■ You can contact Jason Brudereck at 610-371-5044 or Jonudereck@readingea said

ne

National Exposure Research ronmental Protection Agency's Laboratory in Athens, Ga

and were grateful when death. agreed to look into Daniel's They recently contacted him he

His findings were somewhat of

a consolation for the Pennocks. "It definitely sounds like

ing from sludge exposure," this is typical of what we're seefrom the circumstances — that

as a private scientist because with Lewis, have forbidden him EPA directors, who disagree Lewis said. Lewis speaks about the issue

an agency employee. from speaking about sludge as

nocks the answer they were looking for, they never can be Though he has given the Pen-

said. "If we can contribute to sludge, that's all we're after. satistied them stopping the use of "It's not going to change any-

READING EAGLE & READING TIMES

# State frustrated in death inqui

critical of investigators, refuse to give up medical records that could further the probe. The Heidelberg Township parents of Daniel J. Pennock,

The state Department of Envi-By Jason Brudereck ©2001 Reading Eagle Company Eagle/Times checked the records of the

sludge — that was spread near

his home as fertilizer.

DEP

investigators have

boy who died after he was exyear-old Heidelberg Township gating the 1995 death of a 17ronmental Protection is investiwaste. posed to processed human to be in order," Sitler said. "We

woman

Karen Sitler, a DEP spokes-

"Right now everything seems

farmer who used the sludge, said

scientist believe Pennock's illstaphylococcal pneumonia. His parents and at least one ed with viral pneumonia and respiratory problems associat-Daniel J. Pennock died of negate any of that." don't have any evidence to

called biosolids and sewage The farmer's name is being withheld by the *Eagle/Times*. trated because the Pennocks are medical records, Sitler said. reluctant to hand over Daniel's "We're trying desperately to Investigators have been frus-

> havior. Pennock said they were ancase, but we don't have a case if mation." noyed by the investigators' bewe don't have any more inforwe'd be happy to investigate it. want to give us the information, bring Daniel back, but if they thing we need to change in our Sitler said, "If there is someconduct an investigation," it. Whatever we do now won't regulations, we'd like to know The Pennocks said the inves-Russell L. and Antoinette M. "We don't want to drop this nock said. sponded. the Pennocks' telephone numsaid. cials said. "They never showed up, they never called," Russell Pennock them in a week. The investigators had lost

tigators showed up one night

tors promised to get back to two hours, and the investigawithout warning.

little more sense," Russell Penthen send someone here with a without the medical records, ber, which is unlisted, DEP offi-Too bad, the Pennocks re-"If they can't go any further

They spoke with them for tion Agency's National Expo-Athens, Ga. sure Research Laboratory in a research microbiologist for reviewed by Dr. David L. Lewis, the U.S. Environmental Protec-The medical records were

> don't think anybody can say and that's a stronger word --- I ly conjecture, and unfortunatethere is a cause and effect is on and be 100 percent sure. It cer-cate that his illness probably stances of Daniel's death inditainly is tragic. But whether who cared for Daniel, said he Hospital pulmonary specialist factor in Daniel's death. can't be certain if sludge was a was related to sludge. "It's possible," he said Dr. Richard T. Bell, a Reading Lewis said the circum-

610-371-5044 or jbrudereck@readingea gle.com You can contact Jason Brudereck at

ly that can't bring Daniel back."

CALL -- LOSE VICTIMS' TELEPHONE NUMBER PA DEP "INVESTIGATORS" NEVER SHOW UP - NEVER

SEWAGE SLUDGE SPREAD NEAR VICTIMS' HOME.

LOCOCCAL PNEUMONIA BELIEVED TO BE RELATED TO ASSOCIATED WITH VIRAL PNEUMONIA AND STAPHY-

PENNSYLVANIA - DEATH FROM RESPIRATORY PROBLEMS



### Probe cites EPA on recycled sewage

### Agency inspector general: 'Gaps in the science'

February 7, 2002 Posted: 1:55 PM EST (1855 GMT)



The Pennock's lost their son Daniel to an infection in 1995.

C ← SAME THIE C → EMAL THIE C ← PRINT THIS C ☆ MOST FORMLAR WASHINGTON (AP) – Russell Pennock couldn't figure out what kept sickening family and friends at his Reading, Pennsylvania, home. At least eight came down with infections in just a few years. One was his eldest son, who died suddenly in 1995.

Now, half-a-dozen years later and with the assistance of a federal microbiologist. Pennock says he believes the cause was recycled sewage that had been spread on a property across the street as fertilizer -a practice the government began sanctioning in the mid-1990s.

### "We had repeated infections -- boils, sore

throats, coughing -- but we had no clue as to what these infections were coming from." Pennock said Wednesday. "We did not even know they were putting this stuff across the street. I wouldn't have bought the property."

Today, more than 4 million tons of recycled wastewater sewage are spread on rural and suburban properties across America each year, but an internal federal investigation has found the government has done too little research to ensure humans are safe from the viruses, bacteria and toxins that are contained in the sludge.

### PENNSYLVANIA - SLUDGE VICTIMS SUFFER REPEATED INFECTIONS, BOILS, SORE THROATS, COUGHING - PREVIOUSLY HEALTHY 17-YEAR OLD BOY DIES OF RESPIRATORY FAILURE FROM VIRAL/STAPHYLOCOCCAL PNEUMONIA

### PENNSYLVANIA - ROBESONIA - THE PENNOCK FAMILY

Antoinette Pennock, mother of 17-year old victim Danny Pennock who died in 1995 from viral/staphylococcal pneumonia after exposure to land applied sewage sludge, writes letter on March 2, 2002, detailing the adverse health effects suffered by other relatives and neighbors at the time they were exposed to emissions from the sewage sludge:

NUMEROUS BOILS AND ABSCESSES, SORE THROATS, HEADACHES, SINUS INFECTIONS, GASTROINTESTINAL SYMPTOMS, EAR INFECTIONS, CONSTANT THROAT IRRITATION, THICK, GREEN MUCOUS, BREATHING PROBLEMS .....

VICTIMS FELT BETTER WHEN THEY GOT AWAY FROM THEIR HOMES.



Russell L. Pennock and his wife, Antoinette M., display a picture of their son Daniel J. in their Heldelberg Township home Thursday. The Pennocks believe Daniel died of exposure to processed human waste used as fertilizer near their property.

### **DEP chief meets with parents** who link son's death to sludge

A Berks couple discuss with a state environmental official a possible connection between the fatal lung disease that killed their 17-year-old and the use of processed human waste at an adjacent farm.

### @2001 Reading Eagle Company By Jason Brudereck Eagle/Times

The head of the state Department of Environmental Protection met with a Heidelberg Township couple to give them an update on the state's investigation into the death of their son, who some claim died of exposure to processed human waste.

Daniel J. Pennock, 17, died April 1, 1995, of respiratory problems associated with viral pneumonia and staphylococcal pneumonia after he suddenly became sick in mid-March that year.

His parents believe his illness was related to the waste ---called biosolids and sewage sludge — that was spread near his home as fertilizer. A federal government scientist and environmental activists agree.

Sludge is spread at more than 50 Berks County farms.

David E. Hess, DEP secretary, met with Daniel's parents pathogens — microorganisms

for nearly two hours Wednesday at their house just east of Womelsdorf.

"He seemed a little perplexed by this himself," said Russell L. Pennock, Daniel's father. "He was nice to us, but there's still things unanswered."

Hess could not be reached for comment, and a DEP spokeswoman would not comment on what was discussed at the meeting.

'It's a private meeting between the department and the Pennocks, so out of respect for their privacy, we are not disclosing any further information in that regard," Karen Sitler said.

State documents that Hess gave to the Pennocks indicate that 598 wet tons of sludge were spread on a field near their house in March 1995, the month Daniel became ill.

The documents state that the sludge was not tested for that cause diseases — and that the testing was not required.

The documents also state that two farmers who worked together to spread sludge on the field near the Pennocks' house were required to keep daily operation records, but that they no longer have those records.

"We are continuing to explore other avenues to obtain these records," a letter from Hess states.

The farmers' names are being withheld by the Eagle/Times.

The investigation began after the Pennocks contacted a microbiologist - known for his analyses of deaths that have been linked to sludge - after learning about his work in a series of articles in a February edition of the Sunday Reading Eagle.

The Pennocks gave Daniel's medical records - more than 300 pages of Reading Hospital documents that chronicle Daniel's death - to Dr. David L. Lewis, a research microbiologist for the U.S. Environmental **Protection Agency's National** Exposure Research Laboratory in Athens, Ga.

Sludge continues on B3

### Sludge

Continued from Page B1

Lewis reviewed the records and concluded that Daniel's death probably was related to sludge.

Lewis put his findings in a letter to the Pennocks.

A copy of the letter was forwarded to DEP investigators.

Lewis speaks about sludge as a private scientist because EPA directors, who disagree with Lewis, have forbidden him from speaking about sludge as an agency employee.

Dr. Richard T. Bell, a Reading Hospital pulmonary specialist who treated Daniel, has said he can't be certain if siudge was a factor in Daniel's death.

The Pennocks have refused to give the medical records to DEP investigators. They said they are suspicious because of a DEP investigation into the 1994 death of a Clearfield County boy, who some say died of exposure to sludge.

The 1999 investigation concluded that Anthony W. Behun died of a bee sting.

After an angry reaction from environmental activists, DEP investigators admitted the information was incorrect.

"We would gladly like a second opinion, not that we don't trust Dr. Lewis," Russell Pennock said. "If they let me pick a person who is qualified to examine the records — a neutral party who has nothing to do with the state — I'll let that person look at them."

 You can contact Jason Brudereck at 610-371-5044 or jbrudereck@readingeagie.com.

### Many see sludge use as public health risk

### From our news staff

Many environmental activists and some scientists and state legislators believe processed human waste called biosolids - commonly known as sewage sludge - is a public health risk.

They suspect sludge as a contributing factor, if not the sole cause, in three deaths.

Daniel J. Pennock, a 17-yearold Heidelberg Township boy, died in 1995 of respiratory problems shortly after a field sludge was dumped in his across the street from his parents' house was fertilized with ly has filed a civil lawsuit sludge.

Anthony W. Behun, an 11year-old Clearfield County boy, died in 1994 of infections he contracted shortly after riding his bike through a sludge-covered field.

Shayne Conner, 26, of Greenland, N.H., died in 1995 after battling respiratory problems for a few weeks after sludge was dumped in his neighborhood. Conner's family has filed a civil lawsuit against various defendants, including the company that spread sludge on a nearby field. That case is expected to be presented at a jury trial in 2002.

State and federal environmental regulators and many farmers say it never has been proved that sludge caused an illness or a death.

### SLUDGE VICTIMS LENHARTSVILLE, PENNSYLVANIA

Judy Fasching, 440 Creek Lane, Lenhartsville, Pa. 610-562-0172

Excerpts from email dated May 14, 2002:

In reference to the sludge spreading in her neighborhood:

"I know of several unreported cases locally – that people do not know why their children are always sick – another one has Lupus and has to leave her house for several weeks when the sludging starts because her body cannot take the effects of the sludge. She becomes very ill. Other people told me (and I have experienced the same) of being sick to their stomach, eyes tearing, and difficulty breathing.

When the farm by me started sludging last year, my husband was hospitalized with yet undiagnosed infections and I developed boils..., please do something to stop this insanity.

### VICTIMS SUFFER NAUSEA, TEARING EYES, DIFFICULTY BREATHING, UNDIAGNOSED INFECTIONS AND BOILS. IMMUNOCOMPROMISED (LUPUS) VICTIM BECOMES VERY ILL AND MUST LEAVE HER HOME DURING SLUDGE SPREADING
#### By Sherris Moreira-Byers Sharon Herald Staff Writer 7-28-02

Something smelling rotten in Jackson Township has residents complaining and the state Department of Environmental Protection looking into solutions, including possibly shutting down the hauling of treated waste into the area.

"I would say it's a caustic odor that irritates your nasal passages and gives you a sore throat," said Maria Farrell, 52, of 1561 Franklin Road. "It's so bad that I go indoors so that I don't feel unhealthy."

She and other residents claim the smell is coming from treated waste that is being spread by the Allegheny County Sanitary Authority since May 19 on an 800-plus acre farm in Jackson Township owned by Roy J. Neer of Slippery Rock. Township. They claim that they have smelled the odor for the past few weeks.

"The smell's been real bad the last few days," said John Schiestle, 46, of 1509 Franklin Road, who lives about 500 yards away from the property. "My son and I had mowed lawns at sewage plants (a while ago) and it smells just like that."

Numerous complaints to DEP and ALCOSAN officials over the smell have prompted the DEP to meet with all the parties involved including the waste haulers to come up with some options to resolve the problem.

"There is a significant problem as being reported to us," said Freda Tarbell, community relations coordinator for the DEP. "Dependent on the time of day, sometimes we could say, yes, there is a significant odor, sometimes there wasn't. It was a mixed bag depending on the weather conditions."

Mrs. Farrell said the odor was the strongest at dusk and dawn and right after it rains. "I've had to keep my windows closed and I don't have air conditioning. It's pretty unpleasant," said the Lakeview Area School District elementary teacher.

DEP is trying to find a solution that will make everyone happy but they're still working that out, and hope to have an answer by midweek. Some of the options include finding another place to dump the treated waste while the DEP works on the odor problem at the Jackson Township property, finding a way to reduce the odor or halting the hauling altogether. DEP is scheduling a mobile laboratory to come into the area on Aug. 5 to measure the level of odor in the air.

"But for this to be useful, there has to be spreading going on," Ms. Tarbell said, adding that Aug. 5 is the soonest they can get the lab to the area.

If the spreading is halted, temporarily or indefinitely, ALCOSAN will abide by the DEP's decision. "We'll live with whatever the DEP tells us. They have worked very hard in our interest," said Carole Shanahan, residuals program manager with ALCOSAN.

"This is a very complex issue," said Ms. Tarbell. "There are a lot of different parties or entities involved here and people have made legally binding contracts, plus there are people upset in the community. We're sensitive to all of that."

## PA. - JACKSON TOWNSHIP - CAUSTIC STENCH CAUSES SLUDGE VICTIMS TO SUFFER IRRITATED NASAL PASSAGES AND SORE THROATS

### PENNSYLVANIA - COAL TOWNSHIP - SEPT. 13, 2002

#### Local News

1.

#### Illnesses raise worry about biosolids use

By Jim Wagner, Staff Writer

September 13, 2002

jim w@newsitem.com

COAL TOWNSHIP — Several illnesses in the Burnside area have commissioners concerned and wondering if biosolids being dumped nearby have something to do with it.

At Thursday night's meeting, Commissioner Al Santor said one resident of the area, William Krebs, has contracted meningitis,

the area, William Krebs, has contracted meningitis, "Krebs had a biopsy today (Thursday)," said Santor. "I am awaiting the results to see how he contracted the disease."

Santor also sent a list of items that are in biosolids to see if any of those elements may be related to Krebs' illness.

"We also had some people treated for problems with their eyes near the area," said Santor. "One young girl has complained of headaches."

Santor asked solicitor Vincent Rovito if they could stop the application of biosolids in the area. Rovito said that beyond the 30-day appeal period when the permit is first issued, the only way to stop the spread is if there is a "clear and present danger."

Synagro Mid-Atlantic Inc. has been using biosolids as a fertilizer on reclaimed mine land near the small village south of Shamokin since 1998. Biosolids are a material accepted and encouraged for use by the state Department of Environmental Resources and county conservation districts.

Santor said he was in contact with a doctor who testified at a hearing held by state Rep. Robert Beifanti. D-107, last week, for consultation on the issue.

Despite their allowed use, biosolids have been a controversial topic in the region this year as Waste Management Processors Inc. of Frackville has proposed using the sewage sludge as fertilizer in a reclamation project in Mount Carmel Township. There are conflicting studies, and conflicting opinions on the potential health effects of the sludge.

## SLUDGE VICTIMS SUFFER "SEVERAL ILLNESSES" INCLUDING MENINGITIS, "PROBLEMS WITH THEIR EYES" AND YOUNG GIRL WITH HEADACHES

## SOLID WASTE.COM - INDUSTRY PUBLICATION EXPLORES RISKS OF SLUDGE SPREADING -- CITES NATIONAL ACADEMY OF SCIENCES AND CALIFORNIA FARM BUREAU FEDERATION CONCERNS.

Find

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EPA's 503 Biosolid Regulations: Risks of applying sludge to farms 11/9/2000

#### Features

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The EPA has recognized the need to revisit its regulation of biosolids to lessen its risks in impacting our health and the environment. Given the wide range of issues surrounding the land application of sludge, the real question is how thoroughly the agency will explore these issues.

By Rob Amer



Over 16,000 sewage treatment facilities serving 190 million Americans generate biosolids or sludge. These facilities also serve thousands of industrial and commercial establishments. Approximately eight million dry metric tons of biosolids are produced annually—that's about

About 54% of these biosolids are land applied.

In early August, the U.S. Environmental Protection Agency (EPA) asked the National Academy of Sciences (NAS) to review the science and methodology behind the sludge program's standards in order to ensure that government standards for land application of sewage sludge protect human health and the environment. After the NAS completes its study, EPA hopes to receive suggestions on how to strengthen the program. The U.S. Center for Disease Control—National Institute of Occupational Safety and Health has agreed to work with EPA and NAS on this review. Shortly, we will see if this study's scope addresses only a few of these concerns or all the scientific issues.

Serious questions are being asked There are many serious questions regarding the land application of sewage sludge. According to a previous NAS study:

> Community-wide source control and industrial wastewater pretreatment programs

Report highlights FY 99 enforcement / compliance achievements

EPA's 503 Biosolid Regulations: Risks of applying sludge to farm<del>s</del>

Using organoclays to remove oil from water

11/10/00 1:11 PM

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: of**8** 

have resulted in significant reduction of toxicpollutants in wastewater and thus in sewage sludge. Still, land application of treated effluents and treated sludge will increase the level of toxic chemicals and pathogens in the soil. The public is concerned about pollutants and pathogens that may contaminate food crops or be transported elsewhere in the environment.

The NAS went on to note that:

The premise of this [U.S.] approach is that advantage can be taken of the beneficial qualities (moisture, organic matter and nutrients) of sludges and wastewater and of the capacity of soil to attenuate toxic chemical pollutants present in the sludges or wastewater. Soil is a dynamic medium consisting of mineral fragments, organic matter, biota, water, and air. Pollutants introduced into soil are subject to physical, chemical and biological transformations. Consequently, pollutants introduced to soil in low amount may not have an immediate deleterious effect. Over time, such pollutants will accumulate and when a specific concentration is reached, harmful effects can occur. This knowledge can be used to properly manage cropland application of treated effluents and treated sludge so that the accumulation of chemical pollutants in the soil does not reached levels that harm exposed individuals or the environment. Under this scenario, agronomic benefits of wastewater and sewage sludge may be realized without harming soil quality, public health, and the environment.

NAS earlier has acknowledged that there are several risks:

Following organic matter decomposition, trace elements from wastewater and sludge are released and form sparingly soluble reaction products. Because of their sparingly soluble nature and their limited uptake by plants, they tend to accumulate in the surface soil and become part of the soil matrix. With repeated applications of wastewater, and particularly sludges, these elements could accumulate to levels toxic to plants and soil organisms. They could also accumulate in crops where they could, in turn, build up to potentially harmful levels in humans, domestic animals, and wildlife that consume the crops.

California Farm Bureau volces serious concerns

This July the California Farm Bureau Federation (CFBF) presented some compelling comments on the State Water Resource Control Board Statewide Program Final Environmental Impact Report for General Waste Discharge Requirements for Biosolids Land Application. The following are some of their comments and insights on this subject.

> The California Farm Bureau Federation (CFBF) is a voluntary, private, nonprofit corporation representing more than 85,000 members and over 80% of California's commercial agriculture. CFBF is concerned that the State Water Resource Control Board's (SWRCB) proposed General Water Discharge Requirements for the Land application of Biosolids (GWDR) and a associated Final Environmental Impact Report (FEIR), whose purpose is to increase the ability of the generators and applicators to dispose of their largely urban-generated sewage sludge in sparsely populated rural agricultural communities. CFBF is concerned that regulators have failed to properly address the very real problem that only the recipients of sewage sludge and their rural communities will suffer should the metals and pathogen limits and other supposed protective requirements set forth in the GWDR prove insufficient.

Based on the acknowledged deficiencies in the United States Environmental Protection Agency's (USEPA's) risk assessment, CFBF disagrees with the GWDR and FEIR's: (1) unquestioning use of the USEPA's analyses and conclusions; (2) rejection of more conservative standards; and (3) refusal to further investigate the health effects due to the multitude of other, unregulated toxic pollutants in sewage sludge, in particular, over the long-term (many of our members are third or more generation farmers, often on the same farm). As a result, CFBF does not believe the GWDR, as currently written, is sufficiently protective of the health and safety of persons living and working on and near sewage sludge application sites.

#### A lack of sufficient data

CFBF continues, commenting that the USEPA's Part 503 regulations fail to address the impacts of concentrating the pollutants and toxic materials in sewage sludge on farms and their potential effects on the persons living and working in those rural, agricultural communities.

> CFBF are concerned by the USEPA's analyses since there is significant disagreement in the scientific community

over the validity and completeness of the USEPA's risk assessment. Also, they question the state regulatory reliance on the USEPA's Part 503 risk assessment and its incomplete analyses of long-term effects on soils and crops. CFBF remarked that due to the lack of necessary information and recognized deficiencies in the USEPA's analyses, that looser regulations were adopted, even though it is acknowledged that long-term consequences are unknown.

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CFBF contend that land application of sewage studge will increase the level of toxic chemicals and pollutants in the soils of land application sites. Since USEPA lacks sufficient data to develop regulatory standards to protect exposed individuals and the environment, a more complete understanding of pollutant chemistry, health hazards, pathways to exposure, and modeling techniques to develop maximum permissible loading limits is necessary.

CFBF cities below that USEPA acknowledges it did not have sufficient information to set standards for all pollutants in sewage sludge.

> The scope of the part 503 standards is necessarily constrained by the adequacy of information on sewage sludge pollutants and means of use or disposal. Today's rule establishes standards for these pollutants and sludge use or disposal methods for which the Agency had sufficient information to establish protective numerical limits, management practices, and other requirements. The Agency recognizes that today's rule may not regulate all pollutants in sewage sludge that may be present in concentrations that may adversely affect public health and the environment.

Scientific community voices concern CFBF indicated that USEPA's recommendations have caused the relevant scientific community to voice their concerns. The USEPA was forced to use limited data in their rulemaking since studies analyzing specific metals effects were limited and scare to a number of crops. Also, there was unavailable data—for example corn, is not very sensitive to metals concentrations in soil. As a result, USEPA knew of the significant scientific uncertainties in trying to develop relationships between sludge application rate and tissue residues.

USEPA proceeded using two different approaches to determine limits for metals known to cause phytotoxicity and extrapolating those results to all crops. For both its approaches, however, the USEPA did not have data on long-term studies.

## Thorough re-evaluation of risk analysis is needed

Finally, CFBF remarked that the USEPA regulations cover only a small number of pollutants in sewage sludge and the concentration limits for those few pollutants are based on extrapolations of limited data with no knowledge of the long-term consequences.

> The CFBF shares the concerns that many others have expressed about what may happen once a site has reached its cumulative limit for metals and sludge application stops. The chemical properties of the soil will likely change over time. Even more troublesome are the possible health and environmental effects from the thousands of pollutants in sewage sludge for which there are no data (and so no regulation).

> CFBF caution the potential for an adverse long-term impact is the real danger from sewage sludge use on agricultural properties. There are uncertainties concerning the long-term behavior of metals in sludge. The sludge experts that EPA relied on conclude, based on field studies, that iron oxides and manganese oxides found in sludge as a result of wastewater treatment and metal oxides naturally found in soils may form complexes with the metals and significantly reduce their bioavailability. CFBF state that documentation to support these conclusions is limited.

At a minimum, when the organic component of the sludge breaks down, it is possible that average concentrations of pollutants may increase or they may become more bioavailable.

The long-term consequences of the application of metal-laden sewage studges at the loadings permitted by the USEPA-503 regulations are still unknown. Agricultural soils need to have their productivity and crop quality protected, not for 10, 20 or even 100 years, but in perpetuity. To this end, a cautious approach to the application of toxic metals in studges to agricultural soils would be prudent.

For these reasons the CFBF states that USEPA's risk assessment demonstrate why a thorough reevaluation of the entire risk assessment process is needed. Based on this new information, the USEPA's 300 ppm lead concentration limit for sewage sludge is excessive and poses significant risks, if permitted.

Long-term effects are unknown As the USEPA itself acknowledged in its Part 503 risk assessment, "because childhood ingestion of dirt is so widespread, and the potential consequences so severe, a highly conservative limit is warranted, especially in the context of regulatory decisions that authorize a threshold pollutant such as lead to be added to the environment."

CFBF indicated that other scientific studies demonstrate that long-term effects of sewage sludge use pursuant to Part 503 regulations are unknown, and that the synergistic effect of multiple metals together in the soil has not been considered by the USEPA, yet could be a significant problem.

Another concern CFBF made was that USEPA has been criticized for its policy decision to lower the heaith risk standard for sewage sludge from the originally proposed limit of 1 in 1,000,000 to 1 in 10,000---a hundred-fold decrease in the safety factor. The USEPA did not provide evidence to support this policy change, except for the bare assertion that a lower safety factor was sufficient because so few people nationally are at risk and because the higher standard might prevent some POTWs from land applying their sewage sludges.

Also, CFBF mentioned the possible presence of, and public health risks associated with, radioactive materials in sewage sludge. A report by the General Accounting Office (1994) dealt with the presence of radioactive material entering sewage treatment plants and the lack of regulatory action on this issue. Addressing such concerns about sludge requires convincing scientific analysis showing that adequate safeguards are being applied.

Finally, the CFBF stated that there is no factual support or policy justification for exempting any Class A Exceptional Quality (EQ) sewage sludge. The widespread availability of sewage sludge for land application purposes did not begin until the USEPA issued its Part 503 regulations in 1993. The classification of Class A EQ sewage sludge was not even defined in the Part 503 regulations, but appeared later, in subsequently published guidance documents. Since one of the basic premises of the USEPA's Part 503 regulations is that sewage sludge applications eventually may lead to harmful levels of heavy metals concentrations in sludges, CFBF finds no rationale for waiving any regulatory and administrative controls imposed on non-EQ sewage sludge for EQ sewage sludge.

#### A wide-range of concerns

The concerns set forth above by the California Farm Bureau Federation are representative of the many concerns that have been raised by others. High on the list is the potential harm resulting from exposure to sludge aerosols. Health complaints from individuals exposed to sludge aerosols are common. Those complaints have risen to the level of wrongful death suits in some cases.

Failure to take into account local conditions is another important element. For example, in areas of sinkholes or karst terrain, bisolids put on the ground can find their way into groundwater because of cracks and fissures. There must be some restrictions or pollution prevention guidelines to ensure that these types of areas do not receive land-applied biosolids, which could possibly threaten drinking water.

The underlying safety concerns are also echoed by a March 20, 2000 audit report, from the EPA's Office of the inspector General concluding that:

> EPA does not have an effective program for ensuring compliance with the land application requirements of the 503. Accordingly, while the EPA promotes land application, they cannot assure the public that current land application practices are protective of human health and the environment.

Good science must be the basis of standards

There have been many red flags waved by diverse organizations including universities, scientists, farmers and other concerned parties regarding biosolid land application. More protective standards can lessen the risks for any long-term effects of using sewage sludge on agricultural lands. It is going to be interesting to learn what the National Science Academy addresses and concludes regarding this topic.

Finally, EPA must recognize all of the concerns and include them in its further scientific study. Failure to do may also lead to an increase in wrongful death suits and personal injury suits. In the end, failure to use science to address all of these issues may not just result in the loss of useful farmland but possibly harm all of our precious agricultural resources.

**About the author:** Rob Amer has worked in the field of solid waste and environmental issues both inside and outside of Washington, D.C. for the past 20 years.

#### Forward This Article To An Associate

NEWS SERVICE

#### Swiss to Ban Fertilizing with Sludge

**BERN, Switzerland,** September 17, 2001 (ENS) - Switzerland is to end the disposal of sewage sludge through agricultural spreading by 2005, it emerged on Friday. The move will make it the first and only country in Europe to stop recycling sludge onto farms, with pressure still on across the EU for greater land spreading.

Bern says the step is being proposed due to a long-term decline in farmers' demand for sludge coupled with growing concerns over the pollutant content of wastewater residues, including recent detection of pharmaceutical compounds and synthetic hormones. The rising demand for organic and quality assured food products, where sludge is banned in production, is also a factor, it says.

Swiss farm country (Photo by Ian Britton courtesy <u>Freefoto.com</u>)

Though Switzerland's environment, agricultural, public health and veterinary authorities have approved the decision, concrete policy moves will not be taken until after consultation with farmers, wastewater treatment stations and industrial incinerators.



Switzerland spreads 40 percent of its sludge - 80,000 tonnes annually - onto farmland. All this should now be disposed of through incineration, which already accounts for the rest.

The government acknowledges that this will stretch the country's already overburdened incinerators even further and is looking for industrial outlets for the waste. The cement industry has already pledged to take almost half.

Switerland's move presents a policy challenge to the EU, whose 1991 urban wastewater treatment directive is increasing volumes of sewage sludge and where increased recycling onto farmland is encouraged to combat nutrient loss.

A 1986 directive setting limits on pollutants in sludge is in the process of being revised.



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SWISS TO BAN FERTILIZING WITH SLUDGE - GROWING CONCERNS OVER POLLUTANT CONTENT, INCLUDING PHARMACEUTICAL COMPOUNDS AND SYNTHETIC HORMONES.

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## Letter to the Editor

#### Nutrient Cycles in Urban Water Management

Based on its value as fertilizer, sewage sludge from wastewater treatment plants is by far the most important waste product usable in scriculture. It is the predominant domastic resource for phosphonas and contains significant: smounts of nitrogen, calcium and magnesium, Heavy metal concentrations in sewage sludge have propped significantly over the past 20 years; however, it still contains pollutants at ... levels that are too high for long-term application. The quality of aswage sludge mustimprove dramatically before the mandate of sustainability can be satisfied: to protect resources without compromising soil fertility There is always a need for new approaches in the utilization of resources in wastewater. It has peen almost 20 years ago since the separate collection of bio-organic fractions for composting was introduced in the proceeding of nousehold wasts, which brought about a fundamental change in direction, demonstrating that even solutions which seem to be right out of Utopia in the time can be realized. Important only is the end result valuable nutriants, which :. are currently released into the wastewaterstream, need to be used as completely as possible. The pollutant load, which is introduced to soils along with the nutrients, should, however, not exceed the normal export front soils. (removal with narvested material, leaching and ] erosion, depredation).

What measures are most appropriate to reach unis goal? Of course, water protection has to have equal weight, and economic and sociopolitical aspects have to be considered. Is R the dry toilet proposed by Tove Lanson, the exclusive use of sewage aludgs from wastewater treatment plants, and/or the systematic as-coupling of all major industrial contributors. or poliutants? Or does the solution its somewhere different altogether?

1 Canonica Anton, Candinas@IUL.admin.ch, Initilitie for Environmental Protection and Agriculture (JUL). 3003 Bern

#### Questions and Aims of the Project

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## **Network Declining** Fish Yields, Switzerland

EAWAG and SAEFL (Swiss Agency for the Environment, Forests and Landscape) have jointly launched the project "Fischnetz" (Fishing Net) "Netzwerk Fischrückgang Schweiz" (Network Declining Fish Yields Switzerland). This project examines the causes of the dramatic decline in fish catch in Switzerland's water systems over the past 10 years. Research institutions are jointly investigating with the public and private sector not only the causes and consequences for this decline, but are also developing measures for Improvement.

Sec. Berline

Parallel to the growing concern of those Involved in fisheries over the decline in catch anomalies in the secural development of fish. amphibians, reptiles, and other wildlife are increasingly reported worldwide. Effects on humans have also been observed, such as for se example a decline in sperm count in men: Evidence suggests that these effects are relatedto the chronic pollution of the environment with trace elements. This correlation has to be studied in order to establish a basis for developing specific and acceptable measures for improvement.

in particular the effects of the so-called "endooring disruptors" (pollutants with hormonetike affects or synthetic hormones from medicine) have attracted international attantion. This triggered various research projects, such as the EU Project COMPREHEND, in which Switzerland also takes part. It was primarily the decline in fish catch that induced the Swiss fisheries centres and Offices for water poliution control to conduct investigations in various waters.

To accelerate, coordinate and network the Swiss effort, EAWAG and SAEFL have decided to launch a joint project with the cantons and research institutes, in December 1998, an interim directorste in charge of the project officially initiated the project "Fischnetz". An information bulletin, which appears every trive to four months, informs on the activities of the project. The first issue of risconsets and was sent to over 300 interested parties.

The direction of the project "Fischnetz" (professionals from research, the public and private sector) is responsible for its professional management. This executive body is assisted by the managers of the sub-projects, and is itself subordinate to the Steering Committee (Directorates of EAWAG and SAEFL, local governments, Industrial Board for Fisheries. and the chemical industry). The cartons, unversities, the private sector and other offices or institutions are requested to report any current or planned projects partaining to the decline in fish yields to the direction of the project "Fischnetz".

Members of the project's direction: Karl Fent, Walter Giger, Herbert Guersniger, Patricia Holm (EAWAG Duebendorf), Ue-Ochsenbein (GSAVGBL Barne), Armin Pater (EAWAG Kastanienbaum), Even Staub (SAEFL Berne), Pater Dollervneier (CibaSC Basel)

Investigation on the Effects of Trace Compounds + How do the potential polularits impair the fah T Which organs are allected? What is the dose-response relation? s What importance do endourine modulating compounds have

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Procedural Guidelines



e identification of a comprehensive approach to eliminate the most important causes for the decline in Jah, development of verticus procedures options edepted to the parties concerned. reduction of specific measures to improve the situation in material with the parties conci

Projekt Fischnetz, Heigs Reutimann Phone 01-823 55 94, Fitx 01-823 53 75 heiga.reutimann@eawag.ch

Herbert Guellinger, EAWAI

SWITZERLAND - SEPTEMBER 2001 - CONCERN ABOUT SEWAGE SLUDGE - "POLLUTANTS AT LEVELS TOO HIGH FOR LONG TERM APPLICATION"; "CHRONIC POLLUTION OF THE ENVI-RONMENT WITH TRACE ELEMENTS"; "ENDOCRINE DISRUPTERS"; AND DECLINING FISHERIES, ANOMALIES IN FISH, AMPHIBIANS, REPTILES AND OTHER WILDLIFE.

Address:

## Researchers track hormone-disrupted fish

#### Statewire

DULUTH, Minn. (AP) -- Researchers have found that male fathead minnows placed in treated sewage water here have developed female characteristics -- a sign of hormone-disrupting chemicals.

It's an indication that something external is fooling the hormone system of male fish, the University of Minnesota scientists and other researchers said.

Another sign is that male walleyes tracked in the Mississippi River nave been found to be sterile, apparently from estrogen-like compounds from a sewage plant that disrupted their hormone systems.

Researchers are certain it's a compound that mimics female estrogen, but how widespread the problem is among wild fish or whether fish populations may be at risk because males can't reproduce is unclear.

So far, there's no indication that humans are at risk from whatever compounds are causing the problems, often called endocrine 2:strupters, scientists said.

"This could have some very real ecological ramifications, and potential human health concerns. It's a big maybe now, however, occause we just don't know yet, "said Peter Sorenson, a University of Minnesota fisheries professor. "But when you have male fish in Minnesota becoming feminized, it's something that needs a serious look."

Scientists found female egg protein, called vitellogenin, in male Mississippi River walleyes in a study reported in 1998. That ongoing study near a Twin Cities sewage plant appears to show those male walleyes have become sterile. Researchers during the 2000 and 2001 spawning seasons found no sperm in those walleyes.

That's an indication that this is not just an issue for a specific fish, but that this has some ecological impacts, that it may be affecting the population, " said Deb Swackhamer, a University of Munnesota environmental chemist.

University of Minnesota professor Ira Adelman, a fisheries biologist neading the walleye study, said the river walleyes near the Twin Cities sewage plant have "sky-high" female egg protein levels caused by exposure to estrogenic compounds found in the sewage effluent.

But occause of other possible factors, such as water temperatures, Adeiman said he's not ready to blame estrogens for their sterility. In addition to the University of Minnesota, the Minnesota Sea Grant program, the Environmental Protection Agency's Mid-Continent Ecology lab in Duluth and UMD's Natural Resources Research Institute in Duluth are either studying or funding research on the issue.

The Western Lake Superior Sanitary District in Duluth and the Two-Cities sewage authority also are trying to develop a plan to stop  $\pi_{i}$ , either at the treatment plant or at the problem's source upstream in the sewage system.

The research has produced more questions than answers.

In Duluth, for example, female egg protein was found this year in male laboratory minnows placed in effluent from the Western Lake Superior Sanitary District. But it's not yet clear if those low levels of female egg proteins affected the minnow's ability to reproduce

Researchers also aren't sure why fish in the Twin Cities seem more severely affected by the estrogen exposure than laboratory fish.

Goldfish and minnows placed in Twin Cities sewage effluent developed female egg proteins, according to a study to be published within weeks, but they haven't shown reproductive problems as serious as those of the wild walleye.

Scientists are trying to determine, from nearly 1, 000 possibilities, which estrogens or estrogen-mimicking compounds are causing Minnesota male fish to feminize.

The compounds are "turning on switches" in the male fish that would never be turned on by its own hormones, scientists say. The resulting changes can't be reversed. The fish don't go back to being healthy males, even if they swim elsewhere.

In addition to natural estrogens that all female animals -- including humans -- produce, possible suspects include compounds in ottergents, plasticizers (like those in plastic packing peanuts) and

insecticides

The banned insecticide DDT, for example, minute estroged

The sources of the compounds could be paper mills, livestock feed lots, farms, industrial waste and dity sewage, Swackhamer said. Another recent study found male carp in several rivers across Minnesots with female egg proteins -- some below sewage plants but some well upstream, confusing scientists more.

Research by Swackhamer and others has all but ruled out human estrogen as the problem in the Minnesota waters.

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## OCTOBER 7, 2001 - MINNESOTA and MISSISSIPPI RIVERS: HORMONE/ENDOCRINE DISRUPTING CHEMICALS FROM SEWAGE CAUSING STERILITY IN WALLEYES, CARP AND OTHER FISH.

## TENNESSEE - BURLISON - JULY 2000 SLUDGE FARM CONTAMINATES CREEK AND WETLANDS - WILĎLIFE OFFICIALS CONCERNED - STATE ASSESSES \$5000 FINE.

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## Farming sludge has noses out of joint

By TOM CHARLIER Scripps Howard News Service July 05, 2000

BURLISON, Tenn. - Secluded off a dirt road at the remote northwest corner of Tipton County, Tenn., Add-Van Farms & Co. is just about as far away from it all as you can get.

It might not be far enough.

Despite recent improvements, the company, which applies sewage sludge on fields for erops, continues to draw odor complaints from neighbors and remains a focus of state and federal environmental regulators.

Officials at a national wildlife agency are expressing concern about the operation.

The U.S. Fish and Wildlife Service collected samples of creek water and sediments after receiving complaints from users of the Lower Hatchie National Wildlife Refuge that adjoins the Add-Van property.

Randy Cook, manager of a group of refuges for the service, said officials discovered "tremendously offensive" odors and noticed some runoff from the sludge-farming process.

The samples have been sent to a laboratory for analysis.

Add-Van Farms owns property across Tennessee where sludge from cities and industries is injected into fields in a process called "land application."

About half of all cities and towns nationwide use land application to get rid of their sewage sludge. At the site in western Tipton County, the company applies municipal sludge from Covington, Tenn., and industrial sludge from food-processing companies, including the makers of whipped cream and brand-name products such as Slimfast.

Company president Van Bringle said Add-Van has done its best to comply with environmental regulations.

"I think we have a top-notch operation," he said.

But government files show the company has had trouble complying with environmental regulations during the past year and a half.

In March 1999, the Tennessee Department of Environment and Conservation investigated the site after receiving complaints. Officials found discolored runoff leaving the property into a tributary to a creek that flows into the Hatchie River. Two months later, inspectors found a levee had been breached, allowing malodorous, discolored liquids to flow into ditches and wetlands that eventually drain into the Hatchie.

As a result of the water-quality violations, the state assessed Add-Van a \$5,000 civil penalty that the company has appealed to the Tennessee Water Quality Control Board.

In January, the U.S. Environmental Protection Agency issued an administrative order requiring Add-Van Farms to correct problems identified in a May 1999 inspection.

Federal inspectors saw liquid sludge discharged from trucks and spread with a front-end loader. The concentrated sludge pooled on the surface, according to EPA.

Add-Van had overapplied sludge - putting down more than the soil can absorb - on some of its property, according to government inspectors.



## Compost operation may have polluted spring

By Kathy Carlson and Jennifer Peebles / Staff Writers

The water in Baker Spring in northern Davidson County has high levels of bacteria from a nearby composting operation, and people should not touch, drink, swim or fish in the water, state officials said yesterday.

The spring and the spring branch of Baker Fork Creek have high levels of fecal coliform bacteria that the state believes stem from the controversial Show Me Farms on Baker Station Road, state Environment and Conservation Commissioner Milton Hamilton said in a statement yesterday.

The bacteria are normally found in human and animal waste, Hamilton said. The farm in the hills north of Goodlettsville uses sewage sludge from Metro Nashville, mixed with wood chips, to form compost, which can be sold later as mulch.

The bacteria in the creek has exceeded state standards, Hamilton said.

Signs were posted yesterday along a 100- to 200-yard stretch of the creek, warning people against contact with the water.

A man who answered the telephone at Show Me Farms yesterday referred questions to an affiliated company, AEP Inc., where a telephone message left for its owner was not returned yesterday atternoon. Show Me Farms last month reached a settlement with upset residents who live near the 200-acre tract and who had sued to shut it down.

Part of the agreement calls for the farm's owners to stop bringing Metro sludge to the farm as of May 1, 2001, and to haul off all the resulting compost by Nov. 1, 2004.

Hamilton said the state would do additional water testing to determine how long people should stay away from the water in Baker Fork Creek.

## TENNESSEE - SLUDGE FARM POLLUTES SPRING

## TENNESSEE - SHOW ME FARMS - APRIL 2000 SLUDGE PROCESSING PLANT POLLUTES SPRING WITH FECAL COLIFORM; ODORS AND POSSIBLE WELL CONTAMINATION PLAGUE NEIGHBORS

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ENTERTAINMENT

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## Show Me Farms vows to accept no more sewage for compost



A warning sign is posted by a creek, pictured below, in the Baker Station Road area of Goodlettsville, (Photos by Billy Kingsley)



By Thomas Goldsmith and Monica Whitaker / Staff Writers

Show Me Farms, the controversial sludge-processing facility in northern Davidson County, has made a commitment to accept no further sewage waste at the site, court records show.

The commitment came in advance of a hearing set for Friday, part of continuing efforts by Metro to get Show Me Farms to address air and water contamination measured near the facility.

1/01/01 8-16 PF

Neighbors of the 200-acre Show Me Farms have complained for months that noxious smells and water pollution originate at the site, which processes Metro sewage sludge to make compost.

"The defendants make this commitment to the court: They will not accept any more biosolids at this site at any time in the future," the filing by Show Me Farms attorney Tom White states. "There is no need for the court to enjoin them from accepting biosolids. ...

"As they sell the compost and it is removed from the site, the environmental problems should be minimized if not entirely eliminated."

That removal will take several years, White said yesterday. He could not say exactly how the site will be used if his client continues to own and operate it.

"The only materials that are presently contemplated being taken to the site are woodchips. But there are absolutely no plans to take in any contaminated soil materials of any type."

At least one of the residents who has been tighting Show Me Farms was skeptical of the company's latest announcement.

"Why would we believe them?" neighbor Lester Armistead asked. "They are saying that the water is completely pure, so why would we believe them on this?"

Show Me Farms at 2115 Baker Station Road and Metro's Public Works Department got wildly dillerent results when they both tested water on April 19 in a spring that runs near the Show Me Farms property. Metro's results showed the fecal we coliform levels in the stream were 6,364. The state posts warning signs when the level passes 1,000.

Results from a lab contracted by Show Me Farms showed the level was less than 2. That would be less than 1/500th of the acceptable level. Show Me Farms' results sound great, "but that does seem a little unrealistic," said the state's Department of Environment and Conservation spokeswoman Kim Olson.

 Olson said the state plans to take samples at the
 spring today and should have results by tomorrow.

In another development, the Metro Health Department is investigating whether releases from Show Me Farms are also contaminating nearby residents' well water, a Metro filing in the case says.

Parties in several disputes involving Show Me Farms will appear at a hearing at 11 a.m. Friday before Davidson County Circuit Judge Thomas Brothers.

Metro health officials have asked Brothers to find Show Me Farms in contempt of court for not complying with an agreement to stop causing odors in the area.

In addition, Metro has joined a motion by Ron Wall, a close neighbor of Show Me Farms, to pull out of an agreement to buy and then close down the facility. Metro's filing makes the case that "a significant change in circumstance and operation" has happened since Wall agreed to buy Show Me Farms.

"Finally, the contaminated condition of the ground water, ongoing problems from the known release, and the potential for future contamination creates a set of conditions so distinctly different from the situation contemplated when this settlement agreement was entered into that the agreement cannot be enforced or enforceable," the Metro court filing says.

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## TENNESSEE

## Quote from "<u>Trust Us</u>: <u>We're Experts</u>" (Rampton and Stauber [2001] Center for Media and Democracy)

Page 61:

"My child is currently enrolled in Watauga Elementary School,' says Tamara Rich of Ridgetop, Tennessee. "Both his school and our home are approximately 1000 yards from a sludge dump called Show Me Farms. Although the experts will tell you there is no danger, they will also tell you there is no smell."

"For the past year, more often than not, people gag when they walk out of the door. Our school has not been able to open windows or let the children play outside most days."

"Of course, my house is now on the market, with little to no hope of selling. Ridgetop citizens seem to be having a high level of strokes, <u>defined as due to</u> <u>unknown toxins</u> by Vanderbilt Hospital. There's also been a lung malfunction for one child that was also labeled by Vanderbilt as <u>'unknown toxins'</u>."

"From the point of view of the technocrats and spin doctors, the Tamara Riches of the world are just 'hypermotivated complainants,' and their stories of illness, inconvenience, and injury are merely "unfounded anecdotes" that should not be taken seriously."

"Given the public's evident inability to smell the difference between sludge and shinola, someone has to do our thinking for us, and that's where the experts come in."

## STROKES AND LUNG MALFUNCTION DUE TO "UNKNOWN TOXINS".

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Access your existing library card	A sewage sludge composting facility in Brooke County has been ordered shut down for the second time in 18 months, after complaints from neighbors.
<u>Users'</u> Agreement and Privacy Policy	Attorneys for Valero Terrestrial Corp. agreed to shut down operations at the Brooke County Landfill, following two days of hearings in Brooke Circuit Court last week.
<u>Home</u>	The court closed the 196-acre composting facility in July 1996, citing the malodorous operation as a public nuisance. It reopened in February 1998 after the company installed bio-filtration equipment.
	Poor maintenance and continued hot temperatures caused that system to fail, Senior Assistant Attorney General Rex Burford said Tuesday. That prompted numerous complaints from neighbors of the landfill, tocated between Weirton and Follansbee.
	Burford, who obtained the 1996 injunction against operators of the plant, represented the Brooke County Solid Waste Authority at last week's hearing.
	Under the agreement, the composting <b>facility</b> will not receive or process any additional <b>sludge</b> until Nov. 15. The <b>facility</b> will be allowed to landfill about 3,000 tons of <b>sludge</b> on-site.
	The company, owned by Pat Mascaro, has until the Nov. 15 deadline to show that it has corrected problems at the Brooke County <b>facility</b> or <b>face a possible permanent injunction</b> .
	Besides repairing and upgrading existing odor-control equipment, the agreement requires the company to install a misting system and to develop special summertime rules for the facility.
	Burford said even a well-maintained system would be overwhelmed by continuous days of near-100 degree temperatures. An inspection by the state Office of Air Quality found weeds in some of the filters, according to the hearings.
	'With just basic maintenance, they probably could have avoided all his," Burford said.
	Fo contact staff writer Phil Kabler, call 348-5193.

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## WEST VIRGINIA - AUGUST 1999 - SLUDGE COMPOSTING PLANT SHUT DOWN BECAUSE OF ODORS - MALODOROUS OPERATION CITED AS PUBLIC NUISANCE.

## TEXAS - FORT BEND COUNTY - NOVEMBER 21, 2000 SLUDGE VICTIMS - THE MASSEY FAMILY - SMELL WAS UNBEARABLE. CHILDREN SUFFERED NAUSEA, HEADACHES, FREQUENT RESPIRATORY INFECTIONS.

STARCH

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HEIGLISM

Defenders Investigates: Sludge Transportation On The Highways

6:46 AM November 21, 2000

BHOUSTON -- Those trucks are carrying processed human waste also known as sludge. Farmers use it for fertilizer. But now, some scientists say the way it is

being transported in Houston may pose a health risk to drivers on the road.

It is noon in Sugarland and you are going nowhere. Why, because when this truck hit the brakes. Its cargo spilled onto the highway.

Microbiologist, Dr. David Lewis: "I think that there is a real risk there, you wouldn't want to be anywhere near it."

Anna: "So you're saying that just by driving behind one of these trucks, I could pick up an infection?"

Dr. Lewis: "Yes."

So what was in the truck, processed human waste, also known as Class B sludge. It is gathered at city wastewater plants, where it is treated, and then loaded into the trucks of private companys, who then spread it on fields as fertilizer. It is a practice the federal EPA started promoting over seven years ago. But now, scientists, both inside and outside the EPA, say the agency's policies on sludge may be endangering the public health.

Dr. Lewis: "Certainly, exposure to that material presents a risk of infection from a wide variety of infectious microorganisms."

Dr. Lewis, a microbiologist from the EPA, spoke on his own behalf.

"They may get pneumonia, bronchitis. There are also bacteria, which can cause respiratory disease. Tuberculosis for example/hepatitis/cytomeglovirus."

So why did the EPA approve its use? Dr. Lewis said the agency did not do its job.

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EMS FILE FLIGHT TRACKER	Anna: "You're telling people that the EPA never really looked at their risk of infection from shudge?"
THANKSGIVING JOBS	Dr. Lewis: "That's correct."
MOVIE REVIEWS	And, some other scientists back him up, like a Cornell University study that severely criticized the EPA's sludge science, saying it had made "fundamental errors and serious omissions."
PET OF THE WEEK	In the study that resulted in the use of Class B sludge and this recent report from the federal government's Inspector General said the: "EPA cannot assure the public that current practices are protective of human health."
ADVERTISE HERE	Take the Masseys. They live in rural Fort Bend County.
Downloads	Doug Massey: "The smell got to be unbearable."
NOWCASTER WEATHER	Jana Massey: "The kids couldn't play outside, and they always complained about not wanting to go outside because of the smell."
<u>WARN</u> ENEWSNOTIFIER	They say when these nearby fields started being spread with sludge, their lives started to change.
	Jana Massey: "They got headaches, you know, nauseous, and they wouldn't even want to go outside."
<u>REALPLAYER</u> BASIC TRACKING THE	And, the couple says what really puzzled them was when their two normally healthy kids kept coming down with respiratory infections.
<u>EIE</u> Utilities	Doug Massey: "It got to where we were taking them five, six times a year apiece, and every time we'd go, they'd have the same thing, upper respiratory infection."
	They were infections the doctors could not explain.
Lone Star	Jana Massey: "We would take them, and we would ask them about that, and nobody can pinpoint that's what it is."
Vinternet Windersternet	There is no proof of any connection, but Dr. Lewis said he is not surprised by their experience, which is what worries him about the sludge trucks.
ويعقبا فاجر بيشيبيس خداسره	Dr. Lewis: "I would consider them to be significant risks."
	He is concerned. First because under EPA policies, the trucks are not required to carry warning signs.
	Dr. Lewis: "For the public, it's essentially unavoidable. They don't know these trucks are on the highway. They don't know the risks that are posed there."
	But, what worries Dr. Lewis even more are the trucks leaving a Houston

wastewater plant, out on the highway, with a load of sludge, with no cover over it. Dr. Lewis believes that allows particles of sludge to blow off and put surrounding motorists' health at risk.

Dr. Lewis: "Any cars traveling behind that truck would take the contaminated materials into the ventilation system of their vehicles. So, they would be breathing it."

So we went to talk to Teresa Battenfield at the city of Houston's Public Works Department.

Anna: "Judging by the fact that there are trucks out there that are not covered." Battenfield: "I don't know which trucks you've seen that are not covered." Anna: "The ones coming from your waste water treatment plants." Battenfield: "Well, why don't you give me information why we need to do that and I would gladly have the trucks covered."

In fact, state and federal laws do not require it, but the EPA's own recommendations for managing Class B sludge say the product ".. must be transported to the storage site in vehicles that are appropriate.." and that "trucks must be covered."

"The material is not blowing off of those trucks I don't thinks there's any evidence that there is," said Synagro's Ross Patten

Ross Patten heads Synagro, the company Houston hired to haul its Class B sludge. Contrary to the claims, he says it is a product that has been proven safe by the government, and other scientists.

Ross Patten: "I do not believe, from all the information that I've looked at, that there's any potential harm to anybody."

But, what about those recommendations from the EPA?

Patton: "In the state of Texas, and you know it very, very well, it is not a requirement in the state of Texas to put tarps on trucks." Anna: "Could it be maybe the right thing to do in this case?" Patton: "(long pause) If our customer wants to cover the trucks, we certainly would cover the trucks."

His customer is the city of Houston and city officials tell us they will now be taking a look at whether to require those trucks be covered in the next hauling contract.

By the way, about one-third of the city's wastes are turned into sludge, the other two-thirds are turned into a fertilizer product.

If you have got a problem or a tip call our 11 News Defenders Investigative Hotline at 1-888-FOR-K-H-O-U.

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OKLAHOMA - Ranchers claim Bermuda grass grown in sludge-amended soil caused illness in 120 miniature horses and killed 15.

Dr. Lee Miller: I wanted to know if it is

a danger to me, my family or my animals; but I could get no answers from the people who should have them.

MÄRYLAND - Turf grass grower believes crop loss was due to use of sludge as fertilizer. EPA said use of highway roller on fields killed the grass.

TEXAS - Keith Massey and his neighbor William Barina sought help from Senator Phil Gramm regarding their concerns about odors, potential for surface and ground water contamination, and health effects suffered by abuttors of a Class B sewage sludge site in Guy, Texas. Texas officials inspected the site and said "no glaring problems were identified". Mr. Barina now suffers from terminal pulmonary fibrosis which can be caused by "a response of the immune system of unknown cause". (Immune system damage is a common affliction of sludge victims.) One farmer exposed to the sludge 2 years ago is still suffering from throat and lung problems. Other neighbors of the sludge site are suffering from leukemia, cancer of the bladder, and lymphoma.



SEWAGE SLUDGE IS A TOXIC SOUP, KNOWN TO CONTAIN AT LEAST 25 CARCINOGENS.



CHILDHOOD CANCERS ON THE RISE – LINKED TO EXPOSURE TO CHEMICALS AND TOXINS IN FOOD AND THE ENVIRONMENT.

HAWAII - Ralph Natale firmly believes daily
exposure of his 12-year old son Nicky for
several months to a sewage sludge stockpile at his school caused his death. Nicky's
symptoms started with headaches, vomiting,
sore throats and respiratory problems common complaints after sludge exposure.
Pain developed in the right side of his neck;
a lump was discovered behind his ear, and
Nicky was diagnosed with Rhabdomyosarcoma,
a rare malignant soft tissue muscle tumor which
took his life. A lawsuit is being prepared.

65.

## TEXAS, SIERRA BLANCA - ODORS: "AMMONIA VAPOR MIXED WITH FECAL SMELL" - "IT SMELLS LIKE DEATH". SLUDGE VICTIMS SUFFER STRANGE RASHES, BLISTERS IN MOUTH, MORE FLU, COLDS, ALLERGIES, ASTHMA -- RANCHER UNABLE TO SELL PROPERTY BECAUSE OF SMELL.

## Home on the Range at the Nation's Largest Sewage Dump

Texas has the dubious distinction of <u>leading the nation in a number of</u> <u>areas</u> of environmental degradation including the toxic air emissions of cancer causing chemicals. What is less well known is that Texas is home to the nation's largest sewage sludge dump. This week, *Texas* **PEER** examines how <u>Sierra Blanca</u> a small town on the U.S./Mexico border, became the resting place for New York City's sewage. Additionally, this segment will focus on how Gov. George W. Bush's environmental regulatory appointees and former staffers ignored local health concerns and illegal dumping to support tripling New York's waste being dumped in the Lonestar State.

#### The Recipe for Sierra Blanca Sludge

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Sewage sludge is the wet solid cake produced after human, residential and industrial wastes are combined in wastewater treatment plants. The <u>Environmental Protection Agency's Toxic Release Inventory</u> reveals that millions of pounds of chemicals are discharged to sewer treatment plants across the nation. A special report from Cornell University estimated that over 60,000 toxic substances and chemical compounds can be found in sewage sludge.(1) Because industrial wastes are combined at central treatment plants, sewage sludge can contain heavy metals such as arsenic, chromium, mercury, lead and even radioactive waste products. Also, carcinogens such as PCBs and pesticides along with pathogens including viruses and bacteria carrying E Coli, Salmonella, and TB are found in sewage sludge. "What is Sludge?"

#### How New York Sewage Came to Texas

Until Congress banned ocean dumping of sewage sludge in 1988, New York City dumped millions of tons of its sewage into the ocean. New York sludge was too contaminated with toxic pollutants to be used and too expensive to be buried safely in a landfill. In 1992, New York City awarded Merco Joint Venture, an Oklahoma-based company tied to New York organized crime (2), a six-year contract to <u>dispose of nearly a fifth</u> of the Big Apples' sewage sludge.

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Merco began the search for a state that would take the sewage. In Oklahoma, citizen protests prompted the State Legislature to pass a 5-year ban on the importation of out of state sewage. Arizona blocked rail shipments after <u>samples of the sludge showed high levels of petroleum and infectious disease</u>. Merco then turned to Texas, and targeted a site in Hudspeth County 2,065 miles away from New York, but only 3 miles northwest of the small town of <u>Sierra Blanca</u>.

Prior to receiving approval of their permit, <u>Merco donated \$1.5 million</u> dollars to <u>Texas Tech University in West Texas to study the beneficial</u> <u>uses of sludge</u>. Then, without an environmental impact statement, public process, or opportunity for questions; <u>Merco received approval of its</u> 5-year <u>sludge registration</u> from the Texas Water Commission in <u>an</u> <u>unprecedented 23 days</u>.

Soon after, Merco began dumping sludge on its Sierra Blanca "ranch". Transported by train from New Jersey; 250 tons a week of wet sludge was brought to Sierra Blanca to be sprayed on 78,500 of the 102,555 acres at the Merco "ranch". As EPA employee and sludge critic Hugh Kaufman said "The fish in New York are being protected. The people in New York are being protected. The people in Texas are being poisoned."

#### Life Next to the Sludge Dump

In 1992, after dumping began, the people of Sierra Blanca began to complain of the odor. "The chemical odors coming off the application area are not just a nuisance and a trespass, they're a health hazard - hydrogen sulfide and ammonia vapors mixed with a fecal smell are indescribable except to say that it smells like death," says Addington, after one of just a number of complaints, "The Texas Air Control Board came down two days later and told us it was just cow pattics." (5)

But odor wasn't the only problem. "We noticed strange rashes and blisters in the mouth, more flu, more colds, more allergies, and asthma since they came. We've seen a lot more sickness - especially with the kids," says <u>Bill</u> <u>Addington, a local resident</u>. The New York flu virus even made the rounds in Van Horn in 1996, a larger town 34 miles to the east. Sam Dodge, a <u>Merco neighbor and rancher tried to sell his ranch to escape the smell, but</u> <u>none would buy it</u>. Watch a Quicktime video clip from TV nation. (1.4MB)

After years of complaints, illness, and governmental inaction, in 1997 citizens of Sierra Blanca filed Civil Rights Complaint with the EPA,

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against the very agency whose mission it is to protect them, the Texas Natural Resource Conservation Commission. The complaint was dismissed with no action taken.

#### The Bush Philosophy: Let Industry Run Texas

والمحاد جهلا المتابعة والعبد متدارية والمتابع والمراجع

In 1997, Merco applied to the Texas Natural Resource Conservation Commission (TNRCC) for a renewal of their sludge permit for an additional five years. The company also requested an amendment to triple the amount of sewage sprayed per acre. To support their efforts, Merco hired Gov. Bush's former legislative director, Cliff Johnson, to lobby the Bush appointed commissioners (1997 Commissioners -<u>Barry McBee</u>, <u>Ralph Marquez</u>, John Baker) at the state regulatory agency. The permit renewal would allow up to 400 tons of wet sludge to be dumped each day, which amounts to 1.5 billion pounds of sewage sludge over five years enough to fill half of the Houston Astrodome. (3)

Texas regulatory rules do not allow for hearings on sludge registrations (permitting); the only recourse citizens have for challenging sludge registrations is to file a motion for reconsideration after the registration has been issued. Bill Addington and Millie Dodge of Sierra Blanca used this opportunity to file a motion for reconsideration with the TNRCC.

In response, the TNRCC Executive Director Dan Pearson filed a brief arguing for the motion for reconsideration to be denied. Pearson, hired by the Bush-appointed TNRCC Commissioners, claimed that the Merco operation wasn't a threat to health or the environment, and that "there have been no odor complaints relating to the Merco site since July 29, 1996. That complaint investigation found no nuisance conditions. Properly digested and stabilized, sludge may have an earthly odor when its is first applied, but the odor will soon disappear." The Bush-appointed <u>Commissioners denied the motion</u>, saying properly treated sewage sludge posed no threat, and Merco began dumping up to 400 tons a day.

#### The Result: Illegal Dumping At Sierra Blanca

In 1999, Merco admitted that it had spread sludge from New York that had not been properly treated to reduce pathogens - a state and federal requirement. (4) Merco had previously been caught spreading untreated sludge and fined \$12,800 in 1994, a sum unlikely to deter illegal dumping on a contract valued at \$168 million dollars over five years. Instead of requiring that the sludge be treated before it is shipped, as is required by law, the <u>TNRCC simply suggested that Merco mix the untreated sludge</u> with lime on site to bring the pathogen levels up to <u>Class B standards</u>. "Friends of mine that work at Merco tell me that Merco still occasionally spreads sludge without mixing it with lime first,"says Addington. (5)

Next Week: Another chapter in the Gov. Bush environmental legacy.

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#### Sources:

- "Organic Toxicants and pathogens in Sewage Sludge and Their Environmental Effects," JG Babish, DJ Lisk, GS Stoewsand, and C Wilkinson, A Special Report of the Subcommittee on Organics in Sludge, Cornell university, College of Agriculture and Life Sciences, December 1981.
- "Flood of Money Wins an Uneasy Home in Texas for New York City Waste", Allen R. Myerson, The New York Times, 7/17/95 and "Stink Over Sludge", Kevin Flynn and Michael Moss, New York Newsday, 8/2/94.
- 3. U.S. Department of Agriculture Soil Conservation Service, Temple Texas, "Upper North Bosque River Watershed Plan and Environmental Assessment," May 15, 1992 p. 2 "An estimated 1.12 billion pounds of wet animal waste is accumulating each year. This amount of untreated manure is enough to fill the Astrodome in a 3-year period."
- 4. TAC 30

(C) Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the Processes to Significantly Reduce Pathogens. The acceptable processes and the minimum operational and recordkeeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance.

5. Telephone interview 11/22/99 with <u>Bill Addington</u>, a third generation Sierra Blanca resident and business owner.



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## BILL RECENTLY INTRODUCED IN TEXAS LEGISLATURE

By Miller H.B. No. 2966 77R9313 JJT-D A BILL TO BE ENTITLED

1-1 AN ACT

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1-2 relating to the regulation of land application of sewage sludge. 1-3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS: 1-4 SECTION 1. Subchapter B, Chapter 361, Health and Safety Code, 1-5 is amended by adding Section 361,0225 to read as follows: 1-6 Sec. 361,0225, ZONE SURROUNDING APPLICATION AREA FOR SEWAGE 1-7 SLUDGE.

A person may not apply sewage sludge not meeting the Class pathogen requirements under 30 Texas Administrative Code Section 312.82(a) as that rule read on January 1, 2001, to land that is located less than one mile from a school, institution, business, or occupied residential structure

1-12. This Act takes effect immediately if it receives 1-13 a vote of two-thirds of all the members elected to each house, as 1-14 provided by Section 39, Article III, Texas Constitution. If this 1-15 Act does not receive the vote necessary for immediate effect, thisAct takes effect September 1, 2001.

## TEXAS LEGISLATOR PROPOSES ONE MILE BUFFER BETWEEN CLASS B SEWAGE SLUDGE AND HOMES, SCHOOLS, ETC.

(Unfortunately the Texas Legislature did not enact this bill in 2001. Hopefully it will be reintroduced in the 2002 legislative session.)

### **TEXAS - FROM BILL ADDINGTON - AUGUST 2000**

## SLUDGE BIOAEROSOLS SUSPECTED OF KILLING BATS - TEXAS WATER COMMISSION (now TNRCC) TESTS 200 DEAD BATS -- BUT LOSES THE RESULTS.

#### "Acceptable Risk" What a crock of shit.

Give us all a break with all your risk assessment studies. They only serve to inflame and anger us. I guess these "studies" serve to justify and rationalize the criminal acts USEPA and State Agencies do by poisoning the land, people, and all life. Did you ever think of doing a study of all the poor wildlife, the animals that live on these surface disposal areas, or those animals that travel over it?

We have seen sights like in '93, 3,000 mexican freetail bats near the MERCO's application area on an adjoining ranch, falling out of their roosting area (a railroad bridge over an arroyo) lay dying and dead. The sight of these beautiful small mammals falling 10-20 at a time and lying sickened to die is a sad and bizarre sight. Being very small mammals, these "Bioareosols" will nail their immune system quicker than us humans that weigh over 100 lbs.

We called the Texas Water Commission (now TNRCC) to come and sample these dead and dying bats. They did, they took 2 ice chests full and air freighted it to Austin. When we called later for the pathology results, they said "what bats, what are you talking about?", and when the media persisted, they finally admitted sampling the 200 bats, but said "they\_ lost the samples". This was one of my first lessons in the lengths our state agency will go to promote and protect the sludge projects and the beneficial use sludge program of USEPA. Pathetic.

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## SLUDGE VICTIMS - THE RUANE FAMILY, NORTH CLARENDON, VERMONT

Bob and Mary Ruane had successfully operated their dairy farm for many years. Their fondest hope was that their son would take over the farm when they retired.

The Ruane's nightmare began in 1986 when the City of Rutland convinced them to save on fertilizer costs by spreading sewage sludge on their 99-acre farm. The City furnished them with two tractors, a manure spreader and a set of transport harrows.

After 2 years of sludge spreading, Bob noticed a deterioration in his 150-cow herd. Milk production dropped from 18,000 pounds to 14,000 pounds. The animals weren't breeding back us quickly, they suffered a mysterious outbreak of arthritis, cows aborted or bore calves with leg deformities.

Prior to using sludge, the Ruane's had a herd mortality of 2 to 4 cows a year. After feeding his cows corn silage grown in sludge, herd mortality drastically increased. 66 cows died between January 1989 and December 1991

The state refused to renew Rutland's sludge permit because the wells on the Ruane property were contaminated with excessively high nitrate levels. Autopsies on the cows at Cornell University revealed high levels of heavy metals, which caused the animals to die from liver and kidney failure.

The Ruanes now struggle desperately to hang on, as their mortgage and milk business is based on a herd of 150 dows, not the 85 which survived. Part of the Ruane's crop land was also destroyed by the sludge --they had 27 acres of land which didn't grow an acre of corn.

The Ruane's cannot sell the farm because of the sludge contamination. Most heartbreaking to Bob and Mary Ruane is the fact that their son no longer wants to take over what is left of the family farm because of the ruin caused by the sewage sludge.

State officials ignored the Ruane's pleas for help. "No-one would listen to us", Mary says.

In January 1998, Bob and Mary Ruane came to New Hampshire and testified before the House Environment and Agriculture Committee. Bob told the legislators his experiences from the use of sludge ... he told them "sludge is poison".

Bob and Mary Ruane, PO Box 100, Middle Road, North Clarendon, Vt. 05759 (802) 775-4424

## VERMONT SLUDGE VICTIM - IGNORED BY STATE OFFICIALS. "NO-ONE WOULD LISTEN TO US!"

"The Voice of Central New Hampshire"

Ina Citizen Laconia, N-H-

THURSDAY, JANUARY 29, 1998

# tate Urged to Ban Slud

Vt. Farmer Tells Legislators Horror Story of His Biosolids Use

#### 'By GORDON D. KING Staff Writer

CONCORD - A Vermont farmer who says his milking cow herd and crop lands have been destroyed by the use of sludge is urging Granite State legislators to approve a moratorium on the use of the material.

"I lost my cows and have 27 acres of land which didn't grow an acre of corn," Robert Ruane of Rutland, told House Environment and Agriculture Committee members on Wednesday.

The committee is considering a moratogium on the spreading of sludge or biosolids in the state until acceptable limits on the use of the material have been set.

Ruane said sludge was spread on part of his land and his cows grazed there.

"My cows aborted or had calves which were deformed. The cows ate good but lost weight. My mind was boggled," he said. .

The farmer said he lost 65 cows in his herd of 150, and the acreage produced little corn.

There was one ear here and another 50 or 75 feet away," he said."

The dairyman said he contacted Vermont state officials and experts from Cornell about his problem, but they wouldn't tell him what was wrong with his cows and crop land. Several months later he was told he had been starving his cattle and not properly feeding them, an allegation he denied.

<u>You should call it (sludge) a poi-</u> son for that is what it is. You can call it by any other name but it is still a poison," he said in an plea to the lawmakers to ban the material.

Ruane said he is struggling to survive as his mortgage and milk business is based on a herd of 150 cows, not 85.

> VERMONT FARMER SAYS SLUDGE IS POISON.

"You are making a big mistake if you allow sludge to be used, regardless of what they (the experts) tell you," the farmer said, adding that he expects Vermont state officials will soon tell him he can no longer sell his milk because of the problem he is having.

Others speaking in favor of the moratorium included representatives of the Sierra Club and the Citizens for the Future of New Hampshire.

Charles Reid df the Citizens group and New Hampshire Organic Farming Association said he favored the ban and is against the importing of sludge materials into the state by firms which make a profit by spreading it as fertilizer.

"PCBs, dioxins and mercury levels are not being checked," Reid said.

He also said the amount of lead being spread by the use of sludge is unreasonable.

The only solution is to stop importing the sludge from other

states," he said. He urged the committee to adopt rules as strict as states from which the sludge is being imported, saying that would stop the practice.

Helane Shields of Alton, a longtime opponent to the use of sludge, told the committee the use of it should be regulated by the Food & Drug Administration and not the Environmental Protection Agency as it affects the food supply.

The only person to speak against the ban was a state Department of Environmental official.

Committee members took the testimony under advisement and will issue a report within the next month.

## DAIRY FARMERS & SLUDGE

In Vermont, dairyman Robert Ruane believes his cows are the victims of the City of Rutland's sludge - although he has no proof. When representatives of the municipality approached Ruane in 1986 with the idea of applying sludge on his 99-acre farm, he was impressed by their thoroughness and the generosity of their offer.

They told me how much money it was going to save me on fertilizer and that it had been approved by the State of Vermont as far as permits to spread it on farmland," recalls Ruane. "They furnished me with two tractors, a manure spreader and a set of transport harrows to cover it over."

After 24 months of spreading sludge - 5.5 tons per acre per year - Ruane began noticing a deterioration in his 180-cow herd. "The vet said my cows were getting arthritis," he says. By the end of the next year there was a marked increase in his cow mortality rate. The number of animals that died or were condemned to the packer had jumped from two in 1987 to 34 in 1988.

Ruane's problems weren't confined to a mysterious outbreak of arthritis and an epidemic of unexplained deaths. His animals weren't breeding back as quickly, and when they did his troubles compounded. "A lot of cows aborted, and we've had calves that couldn't straighten their legs and put their feet down flat," he says.

Since 1987 Ruane's milk average has dropped from 18,000 lb to 14,000 lb. "I had no idea anything like this would happen," he says. "Knowing that the State of Vermont approved it, I thought it was all right."

In December 1990, Vermont refused to renew Rutland's sludge application permit stating that the nitrate levels in two test wells were excessively high. Between January 1989 and December 1991, an additional 66 cows died.

Like the Zander's animals, preliminary tissue and blood samples taken from sick and dead cows point to severe liver damage. And yet, to date, evidence linking the sludge applications with the death of Ruane's cows is circumstantial. Some experts see the absence of proof of the source of contamination as predictable and just one more reason why farm owners should approach the sludge issue with extreme caution.

Ultimately, the buck stops at the farmer's door. In any dispute between landowner and municipality, the burden of proof falls clearly on the landowner. Ironically, while government officials and politicians close their offices and go home at 4:30 p.m., it is the farmer who must live with the consequences 24 hours a day.

On the same day, I talked again with Robert Ruane from Vermont. When I first spoke with him last fall, he had just come in from attending a dying cow. In 1987, the nearby city of Rutland worked out an agreement with him to bring their sewage sludge to his land and gave him farming equipment to use for growing corn for cattle feed.

They assured him that the sludge was testing and that farming with it was safe. By the next year, problems showed up. Out of a heard of about 180 cows, he was losing 2 to 4 a year prior to the sludge use.

The first year after feeding his cows corn grown in sludge-treated soil, 34 died and 36 were sold for beef because they were too weak, many with obvious liver and kidney damage.

Mrs. Ruane said that many of the herd appeared thin and frequently aborted their calves. She expressed the fear that they will lose their farm. They are both worried about what their family may have been exposed to, as ell as what might have ended up in meat and milk.

When I conversed with Ruane this time, he seemed more energetic; he has put his anger and frustration into speaking out and into fighting the city and state. He has had to go out of state to find lawyers as well as labs equipped to do necessary tests.

He recently found out that the State did monitor wells on his property when he first started to refuse more sludge and they found the nitrate levels to be very high. They canceled the city's permit to dump more sludge there, but neglected to tell the Ruane's of the condition of their own land!.

He told me this with an ironic chuckle. He does, however, have a sense of the importance of these first few lawsuits over sludge. "We're just the tip of the iceberg, you know," he said.

Robert and Mary Ruane, North Clarendon, Vermont 802-775-4424

## VIRGINIA - TOMS BROOK - NOVEMBER 4, 1999 VICTIMS SUFFER BURNING EYES, COUGHING, DIFFICULTY IN BREATHING, SEVERE ALLERGIC REACTION, HOSPITALIZATION - FISH IN POND DIE.

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<u>ligner site</u>

National Whistleblowers Organization http://www.whistleblowers.org/press-cdc2.htm

Center for Disease Control http://www.cdc.gov/niosh/hid10.html

Site of EPA & WEF (association of sludge generators) <u>http://www.biosolids.org</u> , http://biosolids.policy.net/

Swedish Site http://www.safesoil.com/

We are very thankful that Henry J. Staudinger give us the permission to publish his "Uncensored Story". You get a lot of information and you will see that "sludge" is not only a problem for a few people but also for all citiciens.

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### Land Application of Sludge (biosolids)

The Uncensored Story

by

#### Henry J. Staudinger

2218 Riverview Dr Toms Brook, VA 22660

Prepared for the

Water Environment Federation Seminar

Richmond, Virginia

November 4, 1999

I have been asked to address citizen concerns related to land application of sludge, and to focus on more than just the odor issue. My comments are based on personal experience, experiences of other victims, review of thousands of pages of scientific and permit documents, meetings with numerous experts, and unsuccessful efforts to interest the regulatory community to better address demonstrated sludge risks. Based on what I have learned, I can only wonder if one day this sludge will become better known as **biocides** than as **biosolids**.

### I. Victimization by Forced Exposure to Land Application of Sludge

My first-hand experience with forced exposure to land-applied sludge occurred in May 1995. Almost immediately following applications on an adjoining farm site, our neighbors to the north, became ill and were forced to leave their home. It was not until the wind changed direction that we

first came to appreciate the serious health, water quality and odor problems associated with this activity.

Even with my farm background and limited ability to smell, the odor was overpowering. Nevertheless, odor was not my major concern. Worsening physical symptoms, including burning eyes, difficulty in breathing, and coughing soon became more than a simple irritant. When the airborne particles from the sludge caused the fish in our pond to die, there was little doubt that we were being forcibly exposed to something that could cause serious problems. My wife and I, like our neighbors, were forced to move out of our home.

With time, initial physical symptoms gradually subsided. However, a short time later I experienced a severe allergic reaction requiring several trips to medical emergency facilities. A third neighbor was also hospitalized a short time after her exposure to the sludge. Because no one was willing to test the material for harmful substances, we will never know for certain to what extent our serious health problems were caused by the forced exposure to sludge, much less what long term health problems we may face as a result of that exposure. We have to live with that uncertainty.

In time I discovered that our experience was not unusual. Whenever health complaints are made to permitting agencies, they have been ignored and sludge testing refused. Many victims do not currently realize the relationship between their health problems and their forced exposure. This is because they have generally accepted without question representations from permitting agencies that their health problems are not or were not caused by anything in sludge. These representations are made without knowing what was in the sludge. The result is that most health problems relating to land-applied sludge are never known, and victims are prevented from taking appropriate action to protect themselves and their families.

I was not prepared to be victimized a second, third or fourth time. When it became clear that there was no one to protect me and my family against further risks, the responsibility became mine. I did that by purchasing the adjoining farmland.

#### II. Regulatory Policies and Practices have been Demonstrated to be Clearly Inadequate

Following our victimization, I naively assumed there was someone accountable to whom I could turn to address the problem and make sure it did not happen again. With that in mind, I contacted the sludge spreader, the sludge generator and the permitting agency.

Both the sludge spreader and the sludge generator pleaded ignorance and claimed to be shielded from accountability by the permit. This left the permitting agency, which proved as nonresponsive as the sludge generator and applicator. I then set out to find a responsible person at any level of government willing to address the problem. To my surprise, I found no one at any agency willing to be responsible—including by way of example, the Virginia Department of Environmental Quality, the Virginia Department of Health, the Virginia State Water Control Board, the Virginia Secretary of Natural Resources, and the Office of the Attorney General.

At the same time I conducted a parallel investigation of my own, hoping to find facts and science to ease our concerns. Unfortunately, I learned instead that there was considerable risk to my family, and many others forcibly exposed to land-applied sludge. I learned that the degree of risk was in part dependent on what was in the sludge, yet it was never fully tested. I also learned that the degree of health risk depended on who was exposed, with special concern for those with immune deficiencies, including the young, the elderly, the ill and even those who receive steroids as medication for allergies.

I would like to briefly share with you some of the areas of deficiency I have found under current permit policies and practices. As you will see, these deficiencies more than confirm that claims that sludge land-applied under a permit is **safe**, is at best, an **oxymoron**, and more likely, an intentional misrepresentation.

1. Failure to Demonstrate Exclusion of Harmful Substances in Sludge

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Land application of sludge is simply a method of disposing of pollutants. There can be any of more than 60,000 toxic substances in any particular land application, yet only a few are actually tested for. There are also different pathogens that may be present. Yet only fecal coliform tests are performed, even though it is well known that fecal coliform is not an indicator of the presence of certain pathogens such as viruses. Under these circumstances, no one really knows just what pollutants may be contained in any given land application. Accordingly, there can be no certainty about the degree of risk in any specific land application.

This deficiency is widely understood by those involved in land application of sludge. However, permitting agencies refuse to make this clear to farmers and the public. Instead, it is argued that land applications of sludge must be safe because there are no studies demonstrating harm to the public. Left unsaid is that no such studies have been undertaken, and health complaints are not properly investigated.

The refusal to conduct full testing of sludge following health complaints makes it scientifically impossible to confirm whether the sludge was, or was not, the cause of the health problems occurring following land applications of sludge. My father once said that if it looks like a skunk and smells like a skunk, it is probably a skunk. Refusal to admit that it is a skunk because of an unwillingness to take a close look does not mean it is not a skunk. Yet this is how the safety issue of sludge is addressed.

The refusal to use science suggests a sinister motive--to make it impossible for victims to establish the scientific link between their ill health and their forced exposure to sludge. This failure to determine the nature of the health risk makes it impossible for any reasonable person to claim that forced exposure to any given land-applied sludge is safe. Only sludge promoters could be expected to make such an unsupported claim.

#### 2. Failure to Establish Adequate Permit Provisions

Even if proper testing were developed, under current permit provisions there would still be no assurance that any given land application would be safe. The adequacy of permit terms is based on EPA's risk assessment model. However, the many deficiencies of that model are never discussed. For example, the model did not address most of the toxic substances that might be found in a sludge; and it did not take into account local pollution potential characteristics such as karst terrain, soils with pollution-sensitive characteristics, and areas that frequently flood.

Even if those factors had been incorporated into a risk assessment model, it would still not establish the safety of specific land applications because assumptions in the EPA model are often not included in permits. For example, the risk assessment model used slopes limited to 6 percent. In Virginia, slopes up to 15 percent are allowed, and there has been an ongoing refusal to provide any scientific data to demonstrate the impact of this major change.

The EPA risk assessment model also assumes that pH will remain at sufficiently high levels to keep heavy metals from leaching into groundwater. However, current permits in Virginia provide for pH requirements only at the time of application. There is no requirement that it be in perpetuity, and that it run as an obligation against the land. In areas with high acid soils, this is a special problem.

The failure to consider local pollution potential conditions in Virginia is especially troubling because of the karst terrain found in many counties. Everyone associated with land application of sludge should know that karst terrain is very pollution-sensitive. Because of the presence of cracks, fissures and sinkholes, what goes on the ground often goes directly into groundwater.

Permitting agencies in Virginia are quite familiar with the serious pollution potential in these areas, and yet have authorized land applications in karst areas with the greatest pollution potential under the Drastic Index. Admittedly, a limited effort has been made to address this issue by requiring buffers. However, there are no studies to confirm if sludge could be safely land-applied on karst

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under any circumstances, especially when the extent of the pollutants is never determined. Moreover, there is little certainty that buffer restrictions are adequate or will be complied with. Furthermore, permits do not address many other local pollution potential issues such as high shrink-swell soils, rapid runoff rate soils, and soils that frequently flood.

#### 3. Failure to Implement Current Regulatory Requirements

Even if there were adequate testing and adequate permit terms, there would still be no assurance that any given land application of sludge would be safe. Based on personal experience and review of permit files and sites, it is clear that those requirements are not always included in issued permits. For example, on the site next to our home, sludge was allowed to be land- applied over springs, on areas that did not meet minimum depth to water limitations, on areas that exceeded slope limitations, and over the top of our septic drainfield. Other permit sites investigated in Shenandoah County were also found to be in violation of numerous regulatory requirements, including failure to buffer out springs, wells, sinkholes, rock formations, streams and excessive slopes.

#### 4. Failure to Adequately Monitor and Enforce

Even if there were adequate testing, adequate permits terms and they were adequately implemented, there would still be no assurance that land application of sludge would be safe. There is little or no monitoring or enforcement of permit terms. Permitting agencies refuse to modify permit terms even when terms are shown to be contrary to regulatory requirements; they ignore the many violations shown in permit file documents; and they refuse to conduct meaningful investigations and testing when health complaints are made. In our case, after more than four years there has still been no effort to determine what might have been in the sludge that caused our problems. Nor has there been a decision as to whether my wife and I were interested parties, having the right to require that the issues we raised be addressed.

#### III. Permitting Agencies Promote Rather than Protect, Making it Necessary

#### to Look Elsewhere to Protect the Public Health and Water Quality

I have been chastised more than once by the Virginia State Water Control Board for asking that permit terms be modified to protect public health and water quality. The Board has made very clear that it has neither the authority nor the responsibility to protect public health when it issues permits; and that unless directed by specific regulatory language, cannot even protect water quality. According to the Board, this would require legislative action by the Virginia General Assembly.

I have already discussed the inability to get permitting agencies to investigate health complaints or to provide scientific support for safety claims. Yet agency personnel are readily available when needed to help market the sludge to farmers and the general public. Agency personnel will show up whenever asked to tell anyone who will listen, that sludge is safe. Those representations are made knowing full well that they don't know what is in a particular sludge; they don't have adequate regulatory authority; they don't adequately implement regulatory requirements; they fail to adequately monitor and/or enforce permit terms and conditions; and they are not able to provide scientific support for their assertions.

I have come to think of permitting agencies as sludge marketers who follow the P.T. Barnum marketing concept. This marketing concept not only misleads the public about risks associated with sludge, it also distorts actual benefits. For example, it is not made clear that the ratio of nitrogen and phosphorous in sludge is not in the ratios needed for proper crop growth. As a result, phosphorous is often applied in amounts far in excess of crop requirements, and nutrient crop needs are not always balanced. The end result is vastly overstated claims of economic benefits to

farmers, and further water pollution through nutrient leaching and runoff of sludge nutrients. Some of the distortion is accomplished by falsely claiming that sludge is land applied at agronomic rates.

#### IV, Sludge Generators Have Failed to Discharge their NonPermit Responsibilities

#### and have Subjected Themselves to Substantial Potential Liabilities

My comments setting forth examples of the many deficiencies of the current permit system are not directed to permitting agencies. I have been there and tried that on behalf of both farmers and the public in Virginia. Instead, my comments are directed to municipalities and companies that generate sludge and to a lesser extent, the companies that land-apply it.

It is my hope that with a better understanding of legal and moral obligations as well as potential liabilities, serious consideration will be given to approaching both the agencies and the Virginia General Assembly to make sure that the permit system more closely relates to overall legal obligations.

Some may mistakenly believe that their sludge is being land-applied in accordance with the terms of their permit. Others may mistakenly believe that they are protected from liability as long as they have a permit. For those believe that their sludge is being land-applied in accordance with permit requirements, I recommend that you take a closer look. Reviews of permits files, site visits and other efforts readily confirm that this is often not the case. Moreover, as stated, permitting agencies make little effort to make sure that permit requirements are complied with.

At the same time, it is important that every company and municipality clearly understand that a land application permit is simply one of many legal hurdles to be cleared before sludge can be lawfully land-applied. There is a clear requirement that each and every land application must comply with **all** other laws and regulations.

There are many laws that may be applicable. They range from local zoning and health laws to constitutionally protected personal and property rights of those who may be forcibly exposed to sludge. As described earlier, the many deficiencies of the permit system make very clear that permit terms are far from adequate to assure constitutionally protected personal and property rights. It should also be understood that those rights cannot be abridged by either the federal government or the Commonwealth of Virginia.

It would have been most helpful to both companies and municipalities if permit requirements were adequate to provide those protections. Instead, the permit system leaves each permittee on its own to determine how to land-apply without running afoul of its legal obligations—it is up to each company and each municipality to make sure that nothing in the sludge could cause personal injury or property damage. That is simply not possible as long as there is a failure to fully test sludge before it is land-applied.

Moreover, where full testing is not conducted following health complaints, the specter of intentional disregard of applicable laws is raised. The failure to test is made worse by the refusal to determine whether high risk individuals may be exposed to land-applied sludge-- including those with immune deficiencies who are susceptible to serious health problems and even death. These failures are compounded by the additional failure to give notice to those who may be forcibly exposed so that they would have the option to take themselves and their families out of harm's way. It is inexcusable that we give more protection to the animals we hunt than to the potential victims of land-applied sludge.

The inability of permitting agencies and even EPA to provide scientific information to demonstrate the safety of many land applications, makes it more than likely that companies and municipalities also do not have a scientific basis to support their current activity. Lacking that scientific support, there is no reasonable basis for companies and municipalities to conclude that their land applications will not cause personal injury and/or property damage.

During my research, I attempted to understand how such a lack of accountability and disregard of potential liabilities could have developed within the industry. I concluded that while there are a number of contributing factors, perhaps the direct marketing role played by permitting agencies is a significant factor. I suspect that the ongoing misrepresentations by those agencies has lulled some into a false sense of security. The success in keeping hidden the full list of pollutants in a particular land application cannot be disregarded as another important factor. The mistaken belief that permits can be used as shields when health and property damage complaints are made, is another possibility.

This situation will not last. More people are experiencing health problems, and their complaints are being ignored. The public is beginning to become aware of the problem, and the failure of the permit system to protect them. As science develops it will become much easier for victims to demonstrate land sludge applications to be the cause of their health problems and property damages.

Because of the failure of companies and municipalities to assure that health and property are not injured, gross negligence may well apply. Where there has been a refusal to address health complaints and to take corrective action, the possibility of criminal responsibility is real. Class actions as well as punitive damages may well become the norm.

The types of damages are varied. Property damage may range from contaminated soil to contaminated drinking water (necessitating the development of rural water districts), to unmarketability of property, to just plain nuisances. Injury to person may range from minor to serious illnesses to loss of life.

To add insult to injury, many of the companies and municipalities that land-apply may become their own victim. This is especially true when land applications are made in areas where companies and municipalities also depend on quality sources of water. The cost to install needed treatment facilities to provide quality water could be yet another cost when sludge is land-applied. Some companies could even be forced to close because of those costs.

It would be prudent for each and every generator to assess its obligations and to implement changes that will protect not only the public, but themselves as well. Short term, I believe the only safe course would be to dispose of sludge through landfilling or incineration. Only when a meaningful determination is made that it can be land-applied without violating applicable laws should resumption of land applications be considered.

For companies and municipalities that wish to land-apply sludge in the future, much work is needed to determine if it can be done in a manner consistent with all legal and moral obligations. To this end, I would recommend that permitting agencies be contacted to help develop appropriate policies and practices. In recognition of the inadequate funding of permitting agencies, the industry should be prepared to fund much of that effort. After all, it is the industry that is at risk, and it may be the only way to protect itself and merit public support.

For those of you who would scoff at the idea you have real risks, you need only look around the country to see what is happening. I will give you just one example, recent lawsuits in Augusta, Georgia alleging that land-applied sludge slowly poisoned cattle and land, has led to a special investigation by the National Ombudsman. The Augusta investigation could well be a window through which EPA is forced to re-examine its own national policies governing the use of sludge as fertilizer. Consider the possibility that one of you might be the next target of a truly independent investigation?

#### V. Odors: The Nuisance Factor

Odors are the primary focus of this seminar. Much of my earlier discussion relates to background information needed to better understand how odors and the resulting nuisance could serve as a basis for the courts to terminate most of the land applications of sludge. It should be remembered that no land sludge application may be made lawfully if it causes a nuisance, either public or

private. This is a constitutionally protected right that cannot be taken away.

Interestingly, sludge victims have not yet looked for protection under the nuisance laws. I believe this is due in part to efforts of local governments to address citizen complaints. This has been accomplished through special local regulations, moratoriums and bans. Ironically, relief provided by local governments has given companies and municipalities some breathing room to make changes before losing the right to land-apply sludge everywhere. If sludge victims had not had that outlet, they would have been forced to seek relief in other ways, including relief through the courts under the nuisance laws. A single court decision related to the nuisance issue could have already ended all land applications of sludge.

It should also be noted that odor is not the only nuisance aspect of land-applied sludge. Transfer of pollutants through air, common vectors such as birds and mice, erosion, runoff and leaching may each constitute a separate basis for nuisance suits. Thus even if policies and practices could be developed to resolve the odor nuisance issue, other nuisance issues remain.

The nuisance concept could also be applied to pollutant discharges into rivers and streams. Each time another forced exposure of sludge incident occurs, the public becomes more aware. In time the public can be expected to focus on discharges as well. The potential cost in this area could far exceed those related to land-applied sludge. Court ordered compliance is a real possibility.

Under these circumstances, it would be a prudent business practice to voluntarily defer further land applications until better policies and practices can be developed to address the many issues surrounding the current practice. Failure to do so could result in the end of **all** land applications of sludge.

#### VI. Summary

Current permit policies and practices in Virginia are totally inadequate to protect public health and water quality where studge is land-applied. Many current land applications of studge appear to be in violation of numerous constitutional, regulatory and permit requirements. Land application of studge is not only subjecting farmers and the public to special risks, it is also subjecting every company and municipality that land applies to special risks as well.

With the failure of the permit system, it fails squarely on companies and municipalities that generate the sludge, those who apply it, and farmers who accept it to develop a system that would adequately protect public health and property rights of those forcibly exposed. Pending the development of such a system, sludge generators would be wise to impose their own moratorium on land applications of sludge.

If the industry continues to ignore its obligations, as well as its own self interest, forced changes can be expected. Each time a land application is made, the awareness of the public will grow. Each incident of forced exposure and health problems will make it more difficult for these issues to be resolved without widespread litigation. Please give this issue serious thought, and do not forget to take into consideration your own real self interest when you do so.

The following was entirely found at: http://www.usatoday.com/life/dcovthu.htm

07/13/00- Updated 09:22 AM ET CDC sounds a warning on risks of sludge

By John Tuohy, USA TODAY

An upcoming report by the Centers for Disease Control and Prevention concludes that sewage sludge that has been converted to fertilizer can pose a potential health risk from E. coli, salmonella, hepatitis B and other bacteria and viruses. Workers who handle sludge are especially at risk, scientists found....

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Features

# Traces of chemical found in fish

BY LAWRENCE LATANE III TIMES-DISPATCH STAFF WRITER

MONTROSS - Faint traces of a chemical flame retardant were discovered recently in fish eels from Westmoreland County, according to a scientist at the Virginia Institute of Maria said more work is needed to determine whether the animals were contaminated by sewag e-applied to farm fields.

Rob Hale, an associate professor at VIMS, said levels of <u>brominated diphenyl ethers in the</u> shellfish he <u>sampled ranged from 1 to 5 parts per billion</u>, the fringe of detectable limits. Westmoreland Board of Supervisors the sludge he sampled bore 539 parts per billion E "which we consider reasonably high."

Hale reported his findings yesterday in tandem with a residents' task force recommenda county tighten sludge, or bio-solid, regulations that have allowed county farmers to fertil for the past 10 years.

About 15,000 acres in Westmoreland are permitted to receive sludge, said task force C Douglas Jenkins, a Coles Point commercial fisherman. He said up to 20 tons per acre c applied to permitted fields every three years under state regulations. Farmers receive th from disposal contractors who truck most of it from Maryland sewage plants.

BDEs are little-known chemicals used as a flame retardant in plastics. They are similar are suspected carcinogens. Unlike PCBs, however, BDEs are not covered by Environm-Agency regulations, Hale said.

In addition to BDEs, the sludge Hale sampled also contained chemicals called nonylphenois said are a byproduct of industrial detergents and are beginning to be regulated in Europ chemicals are believed to disrupt endocrine gland functions.

"I'm not in a position to say there's necessarily an environmental or human health risk, b folks should be aware of' the chemicals' existence, Hale told the supervisors.

The supervisors appointed a five-member task force last fall to study sludge use after Ju complained that contractors were applying sludge to waterlogged fields in violation of th ordinance.

The task force recommended the county take an active role in monitoring sludge ingred ensuring it is applied to fields correctly.

"We will come up with a good solution," Supervisor Darryl Fisher told Jenkins. He said to will use the recommendations "hopefully to come up with a better ordinance as well as a of how we use bio-solids."

VIRGINIA - BROMINATED DIPHENYL ETHERS IN SLUDGE MAY BE CONTAMINATING MARINE LIFE. SLUDGE ALSO CONTAINS NONYLPHENOLS - AN ENDOCRINE DISRUPTING CHEMICAL REGULATED IN EUROPE - BUT NOT IN USA.

Printer-Frien Emai STUDY QUESTIONS SLUDGE-USE SAFETY Publication: Richmond Times-Dispatch Byline: Rex Springston Date: 07-12-2001 Edition: City Section: Area/State

Research at the Virginia Institute of Marine Science raises questions about the safety of putting treated sewage on farm fields as fertilizer.

The treated sewage, called sludge, often contains high levels of toxic chemicals called BDEs, according to the research published today in the journal Nature.

"It's not right to say [putting sludge on fields] is safe," said Dr. Rob Hale, a VIMS environmental chemist. "We just don't know."

Hale led a six-member team that conducted the research.

Sludge is spread on fields in about 30 Virginia counties, including Chesterfield, Hanover and Henrico, according to the state Department of Health. A Virginia Supreme Court decision in February said a county can't ban sludge from its fields if the farmer spreading it has a state permit.

The VIMS researchers also found BDEs in fish across Virginia. It's possible the chemicals seep into waterways from the farm fields, but that's not clear. The research didn't try to prove that.

BDEs, or brominated diphenyl ethers, are used to make foam seat cushions fire-resistant. They are chemically similar to PCBs, DDT and dioxin, pollutants widely considered threats to people or wildlife.

DDT and PCBs were banned in the United States in the 1970s. Dioxin is produced in small amounts as industrial byproducts. BDEs, however, are widely produced and used today.

"The valve on these is still open," Hale said. "The valve on those other chemicals is closed."

Sludge is the earthy, nutrient-rich byproduct of sewage treatment - the processing of human excrement, household waste and just about anything else that goes down a drain or toilet. Sludge, which looks like dirt, is also called biosolids.

Sludge is treated to remove disease-causing germs. But that treatment doesn't remove BDEs, Hale said. Hale's team found consistently high levels of BDEs in sludge from 11 sewage-treatment plants in Virginia, Maryland, New York, Texas

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and California, before the sludge went on farm fields. The states were chosen to get a sense of what's happening across the country.

The presence of BDEs in sludge "suggests that the environmental consequences of land application of biosolids need further investigation," the Nature article said.

The federal Environmental Protection Agency, the Virginia Department of Health and the state Department of Environmental Quality say the use of sludge on fields poses little or no threat to people.

Those positions are largely based on a study, conducted about a decade ago, in which the EPA said it's safe to put sludge on fields. That study looked at the presence of heavy metals and some other contaminants in sludge, but not BDEs, Hale said.

The EPA study, "which is the basis for all the suggestions that things are hunky-dory [with sludge] did not consider the full suite of contaminants" in it, Hale said in an interview.

Sludge samples examined by the research team typically contained 1 to 2 parts of BDEs per million of sludge, which is high, Hale said. The chemicals are more often measured in parts per billion.

Cal Sawyer, director of waste-water engineering for the state Department of Health, said the evidence he has seen indicates sludge is safe on farm fields if proper safequards are followed, such as leaving buffer strips near streams.

"We don't want biosolids that may have high levels of any constituent that could result in environmental damage or public health concerns, but we don't have any evidence that that has happened, or will happen," Sawyer said.

The researchers found BDEs in hundreds of fish from across Virginia. Levels ranged from a low of less than 1 part per billion to a high of 47,900 parts per billion, Hale said. He considered 1,000 parts per billion high.

The researchers found the highest levels in fish from the Hyco River, in Southside Virginia near the North Carolina line.

Virginia officials announced a year ago that they had found high levels in BDEs in fish from the Hyco and the Dan rivers. Low levels were found in Roanoke River fish.

A state task force is looking for the source of the Southside BDEs.

State health officials say they haven't seen BDE levels in fish high enough to pose a threat to people. Hale said the chemicals could, however, affect the

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reproduction and development of fish and fish-eating birds.

More study is needed, Hale said, on the human health risks of BDEs; the risks they pose to wildlife; and the safety of putting BDE- laced sludge on fields.

The chemicals' movement into food crops is a lesser concern because they bind with the soil, but that's another concern for study, Hale said.

BDEs share two properties with contaminants such as dioxin, DDT and PCBs. They break down slowly, persisting in soil and water for decades. And they "bioaccumulate." That means they move up the food chain as small animals ingest the chemicals, bigger animals such as fish eat those small animals, and even bigger animals, such as eagles, ospreys and people, eat those contaminated fish.

Studies, primarily in Europe, have found BDEs in human blood and breast milk.

Medical researchers suspect BDEs may impair the immune and endocrine systems. They may also delay intellectual and physical development. The European Commission, an arm of the European Union, recently proposed banning a widely used compound containing BDEs.

Beyond calling for more research, Hale offered no recommendations - no calls to ban BDEs or keep sludge off farms. The United States hasn't studied the costs and benefits of BDEs, he said. "As a flame retardant, they save lives."

As for putting sludge on farm fields, it has to go somewhere, and putting it in landfills can be expensive.

"In an ideal world, yes, you would suspend [the use of sludge on fields] until you have all the available information on it, but that's probably not acceptable."

EPA spokeswoman Bonnie Smith said the agency hadn't seen the VIMS study and couldn't comment.

Bill Hayden, a spokesman for the state Department of Environmental Quality, said the agency monitors BDEs in fish and hasn't yet found levels that pose problems for people or animals.

Smith and Hayden said their agencies may study BDEs in sludge if information surfaces to indicate a problem.

A growing threat?

Toxic chemicals called BDEs, or brominated diphenyl ethers, have been found

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in sewage sludge, fish tissue and mothers' milk.

BDEs are used to make foam padding in seat cushions fire- resistant.

BDEs work their way up the food chain to people. Mothers can pass the chemicals to infants.

Medical researchers suspect BDEs may impair the immune system or delay intellectual development.

BDEs are similar to toxic pollutants called PCBs, believed to cause cancer, and DDT, which has hurt many bird species. PCBs and DDT were banned in the 1970s.

Subject: VIRGINIA; MARITIME; WATER; POLLUTION; REPORT HEALTH

Keywords: VIRGINIA; MARITIME; WATER; POLLUTION; REPORT HEALTH

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#### Flame retardants

### Persistent pollutants in land-applied sludges

Disposal of sewage sludge by application to agricultural and other land is widely practised and is presumed to be environmentally beneficial, but we have found high concentrations of an environmentally persistent class of organic pollutants, brominated diphenyl ethers (BDEs),

tains, dominated apprently chief apprently consolids' from four different regions of the United States. These compounds are widely used as flame retardants, and their presence suggests that the environmental consequences of land application of biosolids need further investigation. We also frequently detected BDEs in wildcaught fish, indicating another pathway for human exposure.

Over half of the sewage sludge produced annually in the United States is applied to land, amounting to roughly 4 million tons in 1998 (ref. 1). Sludges are treated before application to reduce odour and pathogen content and their metal burden is regulated. But attention has focused less on persistent organic pollutants since usage of the most notorious (for example, polychlorinated biphenyls) has decreased and pretreatment of industrial waste water has improved<sup>1,2</sup>.

We analysed 11 biosolid samples before land application from Virginia, Maryland, New York state and California, and found that they all contained high concentrations of BDEs. These flame-retardant polymers are structurally similar to polybrominated biphenyls, the use of which was curtailed after a significant contamination incident in 1973 involving livestock feed in Michigan<sup>3</sup>. However, global consumption of BDEs continues to increase, reaching 67,125 metric tonnes in 1999 (refs 4, 5). The most bio-accumulative and toxic BDEs (those containing 4–6 bromine atoms) are being increasingly detected in humans and wildlife from both developed and remote areas<sup>1-7</sup>. These were present in significant amounts in the biosolids we examined and their relative contributions matched those in 'Penta', the commercial formulation used as a flame retardant in polyurethane foam (Fig. 1). North America accounts for about 98% of global demand for Penta, estimated at 8,290 tonnes in 1999 (ref. 4).

How BDEs are released from polymers has been uncertain, as these applications are considered to be non-dispersive<sup>2</sup>. However, breakdown of discarded polyurethane foam, which may contrain up to 30% Penta by weight<sup>3</sup>, may contribute to this. We found that the surface of foam became

brittle and sloughed off after 4 weeks of exposure to ambient summer conditions. The particles generated are easily transported and the polymer matrix preserves the formulation's original BDE composition.

The total concentration of Penta-like BDEs in these biosolids was  $1,100-2,290 \mu g$ per kg dry weight, suggesting that input was high and consistent, regardless of the region of origin and irrespective of preapplication treatment (see supplementary information). Concentrations exceed those in European sludges by 10- to 100-fold<sup>4</sup>, which is commensurate with the greater demand for Penta in the United States. The European Commission recently proposed a ban on the use of Penta, on the basis of its reported exponential increase in human breast milk and perceived health risks<sup>9</sup>.



Figure 1 Brominated diphenyl ethers (BDEs) are produced commercially and occur in the environment as maxtures of compounds of varying bromination. Relative contributions of letra- (BDE-47), penta- (BDE-100 and -99) and hexa- (BDE-154 and -53) brominated versions were similar in 11 biosolids obtained from four different regions of the United States, in the Penta commercial product (used as a flame retardant in polyurethane toam), in treated foem and in wild-caught fish (data shown are for 15 composite samples of channel cartish, *ktaiurus punctatus*, an omnivorous bottom-dwelking species) collected from Virginia lakes and mers (error bars represent standard deviation). BDE-209 was not detected in fish but was present in biosolids.

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The fully brominated Deca product constitutes 82% of the total global BDE market<sup>4</sup>. It is rarely reported in wildlife, perhaps because of its low bioavailability. Deca consists principally of a single BDE (BDE-209) and is used to curtail fires in textiles and in relatively stable, rigid polymers, such as those used in television and computer casings<sup>5</sup>. Unlike those of Penta constituents, BDE-209 concentrations varied widely among the biosolids we analysed (84.8-4,890 µg kg 1; see supplementary information). Although there is little evidence for the degradation of Deca to Penta-like compounds, some photolysis of Deca to less brominated diphenyl ethers is possible<sup>3,7</sup>

We also detected BDEs in 87% of fish sampled from Virginia waters (quantification limit in fillets, 5  $\mu$ g per kg lipid; n = 334). The principal Penta constituents (BDE-47, -100 and -99) predominated in these samples (Fig. 1). This finding indicates that significant environmental release of these pollutants is occurring in the United States and that humans may be exposed to them through their diet. Carp from one Virginia stream contained 47,900  $\mu$ g kg<sup>-1</sup> of total BDEs, rivalling the highest fillet

burdens reported in the world so far<sup>4</sup>. These compounds are also detectable in urban and rural air<sup>10</sup>, indicating the potential for long-distance atmospheric transport. It seems that BDEs are an important - but generally unrecognized - persistent organic pollutant in the United States. Extensive use of Penta and the high burden of BDEs in land-applied biosolids may facilitate environmental dissemination of lessbrominated BDEs both locally and globally. Robert C. Hale, Mark J. La Guardia, Ellen P. Harvey, Michael O. Gaylor, T. Matteson Mainor, William H. Duff Department of Environmental Science, Virginia Institute of Marine Science, PO Bax 1346, Gloucester Point, Virginia 23062, USA e-mail: hale@vims.edu

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Supplementary information is available at http://www.nature.com or as paper copy from the London editorial office of *bisture*.

# ALKYLPHENOL ETHOXYLATE DEGRADATION PRODUCTS IN LAND APPLIED SEWAGE SLUDGE (BIOSOLIDS)

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#### Abstract:

Alkylphenol ethoxylates, widely used in commercial and household detergents in the U.S., can degrade during the wastewater treatment process to more toxic, estrogenic and lipophilic compounds. These include octylphenol (OP), nonylphenols (NPs), nonylphenol monoethoxylates (NP1EOs) and nonylphenol diethoxylates (NP2EOs). These compounds have received considerable attention, due to their acute toxicity and ability to disrupt the endocrine system. In Europe regulations have been established to control their impact on the environment. In this study biosolids derived from all eleven U.S. wastewater treatment plants examined contained detectable levels of OP, NPs, NP1EOs and NP2EOs. Nine exceeded the current Danish and application limit (30 mg/kg, sum of NPs, NP1EOs and NP2EOs), by 6 to 33 times. NPs were the major component and their concentrations therein ranged from 5.4 to 887 mg/kg, (dry weight). OP, reportedly 10 to 20 times more estrogenic than NP, was detected in these same nine biosolids at levels up to 12.6 mg/kg. Three biosolids were also subjected to the United States Environmental Protection Agency, Toxicity Characteristic Leaching Procedure Method 1311. NPs and NP1EOs were both detected in the leachate, the former at concentrations from 9.4 to 309 g/L. Based on effect levels published in the literature alkylphenol ethoxylate degradates in U.S. biosolids may cause adverse environmental impacts.

# VIRGINIA INSTITUTE OF MARINE SCIENCE:

# ACUTELY TOXIC ALKYLPHENOL ETHOXYLATES, NONYLPHENOLS, etc. -- FROM COMMERCIAL AND HOUSEHOLD DETERGENTS -- ARE PRESENT IN SEWAGE SLUDGE AND CAN DISRUPT ENDOCRINE SYSTEMS AND "CAUSE ADVERSE ENVIRONMENTAL IMPACTS".

Sec. 1







# VIRGINIA - WIRTZ - OCTOBER 8, 2000 HEARTBROKEN RETIREE SEES POND DESTROYED BY FECAL COLIFORM CONTAMINATION FROM SLUDGE RUN OFF.

CLASSIFIEDS COLUMINISTS COMPUTERS CRIME REPORT OBITUARIES PHOTO GALLERY POLITICS HOADWATCH SPECIAL REPORTS VA TECH GAMEZONE UVA GAMEZONE

### Sunday, October 08, 2000 Battle lines drawn on both sides of controversial issue Sludge a dirty word for all

Critics cite runoff, odor and health questions related to the use of treated waste. Supporters say it is a safe, affordable form of fertilizer.

By JON CAWLEY

### THE ROANOKE TIMES

WIRTZ - Bob Heidorn is convinced that the black streaks floating on his once-clear backyard pond are caused by sludge fertilizer from a nearby farm.

"Stick your finger in it and taste it," Heidorn challenges. "You can smell it."

Cattle rancher Mike Altice doubts that the black scum on Heidorn's pond is treated human waste, although Altice does spread the material from sewage treatment plants onto fields above Heidorn's property.

Altice cut trees from 25 acres of new grazing land and applied sludge to it with no intention of affecting Heidorn's pond, he said. But runoff from heavy rains this summer was out of his control, Altice said.

The unexpected presence of sludge on fields next to Heidorn's pond is the kind of surprise that often confronts city people who move to the country. Rural areas put few restrictions on agricultural practices.

Besides the obvious culture clash, people have raised questions

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about odor and the long-term effects that biosolid fertilizers might have on their health and the environment. Industry leaders, outside experts and government regulators don't always agree on the answers.

But runoff, odor and health questions aren't the issue as Altice sees it.

"They ought to move back up to New Jersey, or wherever they came from, if they don't like it down here in farm country," he said with the blunt manner of a Franklin County son.

Heidorn moved to Franklin County from Northern Virginia 11 years ago and bought the pond site four years ago.

At first the conflict seems an isolated dispute between neighbors, but Franklin County Health Department figures show widespread use of biosolids.

According to the Marcia Degen, an environmental engineer in the Virginia Department of Health's Franklin County office, three companies - Boles Septic Tank, Bionomics and Bio Gro (which recently changed its name to Synagro) - are certified in Franklin County to supply sludge for 142 farms totaling 9,500 acres.

In Bedford County, Bio Gro serves 80 farms totaling 5,700 acres.

Those figures, coupled with Franklin and Bedford counties' booming populations, indicate this conflict between traditional farmers and newcomers may only grow.

According to 1999 census estimates, since 1990, Franklin County's population increased by 14 percent to 45,220, and Bedford County grew by 26 percent to 57,537, making it the 13th fastest-growing county in the state.

True to Altice's perception, many people moved to Franklin County from the Northeast. From 1989 through '98, IRS data shows the county gained 1,105 residents from Pennsylvania, New Jersey and states farther north.

As county populations grow, farms disappear. Census of Agriculture figures for the period between 1987 and 1997, the most recent available, show that Franklin County has lost 12 percent of its farmland - 21,477 acres - since 1987. Bedford County lost 5 percent of its farmland - 9,244 acres - during that 10-year period.

Bedford County officials have taken a position against the biosolid program because sludge in their county comes from Bio Gro.

The original contract that allowed sludge application in Bedford County approved only the sludge from Roanoke's sewage treatment plant. Bionomics outbid Bio Gro last year to purchase sludge from Roanoke, where waste water manager Scott Shirley says the product composts for a year and tests at a high safety level before it's distributed.

Bio Gro now applies sludge from treatment plants in Northern Virginia and New Jersey, where sludge is processed in just a few hours using a lime treatment.

Bedford's Board of Supervisors is considering regulating sludge and has asked the Health Department not to approve applications for sludge use on 12 more farms. The Health Department has not decided what it will do.

In letters and in meetings, Bedford officials have expressed concern about the safety of the current Bio Gro product, which is treated to a Class B standard.

"This Class B is pretty rough stuff. There's stuff in there that bothers me - chromium, mercury, lead - that doesn't go away and has the potential to cause harm," said Roger Cheek, a Bedford County supervisor on the solid waste committee.

Cheek said he also was concerned about odor that "lingers for months and is unbearable at first."

"It's a hot topic," Cheek said. "I get a lot of calls about it. Residents that live near it are upset. But there is nothing I can do about it at this point."

David Motil, a manager at Bionomics, has been in the biosolid fertilizer business for 20 years and says he has seen "ups and downs."

"It was banned at one time in Franklin County due to public outcry and was allowed again because we showed there was no harm or problems with the program," Motil said.

Bionomics is the only company that has received a sanction from the Health Department, because sludge applied to Altice's land wasn't tilled into the soil immediately.

Degen's office has handled complaints about odors coming from fields served by the companies, but "that's the nature of the stuff they're putting down," she said.

Mike Brooks, a former Franklin County supervisor, was on the county board when it banned sludge application temporarily in 1988.

He disputes contentions that sludge opponents are outsiders trying to force change on rural ways. Most of the complaints he's heard come from lifelong Franklin County residents, he said.

Brooks said he was concerned about potential health risks from sludge and about misinformation on its contents.

His concern got some unintended support recently when the Virginia Department of Health convened a meeting to answer public worries about the sludge program. During the Sept. 28 meeting, Degen was asked about a wrongful-death lawsuit filed in New Hampshire against Bio Gro. Degen told the citizens and public officials there that the lawsuit had been dismissed by a judge because it had no merit.

But the lawsuit, filed by relatives of a person who died after possible exposure to sludge, has not been dismissed. Pam Gratton, technical services director for Bio Gro, said it's pending.

When Degen was asked about the source of her information she is conceded, "I have to admit, I think I just heard that."

Degen apologized. "I certainly did not intend to mislead anyone. I did speak too quickly and I'm sorry. I don't have a good defense."

The debate still leaves Heidorn with a swamped pond.

A retiree, Heidorn has sought help from many visitors to his home in the High Meadows subdivision, including Franklin County and state Health Department officials, a lawyer, an excavator and environmental specialists. He's hoping someone can help him fix his pond - a job the excavator estimated could cost up to \$100,000.

"I m sick, pal," Heidom said one morning, gazing at the dark waters of his pond. "I work all my life to get this, and someone comes along and destroys it.

"Would you let your grandkids swim in that? It's heartbreaking. There is no government regulation, no control over stuff like this. If there is, I haven't found it."

An environmental consultant found that "fecal coliform is an issue" at Heidorn's pond, said Jim Gilbert, Heidorn's attorney. Fecal coliform bacteria is a product of human and animal waste.

Shirley, waste water manager at the Roanoke sewage treatment plant, said that if fecal coliform is present, it more likely came from cattle than from humans.

Degen said Altice was not cited by the Health Department for the runoff into Heidorn's pond.

Because Altice's field did not have a crop on it, the sludge was supposed to be tilled into the bare ground within 24 hours, Degen said.

The next time it rained, the mud and sludge from the field washed into a creek feeding Heidorn's pond, Degen said. The violation notice that her office issued to Bionomics carries no penalty.

Motil, manager of Bionomics' land application division, said it has changed procedures to make sure the failure to till doesn't happen again.

Heidorn's complaint seems to be the only one alleging property damage.

Altice, Heidorn's cattle rancher neighbor, said the runoff onto Heidorn's property wasn't intentional.

"I can't control the good Lord," he said. "I didn't order 2 to 3 inches of rain in one day. I don't know what you can do about it."

Still, Altice sees it as an issue of residential encroachment on traditionally agricultural land.

"I'm upset they came down here and bought up all these farms and cut them up into houses. But there is nothing I can do. If I didn't enjoy living in a farm environment, I would have stayed up in the city. That's what don't make no sense to me."

Altice, who owns or leases several tracts of land, said he grazes about 700 head of cattle on 1,200 acres. Another 300 acres is used for hay production.

The financial benefits of sludge fertilizer are apparent. Before he began using biosolids, Altice averaged \$30,000 a year in commercial fertilizer bills, he said.

On a recent summer morning, Altice drove a visitor through his fields in a pickup, pointing out differences between sludge-treated land and land treated with commercial fertilizer near homes and roads where sludge is prohibited.

The sludge-treated grass was a deep pine green, compared with the lime-green grass near the road

Altice pointed out a row of 140 hay bales, which weigh up to 1,400 pounds each, resting on a hill. That's 40 more bales, or about 28 more tons, than he normally harvests with commercial fertilizer, he said.

"This doesn't cost nothing; that's what I like about it. Plus you get more yield," Altice said.

The dispute with Heidorn is the only problem he's had with a neighbor in 25 years of farming, Altice said.

Heidorn isn't the only person who's complaining about the sludge program, however.

Some local opponents base their fears partly on two reports about sludge from the Centers for Disease Control and Prevention and from Cornell University.

The CDC has said Class B biosolids may contain the bacteria E. coli, salmonella, shigella and giardia, as well as viruses.

A study done in 1999 by Cornell University's Waste Management Institute said the EPA's regulations do not adequately protect human health.

The research by 27 scientists at Cornell also found there was reason to worry about sludge leaching into ground water.

Ellen Harrison, the Cornell institute's director, later testified before a House of Representatives subcommittee, saying the Environmental Protection Agency tried to discredit the report.

John Stauber is an investigative journalist at the Center for Media and Democracy in Madison, Wis. He is co-author of a book titled "Toxic Sludge is Good for You! Lies, Damn Lies and the Public Relations Industry." He said that while some sludge is better than others, it's bad policy and a public health threat. Stauber blames the EPA for the sludge program, which he said was designed to "get rid of a massive source of chemical, bacterial and viral pollution that is too dangerous to dump in the ocean or in landfills."

Despite a massive public relations campaign to discredit media reports and people who complained of illness associated with sludge, "they failed miserably. It's more controversial than ever," Stauber said.

A critical report by the CDC, which he called a conservative agency, shows the severity of the issue, Stauber said.

"Only God knows what's in any given load of sludge. There are tens of thousands of chemicals contaminating any shovelful of this stuff," he said. "It's going to become a bigger and bigger public health issue."

Staff writer Ron Nixon contributed to this report.

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#### The Story of Someone That Does Not Exist

This is the story of someone that does not exist, or is told that they do not exist. You see, I am one of the growing number of victims of land applied sewage sludge. We have all seen articles on this "soil amendment" in the papers recently. The EPA and the Health Department assure us that it is perfectly safe for us to live with and have on our food. I am (luckily) living proofs that, yes, there are consequences to forced exposure to sewage sludge.

It all started back in the spring of 1999. My husband and I were trailering our horses back from our friend's house in Culpeper, Virginia. Our friend was telling us that a farm down the road a few miles had applied sewage sludge on the grazing fields. This sludge was just dumped out and left there. On the fence by the gate was a sign stating the company name and their phone number. Although I was not too concerned since, after all, it was at least 5 miles up the road, my husband was quite uneasy. He told me that it was not the "poop" he was worried about, but the host of other toxins and contaminants that he was worried about, namely the heavy metals. The area that we lived in was very wet, blackjack soil. It was swampy almost year around. My husband was worried about the water systems, since it flooded frequently around the area. I remember driving home that night saying "you don't think any of our neighbors would be dumb enough to do that, do you?" and he replied with "I don't think so, but I would hope not". I shrugged it off as the majority of people do.

Life went on as usual and basically I thought nothing more of it. Our farm was 20 acres with a 40 acre narrow and long tract of 600 yards separating us from the nearest working farm next door. This farm consists of approximately 400+ acres and was on the northern side of our farm. I had permission to ride on the 40-acre tract and took almost daily walks there with my pony and dog. Come July, my husband told me that he had seen "the trucks" in the neighbor's cattle field approximately 1/3 of a mile from our house, dumping sludge very early in the morning. In the evenings, there was an odor, however unpleasant, but since this field was one of the furthest from our farm, it was only overpowering at night and in the misty mornings and life went on.

I made my first phone call to the Zoning Committee in Culpeper. I wanted to know why I was not notified of this, since I am the only home to the left and directly downwind of the property (with an open field separating us). I was told that since I was not directly adjacent to the property, that I did not have the be informed of the sludging and that I was an "oversight". My pleas not to apply any closer to my property fell on deaf ears.

I then called the next in line that I could think of, the County Health Department, to complain. Desiree Lopasic came out to "inspect" the sight. Copies of this were sent to the VA State Department of Health (Kal Sawyer), Clayborne Taylor (spreader), Aubrey Rozell (zoning) and Bio Gro (now Synagro). The "inspection" consisted of a visual overview by Ms. Lopasic that visually observed "buffers" (flags), noted the pH, Temperature and "normal" odor.

All summer, I had nagging, painful headaches. Not a normal headache, but a type that I have never experienced before. The pain was constant, with no amount of Tylenol helping it. I can only tolerate children's Tylenol, so that is what I tried to take to stop the pain. I began to feel like not doing much of anything at all. My head constantly hurt, but I did begin to make a connection when the headaches would stop if we went to eat in Fredricksburg or take the dog to training in King George. I started to develop a dry cough. Constant, dry, nagging cough. The pony developed the same type of cough, too.

We read some information on the internet about sludge. It did not sound like good stuff, but so far, the connection between my constant headaches and nagging fatigue was not drawn. We brought some of the information down to the neighbor, who informed us that the farmer renting her fields brought her an application to sign for "cheap fertilizer". She did not read it, had no idea of what it was, just signed the approval. She let Scott pick up a couple of "samples" of the

### VIRGINIA - CULPEPER - VICTIM SUFFERS SEVERE HEADACHES, CONSTANT COUGH, NAGGING FATIGUE, NAUSEA, SEVERE DIARRHEA, RESPIRATORY PROBLEMS INCLUDING CHOKING INABILITY TO BREATH.

## STATE AND FEDERAL HEALTH OFFICIALS SAY "NO DOCUMENTED CASES OF ILLNESS (FROM SLUDGE)" ... YOUR SYMPTOMS ARE "PSYCHOSOMATIC."

sludge to test. If we could test it and it showed up as "bad", she would not allow it on the other fields.

Well, then came the first roadblock. No one could test it. Those that would charged several hundred dollars to test it for the "allowed" ingredients. That did not count testing for pathogens not listed. We did not have that type of money, so we let the subject drop, hoping that she would read the information and not let any further dumping continue.

In October/November time frame, the nightmare began. I looked out on that cool and windy day to see "the trucks" dumping in the fields 600 yards away from my house. Not only were the winds approximately a steady 15 miles per hour, but our farm was downwind, as always, from the prevailing Northwesterly winds. The house SMELLEDIII Outside was unbearable. I called my husband. Yes, he had seen the trucks in the morning in other fields. He told me to make some phone calls to whatever government office may be in charge.

Now the true dog and pony show began. I phoned the dumping company (Clayborne Taylor) to complain that my entire house was smelling. I informed him that I knew what was in sludge and that I dld not want it on my property. He was fairty unconcerned when I told him that my whole house "smelled like crap". See, there were no trees between me and the fields being dumped on. He said that he could tell the workers to "work on another field", but by then they were just about finished, so it was too late.

I then phoned the Health Department. They acted like I was crazy. Kal Sawyer told me that it was perfectly safe, that no one up until my phone call had ever complained, that they were doing it for 20 years, and again, it was safe. I told him that I did not believe him. He tried to convince me, but I wanted proof. The proof, he said was in the "fact" that there was no documented evidence of illness.

As you can see, calling got me nowhere. Once again, I "trusted" in the authorities that are so concerned with our "health" and went on with life. This time however, it was different. The smell was overwhelming. It was so unbearable that you could hardly stay outside. It made you sick to go out there. In the evening, just as the sun had set and nightfall carne, the smell was so overpowering that you would gag. Your breath would literally be taken away.

What followed was one of the worst nightmares that I ever went through. Within the next few days, I fell terribly ill. I had nausea that I could not make go away. I felt sick all day and woke up in sweats during the nights. This scared me because I have low blood sugar and must eat small meals throughout the day.

The headaches got worse. They were so painful that they woke me up at night with horrible stabbing pains. The fatigue worsened. I tried to avoid going outside, but I had livestock to feed and a boarders horse to care for, so I had to go out there. The cough got more persistent. I was now developing weird stomach "flu like" symptoms. Throwing up for no reason was particularly bothersome to me. The diarrhea was present with really bad stomach pains, unlike the usual ones I had experienced if you eat something that does not quite agree with you. This was severe, ongoing and painful.

After two weeks, I had my husband take me to the doctor. I feared a possible brain tumor. It struck me as a little funny that when I got to the doctor in Northern Virginia, my nausea felt a bit better. The doctor gave me medication for gastroenteritis. The medication helped little and I returned to being ill after returning home..

The nausea gradually went away after a few weeks. I could finally eat without being sick. I continued my routine of taking care of my livestock and taking my walks in the field next door almost daily. The smell was still intense, especially at night and during the wet mornings. The dumping continued, as I was told that they could only sludge 25 acres a day.

I once again called Desiree Lopasic to complain. She told me that she would check the site out. She offered to come over and "talk" to me, but I said that it was not necessary, just go and check the sludge site out. She never did. Later on in public meetings, she told the Board of Supervisors that no complaints were ever filed. She also stated in letter to Anne Peterson of the VA Department of Health that I "refused" her coming over to my home. Once again, turning the burden back onto me as the guilty one.

On Christmas day night, I kept coughing and coughing. Something felt as if it was tickling my throat into my windpipe. It was almost like an allergy. I thought that maybe something was growing, until I realized that things don't bloom in the winter. That night I awoke in the middle of the night unable to breathe. I literally was "choked" awake by something in my windpipe. I was choking and gasping for air. It was a scary feeling not to be able to catch my breath. This continued every half-hour (looking at the clock). I almost knocked my husband awake to take me to the emergency room, but I really did not want to awaken him. After a few hours of this terrifying experience, I fell asleep and woke up as if nothing had happened.

The next week followed with what seemed like a cold, but stayed in my lungs. I had a persistent dry cough, tickling windpipe and the feeling of mucus when there was none. I thought maybe that I had caught a cold. I continued my outside activities as usual.

Then I had the worst case of diarrhea for days. Nothing that I ate would stay inside. My husband also had this for a longer period of time than I did. I was stunned on how I could possibly have gotten so many illnesses back to back in such a short amount of time. By now I was losing weight.

By mid-winter, the smell was not as bad during the daytime. However, whenever the night fell, the atmosphere was just right for the smell to rise up and sit thick in the air. I would continue to choke if I went outside at this time. I remember gagging and trying to breathe when I would break ice out of the watering stations that winter. By this time I would just cry, feeling totally defeated.

One night after one of our daily rides in the field next door, the dog and me came down with a "stomach" flu-like thing. Pain, diarrhea and nausea were present in me and the dog was having severe diarrhea and had to be taken to the vet. He was blowing his coat and lethargic. In another day or so, my husband also was sick again. I thought maybe I had passed something on to him, but to the dog, I was not convinced. I now had developed painful swellings in the lymph glands under my arms that would come and go frequently.

Now is when we really started looking into the sludge on the Internet. We got as involved as possible with the neighbors. We found out that we were not the only ones sickened by the sludge and the smell. It was scary when they told us that they had the same exact symptoms at the same time. We were not interacting before now, so it in no way was due to contact between us. This time is when we also began to speak with other "victims" of the sludge dumping industry. We learned that some people are affected more than others, some are not outwardly affected at all. However, we felt that if it could make even a few people ill, then something should be done to correct it.

We fought as hard as we could by going to Board of Supervisors meetings loaded with information. We were told that "it is legal, so you will have to live with it". Our pleas fell upon deaf ears. The local paper would not run a story. The reporter at the time was told "not to make waves" and was not allowed to write anything up for me.

By now, the cough was constant. I was beginning to wonder what was going on with my body. I had not suffered respiratory troubles in the past. When springtime came around the farmer began to till the sludge in to the soil. This threw a cloud of dust up into the air twice the height of the tractor itself. My symptoms worsened. When I went outside, my eyes would swell shut. I would sneeze and cough uncontrollably. It was like and attack of the allergies from hell. I do

have a tendency to have very mild allergies in the spring when the grasses grow, but nothing close to this. I began to lose weight for no reason this time.

Up until now, we had thought that we were "safe" for a few years, since sludge may only be dumped every 3 years. Then we got a notice in the mail that the farmer across the street was applying to dump sludge (we were considered to be a directly abutting property this time). We banded with the 6 surrounding neighboring homes to protest this at the Board meeting. The farm in question was only a bit over 100 acres of land. Our homes were either directly abutting it, or separated by the road with creeks connecting the properties.

The Board again could have cared less about the neighbors and passers by who told of their illnesses. There were several people who complained of feeling ill or being unable to breathe when driving by the farm. Others were affected, but afraid to come forward because the "powers that be" wanted the sludge. The County Supervisors were so set on allowing sludge that they even turned a deaf ear to the 84-year-old neighbor and her daughter that would be directly adjoining the sludged fields.

I wrote to AI Rubin (EPA), Anne Peterson (State Health Commissioner), countless state and national representatives, the sludge companies and each individual board member. I wanted to see a complete list of the constituents that could possibly be found in the sludge. My doctor had requested this so that they would know what I was exposed to. All I ever received were cold, distant letters from Anne Peterson stating that "no one has ever gotten sick". Therefore, I did not exist. The Heath Departments pro-sludge cheerleader, Desiree Lopasic, did give me a list of heavy metals tested for in the Alexandria sludge. No pathogens, no other follow up. She told me it was "psychosomatic".

Not one board member ever wrote me back. No one from the EPA wrote me back. Of course, if they did, perhaps this would mean that they would be admitting that I exist. Bio Gro never wrote back. In phone calls to them I was called a "trouble maker" and told to just keep my mouth shut. Calls to Recyc Systems were equally frustrating. I was told to "prove it" when I said that I was sick. I told them to prove that I was not.

Whenever I would ask for scientific evidence proving the safety of sludge, all that I would receive was a packet of pro-sludge documents from VA Tech, the dumping companies, the Health Department and excerpts from the EPA 503 sludge rules. Everything was a case of the fox guarding the hen house. VA Tech studies were funded by the sludge dumpers and based on controlled field-tests to show how "economical" it was to use sludge. Nothing scientific was ever presented to me. Nothing proving the safety to human, animal or environmental health was ever presented to me.

In March, my husband came home from work and upon entering the house said "that's it, we are moving". I was particularly dumbstruck due to the fact that I had just come home with brand new wallpaper for the dining room walls.) We had only lived at the farm for 3 years. We had no equity and were just to the point where we were not living paycheck to paycheck. I tried to convince him otherwise, but he stuck to his decision. He could not take the pressure of going to meetings and being overwhelmed with sludge and watching me get sicker and sicker.

We began looking for a new place. The choice came down to Rappahannock and Shenandoah counties. Rappahannock had a ban in place and Shenandoah had a moratorium on sludge dumping until it could be proven safe. We wanted to stay close enough for my husband to commute to work. I managed to stave off the dumping companies and the farmers from further dumping by sending them letters stating that if we suffered any more damages we would consider it a "personal attack" and take further action.

This did nothing for my health, though, which continued to plummet downhill. As we were leaving at the end of June, I came down with a fever. I had horrible chills for a couple of days. I would wake up soaking wet. I had no appetite. By this time I was approximately 84 pounds or

less. On the last night in our home, I had to go to bed at about 10pm. I literally had no energy to continue with the cleanup of the house and moving of boxes.

The next day, I was able to stay the night in the new house. My husband stayed at the old house to finish moving things out. I woke up feeling horrible and sweating. After closing, the realtor took me up to Northern Virginia. All I wanted to do was go to the doctor, as something was terribly wrong. My mother took my temperature when I got there and it read 104.6. She took it again in disbelief. It was the same. She phoned the doctor who had me come in immediately. The look on the faces of the office workers was upsetting to me. Blank stares were what I was met with.

The fever was high enough for them to send me for x-rays. I don't remember much of the doctor visit, only that they put me on an "adult strength" antibiotic and told my mother to watch me. Normally, I only need ampicillin, or the "pink kids stuff" as I like to call it. They wanted me to go the hospital should I become delirious. The x-rays were clean, so they had no idea what was wrong with me. From previous visits, they knew I was forcibly exposed to sludge. However, since they never knew exactly what was I was exposed to in the sludge, there was no way to test me for anything in particular.

My mother took care of me for the week (she is a Registered Nurse). I remember lying on the couch and waking up to her touching me and exclaiming "oh my God!" due to how soaking wet I was from sweating. The fever would go up and down all day and all night long. I would literally be drenched, so drenched that she would have to change the blankets and entire pillow around me

I came home to our new house after the week and started going about the business of starting over from scratch. We were literally starting over with the few remaining livestock that we did not sell off, but no outbuildings or facilities to house them in. I had fencing to put up, animals to feed and water and shelters for my husband to build. We did the minimum that we could afford to get away with. I still was not feeling right, though. The cough was getting worse now. My energy was low and I was beginning to cough so badly that I was relegated to the couch at night.

One day, I was in the local Co-op purchasing fencing supplies. The kind ladies were showing me what they had when at the checkout I began gasping and trying to breathe. One of them asked me if I had an inhaler. I managed to get out the reply of no, that I did not know what was wrong, but that I was going to the doctor the next day. I could not continue my conversation, got out to put the stuff in the van and that I would just go home. I continued choking all the way home.

The next day, the fever was back and the doctor visit showed that I had Pneumonia in the right lung. I was thinking, you have got to be kidding me, pneumonia in July? I stayed at my parent's house for another week. I had to be close to the doctor should I need to get to the hospital. The only thing that kept me out of the hospital was my blood oxygen, which was surprisingly normal. I still say to this day that it was due to the fact that I kept on working outside with the chickens and pony even while sick.

Since the first round of antibiotics did not work, they put me on a stronger one, the type that they give intravenously in the hospitals. It was hard to breathe. I was afraid that I was going to die. I had never had serious breathing difficulties in the past and was not sure of how to handle this. I stayed on the couch at night since laying down flat made me choke. I coughed up clear liquid like water. The only way that I could breathe was to take short, shallow breaths.

The second round of antibiotics worked. I began to feel better, the fevers stopped and my breathing slowly became normal again. Throughout the fall, I caught a cold and flu more easily than normal, but my heath was slowly returning and I was feeling better again.

I have been asked to put an ending on this story. However, as it stands right now, there is no ending. I wish I could say that all is well, but it is not. The Virginia State Supreme Court found

Amelia County's ban to be inconsistent with state law. Therefore, our ban in Rappahannock County is now in jeopardy.

I live with the fear of KNOWING what I am up against. You see I DO exist and I DO know how this by-product of the wastewater treatment process can affect others and me. However, I also know how victims are turned away by the very agencies empowered to protect us.

Thank you, Lori Handshy

PO Box 258 Flant Hill, Virginia 22627

# WASHINGTON POST - August 6, 2001

Health Fears Over Sludge Spur Quest For Controls EPA Stand Challenged After Suspicious Deaths

By David Snyder and Fredrick Kunkle Washington Post Staff Writers Monday, August 6, 2001; Page B01

For five generations, the Letcher family has tolerated the odors of farm life - hogs, chickens, malfunctioning septic tanks.

But the day the trucks started spreading treated human waste near their home in rural Prince George's County was, Ron Letcher said, the beginning of something else again.

The kids started coming down with inexplicable illnesses. The

burning stench sometimes got so bad, they couldn't go outside. Convinced something illegal was afoot, the Letchers got on the telephone.

"Sorry," Letcher remembered a county health department agent telling him. "There's nothing we can do about the way the wind blows."

As development seeps into the once-rural reaches of the Washington area, residents are complaining increasingly about the foul odors and possible health consequences of sewage sludge being dumped on nearby treatment plants -- must be processed further before spreading to

But like thousands across the country, they've received much the same expensive than commercial fertilizer. response from county, state and federal agencies: Sludge spreading, if done according to regulations, is perfectly legal and perfectly safe.

Lately, however, its safety is receiving more scrutiny.

Scientists, environmentalists and public-heath advocates are questioning the effects of spreading sludge, a practice that has increased since 1991. Virginia leads the region in the amount of sludge spread on farm fields when Congress deemed sludge too dangerous to dump in occeach year. Since 1994, the area used for field application has increased

The National Academy of Sciences has begun a major review of the sludge policy set by the Environmental Protection Agency, which has promoted the practice to states for more than a decade.

Prodded by residents' complaints and alarmed by recent deaths that opponents blame on the sludge spreading, governments from Amelia: Louisa countles, Va., to New Hampshire and California have banned: strictly regulated the practice.

But the EPA remains largely unconvinced that "biosolids" cause healt problems.

"I don't think we've seen anything yet that suggests that we should be: alarmed, " said Mike Cook, director of EPA's wastewater management program.

Although the EPA and industry officials say a preponderance of studie sides with them, a report last year by the EPA's inspector general office concluded that the agency "cannot assure the public that current land application practices are protective of human health and the environment."

The report also said that the EPA provides "virtually no federal oversig of state biosolids programs."

In response, EPA officials asked the Academy of Sciences to review th rules.

"When a regulatory agency becomes a promoter of something, it makes difficult for them to be objective, " said Ellen Z. Harrison, director of CornellUniversity's Waste Management Institute. "We're spreading thiss stuff pretty widely, and it contains not only good old human waste, but t whatever else we send down the drain."

Sludge -- the material left after raw sewage cycles through wastewater eliminate most trace metals, such as arsenic, lead and mercury, and pathogens, including viruses and bacteria. Farmers use it because it is le

About 3 million dry tons of sludge were spread across the United State last year, according to the EPA. That figure is expected to rise to 4 million tons -- or nearly 48 percent of the total amount of sludge produced -- by 2010.

from 200,000 acres to 300,000 acres, with about 767,000 wet tons applied across the state last year alone. In Maryland 350,000 tons of sludge were spread as fertilizer last year. But the amount has generally decreased in recent years because more is being transported out of state.

VIRGINIA - SLUDGE VICTIM DEVELOPED A NASTY RASH -- KIDS STARTED COMING DOWN WITH INEXPLICABLE ILLNESSES -- JAMES LEAR WOKE UP COVERED HEAD TO FOOT WITH MYSTERIOUS **BOILS -- HIS DOCTOR SAYS SKIN ERUPTIONS** WHICH LASTED FOR 3 MONTHS MIGHT BE CONNECTED TO AIRBORN BACTERIA FROM SLUDGE ON NEARBY PASTURE.



d a neaty rash from treated spread on a neighboring parture near Arginia. (Jay Paul - For The Post) shingson Post)

1 Z-Hall This Article C Printer-Friendly Version **Subscribe** to The Post

Because of residents' complaints, urban water treatment plants are being forced to ship waste to farms farther away, and the cost - ultimately passed on to the consumer - rises. Even now, the Virginia Department of Health is developing a fee schedule for haulers to pover the costs of additional testing required by a growing number of localities.

The EPA's 1993 regulations divide sludge into two categories: Class A, treated to remove all detectable contaminants, and Class B, which is partially treated and makes up the bulk of sludge for spreading,

Federal, state and sometimes local regulations restrict where, when and how Class B shudge can be spread. Fields must be quarantined from humans and animals for a month or more.

But within two years after the EPA turned to field application for sludge disposal, two deaths were blamed on the practice.

Shayne Conner, 26, of Greenland, N.H., died in November 1995, weeks after several hundred tons of sludge were spread on a field near his home. His mother, Joanne Marshall, filed a wrongful-death suit against the hauler, claiming that the shudge contributed to the breathing problems that led to her son's death.

Public outcry resulting from Conner's death persuaded 44 municipalities in that state to ban or limit the spreading of sludge.

In 1994, Tony Behun, 11, of Osceola Mills, Pa., rode a dirt bike through a field covered with sludge. He developed a fever and lesions on his arm, . fell into a come and was dead one week later.

State officials in both states say they have not found conclusive links between sludge fertilizer and the deaths. But microbiologist David Lewis believes that sludge probably caused Tony's death.

Lewis, who works for the EPA but stresses that he studied Tony's death as a private scientist and not an EPA employee, began speaking out against EPA's studge policy in 1996 with an opinion piece in the British journal Nature.

In an interview, Lewis described the policy as "the worst rules that EPA had ever promulgated."

"The science is so bad, it clearly puts public health and safety at risk," Lowis said. Others disagree. Haulers are relying

on EPA regulations based on 20 years of research and more than 3,000 scientific studies, said Sharon Hogan, a spokeswoman for Synagro Mid-Atlantic Inc., a Baltimore company that hauls shudge for 650 customers, including water plants in Alexandria, the District of Columbia and Anne Arundel and Arlington counties.

The consensus of the scientific community is that the standards established by a complex risk assessment are sound and safe," Hogan oid

For John H. Boldridge, a farmer in Culpeper County, using sludge over the last few years has been of enormous benefit. He has saved about \$15,000 by not buying commercial fertilizer for his corn and soybean fields and pastures.

'lt's a resource. We must use it," Boldridge said. "I think we have to use some caution. I think we have to use some tests to make sure there's no metal that comes out. [But] they've been doing it over in China and Japan for cons."

Virginia and Maryland environmental officials say there is little concern about ill effects on health and the environment.

There are literally hundreds of studies showing that it is safe to apply on land," said Martha W. Hynson, bead of the Maryland Department of the Environment's sludge utilization section.

But critics say that Virginia, in particular is straining to monitor the practice.

James Lear, of Louisa County, became a foot soldier committed to fighting the growing use of sludge after he woke up one morning last fall covered head to foot with mysterious bolls.

He said his doctor told him that the skin eruptions, which lasted for three months, might be connected to airborne bacteria from the treated sewage used as fertilizer on a nearby pasture.

"Now, you mean to tell me that because some politician in Richmond said I have to have this stuff spread in my front yard, I have to take it?" asked Lear.

Clarence W. Williams, a retired engineer and businessman in Bumpass, Va., joined Lear as an anti-sludge activist after his Louisa County neighbors approached him about signing a petition complaining about the smell, His subsequent research upset him.

"It's enough to scare the hell out of a person," said Williams, who is particularly riled by what he says is lax enforcement by the Virginia Department of Health. Williams saud Louisa County residents have made several complaints

about spills and farmers allowing animals onto their fields during the quarantine period, but he knew of no violations issued.

Robert W. Hicks, director of the Virginia Health Department's Office of Environmental Health Services, acknowledged that there are only two full-time biosolid health inspectors for the entire state. But he said that approximately 400 county officials responsible for carrying out state health regulations also have the power to monitor the use of biosolids.

Last year, the department investigated 28 complaints, conducted 12 routine site inspections and issued one violation.

Fears over contamination led three Virginia counties - Amelia, Goochland and Rappahannock - to enact sludge bans. But on Jan. 12, the Virginia Supreme Court voided Amelia's ban, saying that such ordinances clash with state laws on the use of biosolids.

To restore some local control, the General Assembly last session passed a measure, effective last month, that allows localities to enact ordinances providing for the testing and monitoring of land application to ensure compliance with applicable laws.

But Synagro Mid-Atlantic filed suit in U.S. District Court in Charlottesville against such ordinances in Louisa and Buckingham counties. A federal judge has granted the hauler's request for a temporary infunction.

Meanwhile, water treatment plants are working to make the stuff less noxious.

The Alexandria Sanitation Authority -- which relies totally on field application to dispose of about 53,000 wet tons of sludge each year -- is installing equipment to pasteurize sludge and eliminate more pathogens as part of the plant's \$320 million upgrade.

Alexandria is also installing more digesters - huge scaled tanks that help the sludge decompose to reduce its odor. The industry is just beginning to grapple with this issue," said Glenn B. Harvey, deputy engineerdirector of the Alexandria Sanitation Authority.

For Ron Letcher, official assurances offer little comfort. Though his family has lived in Brandywine for generations, he said that the stepch and fear about the possible health consequences might drive them away.

"There is no way this stuff can be good for you," he said.

#### News

### Three shipyards charged with toxics violations By SCOTT HARPER, The Virginian-Pilot

NORFOLK - The TBT debate in Virginia - one affecting jobs, shipyard contracts and contaminated waterways -- has moved into the sewer Literally

The Hampton Roads Sanitation District, which treats industrial and human sewage across the region, has charged three local shipyards with allowing the notoriously toxic pesticide to enter sanitary sewer lines in violation of its no-TBT policy.

"There's no reason for this stuff to be in the sewage system," said Guy M. Avdlett, the district's director of water quality. "In some cases, we're talking about very, very, very high numbers" of contamination.

Short for tributyltin (pronounced TRY-bew-till-tin), TBT is added to boat paint and covers the hulls of 70 percent of the world's commercial fleet. But it's so toxic to marine life, causing death and mutation, that the International Maritime Organization is trying to ban TBT around the globe by 2008.

The sanitation district fined Norshipco \$4,000 in September for numerous TBT violations this year, and put Colonna's Shipyard and the Norfolk Naval Shipyard on notice that toxic intrusions will not be tolerated.

Then last month, with TBT still cropping up in sewer samples, Norshipco signed an administrative order promising to investigate and control the source by next summer or face more penalties.

Colonna's and Norfolk Naval Shipyard have pledged similar investigations, though not under any order.

The district only this year began screening for TBT among its waterfront customers. It worries that yards and other facilities that use or handle TBT will simply flush their waste into sanitary sewers and, eventually, into local rivers and the Chesapeake Bay.

If that occurs, the district would be liable for any environmental damage. State regulators might then impose permit limits or fines.

The Elizabeth River, where all the shipyards in question are located, regularly shows TBT levels in violation of the state environmental standard of 1 part per trillion. According to the most recent data, several river points this summer exhibited levels 10, 15, even 20 times the legal standard

"We're not going to play Russian roulette with our sewage plants," said Ronald E. Johnson, chief of industrial waste for the sanitation district.

While agreeing to look for the source, the shipyards have reacted to the crackdown with frustration and incredulity

Yard managers and executives said in letters and interviews that they have no idea what is causing the problem. They said that TBT and related tin-based compounds are found in myriad products besides boa paint, and that they are growing weary of being singled out for an environmental threat they have little to do with.

At Norshipco, a sprawling yard overlooking downtown Norfolk and Portsmouth, officials pointed out that they have spent nearly \$2 million in recent years to help develop technology for controlling nearly every fraction of TBT in wastewater.

"We're taking 99 percent of the TBT out of the environment, and we're not getting any recognition for that," said Bradley L. Moyer, a Norshipcc vice president.

Added Thomas W. Epley, vice president of operations at the yard owned by United States Marine Repair: "We're doing good things for the environment, not bad things."

Norshipco's environmental manager, R. Michael Ewing, said the amounof TBT that shipyards wash into local waters each year is probably less than 1 pound. By contrast, ships that visit the port of Hampton Roads probably contribute more than 1,000 pounds, just by the chemical leaching off hulls as they ply the water.

"You shouldn't turn industry into a cash cow and order solutions to unsolvable problems," Ewing said. "But that's what we're being asked to do here - and for something that's just a fraction of the overall problem."

The sewage violations are the latest twists in a dilemma that continues today: How should Virginia regulate one of the most toxic materials ever intentionally introduced into the marine environment?

TBT replaced arsenic in the 1970s as the additive of choice in bottom paints. The tin-based chemical is supposed to keep hulls free of bamacles and other nuisance growth that can slow down ships and increase fuel costs.

Studies in Europe in the early 1980s discovered the devastating consequences on oysters, clams and small aquatic life. And in 1987, Virginia enacted some of the strictest TBT regulations in the nation. Also about this time, the Navy stopped using TBT, applying copper-based paints instead.

Virginia is the only state that requires shipyards to curb TBT in wastewater washed off ships being repaired, to 50 parts per trillion.

The state Department of Environmental Quality has yet to enforce that limit, however, giving shipyards until December 2002 to devise a way to:

collect the runoff, treat it to the prescribed limit, then return it to the environment

# **NOVEMBER 2001 - VIRGINIA - SHIPYARDS** DISCHARGE TOXIC PESTICIDE - TRIBUTYLTIN -**INTO PUBLIC SEWERS "VERY, VERY, VERY HIGH NUMBERS OF** COMTAMINATION"

### STATEMENT OF RON LETCHER, 16002 LETCHER ROAD, BRANDYWINE, MD 20613 301-579-6007 AUGUST 20, 2001

Mr. Letcher's story was published in the August 6, 2001, edition of the <u>Washington Post</u> "Health Fears Over Sludge Spur Quest For Controls."

I talked with Mr. Letcher by phone on Monday, August 20, 2001, and he described the adverse health effects he and his family members suffered when they were exposed to Class B sewage sludge which was spread 200 yards from his house. The sludge was "topdressed" (not incorporated).

"It makes our noses and throats burn. Our throats get sore. Our eyes were burning and get red and bloodshot, and we got real bad headaches. After that we felt nauseous. We also suffered nasal congestion, shortness of breath, and breathing difficulties, especially when the wind blew across the sludged field in our direction."

"The Washington Post photographer was here for about a hour and a half. She started to complain, 'my throat is getting sore .... my eyes are burning ..... I have to get out of here -- I am getting a headache'."

Mr. Letcher is disappointed the Washington Post reporter did not print the fact that the sludge was spread by a spring which runs into the river and from there into the Bay.

Mr. Letcher said shortly after the sludge was spread, their well water developed a bad odor which kept getting stronger and stronger They had to get their drinking water from a large bottle/cooler in the house. But after the sludge spreading stopped, the smell in the water gradually went away. Tests done about two weeks after they stopped spreading the sludge did not show any coliform.



Ron Letcher, of Brandywine, watches trucks in an area where sludge is dumped. He blames it for illnesses.



A lime truck sits near a backhoe in a Brandywine gravel pit being used for sewage sludge. Farmers use the sludge as a less-expensive fertilizer.

# MARYLAND - SLUDGE VICTIMS SUFFER BURNING EYES, NOSE AND THROAT, NAUSEA, SHORTNESS OF BREATH, BREATHING DIFFICULTIES AND HEADACHES.



November 27, 2000

RE: James Lear Chart # 13680

To Whom It May Concern

Dear Sir or Madam:

Mr. Lear is suffering from a skin rash and pruritus which appears to be secondary to exposure to sludge being placed in the pastures next to his home. Medications have helped his skin rash, however, he continues to have pruritus secondary to the exposure. If at all possible the patient should avoid any future exposures to this sludge. I was informed that part of the contents of this sludge includes human feces. If you have any questions, please call.

Sincerely, Alex Bezk, MD

# VIRGINIA - SLUDGE VICTIM'S DOCTOR LINKS SKIN RASH AND PRURITUS TO SLUDGE EXPOSURE

### WASHINGTON POST - AUGUST 23, 2001 VIRGINIA SLUDGE VICTIMS DESCRIBE HEALTH EFFECTS:

"I HAD A PERSISTENT COUGH THAT WOULD NOT GO AWAY, AND I DON'T HAVE LUNG PROBLEMS," SAID LORI HANDSHY, 34, A FORMER CULPEPER COUNTY, VA., RESIDENT WHO BLAMED HER CHRONIC ILLNESS ON SLUDGE. "CHRISTMAS NIGHT I WOKE UP UNABLE TO BREATHE. I WAS CHOKING."

STRICKEN WITH PNEUMONIA AND GASTROINTESTINAL PROBLEMS, HANDSHY EVENTUALLY MOVED TO RAPPAHANNOCK COUNTY, VA., TO ESCAPE SLUDGE-SPREADING AROUND HER FARM.

FOR JAMES LEAR, IT HAPPENED ALMOST LIKE A BIBLICAL PLAGUE. ONE MORNING LAST FALL, THE 77-YEAR-OLD WOKE UP COVERED HEAD TO FOOT IN MYSTERIOUS BOILS. HIS DOCTOR SAID THE BURNING RASH CAME ON THE WIND FROM SLUDGE LAID DOWN ON A PASTURE ACROSS THE ROAD FROM HIS LOUISA COUNTY, VA., HOME.

"ALL THE PEOPLE UP AND DOWN THE ROAD HAD PROBLEMS," LEAR SAID.

DOYNE SHRADER, A RETIRED ARMY SERGEANT WHO RENTS A HOME NEAR A FARM IN CULPEPER COUNTY, SAID SLUDGE POISONED THE WELL WATER.

"IT SMELLED EXACTLY LIKE THAT STUFF THEY SPREAD ON THE FIELD. EXACTLY," HE SAID.

# Sludge-Spreading Raising Concerns Over Health Fears

Facing Complaints of Odors and Illness, Region Aims to Improve Waste Disposal

By Fredrick Kunkle Washington Post Staff Writer Thursday, August 23, 2001; Page VA10

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Like an enormous bug, the hulking machine lumbers into the forest, a load of dark, evil-smelling gunk riding high on its back.

#### Then it opens fire.

Tree limbs quiver. Leaves flutter and rip. Black goo rains down from the treetops as the machine spatters everything within 80 feet with treated sewage sludge. Mud-like gobs of the stuff cling to bark 15 feet off the ground.

In 10 minutes, it's all over. The forest, caked with sludge, resembles a flood zone after the muddy water has receded. The bug-like machine returns for another load.

Back up the road -- about 96 miles back, actually, from this wooded clearing in King William County, Va. -- more sludge is on the way. It's coming from the Arlington County Water Pollution Control Plant and the Alexandria Sanitation Authority, just as it has for years.

Most of it is tilled into the earth as fertilizer for Virginia's farms. Applying sludge to forests in the region is relatively new.

"Basically, land application has been going on since Jamestown," said Glenn B. Harvey, deputy engineer-director of Alexandria's plant. "It's been going on as long as there's been organized agriculture."

But growing fears that sludge-spreading has caused disease -- even two deaths -- are feeding opposition to the practice in Virginia's hinterlands and beyond. The U.S. Environmental Protection Agency -- though still convinced that extensive research has proven that sludge-spreading is safe if done according to regulations -- has initiated new reviews of its policies.

"I had a persistent cough that would not go away, and I don't have lung problems," said Lori Handshy, 34, a former Culpeper County, Va., resident who blamed her chronic illness on sludge. "Christmas night I woke up unable to breathe. I was choking."

Stricken with pneumonia and gastrointestinal problems, Handshy eventually moved to Rappabannock County, Va., to escape sludgespreading around her farm.

Faced with complaints about foul odors and fears of health hazards, Alexandria and Arlington are scrambling to find ways to make the stuff less noxious.

Nearly a third of the \$320 million the Alexandria plant is spending on improvements is devoted to further breaking down sewage waste so odors and virtually all disease-causing pathogens are eliminated.

Construction is underway on net / treatment tanks that use air-churned water to mix sewage with waste-eating bacteria. Two new digestors -- waled tanks that break the sludge down further -- will go in.

The plant also is investing in equipment to pasteurize sludge, a step the could open the door to selling pellets for use on lawns. Similar to the process that kills germs in milk, pasteurization involves heating the sludge to 70 degrees Celsius for one hour to eliminate pathogens.

"Frankly, it's a new science. We're learning -- and we're trying to learn fast," Harvey said.

Bruised by rural neighbors' complaints about odors, Arlington stopped applying sludge to fields in February. After tinkering with ways to reduodors, including spraying truck loads of sludge with a shaving cream-lik foam that kills bacteria, the county was eager to return to land application this summer.

No wonder: The cost for dumping in a landfill -- picked up so far by haulers -- is 50 percent more than field application. But after carting several truckloads of the stuff to King William County this month, the sludge still gave off such stinging, choking clouds of ammonia that the hauler urged the county to go back and tinker some more.

Even Fairfax County, which incinerates its sludge at a state-of-the-art plant in Lorton, is watching the debate with concern, because most of its wastewater is treated by plants that dispose of the sludge by spreading it

The Fairfax plant treats about 44 million gallons a day and incinerates 100 percent of the sludge -- or about 180 wet tons a day -- on site. But every day, the county also sends about 22 million gallons of wastewater to Alexandria, 2.5 million gallons to Arlington and 26 million gallons to

Blue Flains. An additional 12 million gabons a day flow to the Opper Occoquan Sewage Authority, just outside Manassas Park and owned jointly by Manassas, Manassas Park and Fairfax and Prince William counties.

"My view -- and it's a personal opinion -- is the reason that there's such an outery over it is the odors associated with land disposal," said Allen Hogge, director of wastewater treatment at Fairfax's Noman M. Cole Jr. Pollution Control Plant in Lorton. "You can't convince somebody that it' safe when the stench of sludge is just engulfing your home."

And even as plants such as Alexandria's make costly technological improvements, the loss of farmland through urban sprawl forces cities to ship the waste farther away, driving up costs that will ultimately show up on household water bills.

Synagro Mid-Atlantic Inc., a division of Houston-based Synagro Technologies Inc., has lost about one-third of available farmland for sludge disposal in Loudoun County because of development, said Sharon Hogan, a spokeswoman for the hauler. In the last 13 years, the average haul distance has increased 75 miles, she said.

"A significant issue is the yuppiefication, the urbanization of these areas. When that happens, we find ourselves hauling our solids to Dinwiddie and Hanover counties," said Michael S. Marcotte, chief engineer for the D.C. Water and Sewer Authority, which operates the Blue Plains Wastewater Treatment Plant in Southwest Washington. Blue Plains, which treats nearly 25 percent of Fairfax County's wastewater, also ships 99 percent of its sludge to Virginia.

"The areas that tend to have a larger issue with land application are the ones that were predominantly rural a decade or so ago but are experiencing rapid development," said Phil Loar, coordinator for community relations at the Arlington County Water Pollution Control Plant. "It's a beneficial reuse of a quality product that we feel is regulated well enough to be protective of both the environment and the people out there," said Karen L. Pallansch, director of environmental services at the Alexandria plant.

And none is safer than the sludge from Washington, industry officials say, because there is not much pollution-causing heavy industry in the area.

"So we have what someone characterized years ago as the Dom Perignon of biosolids," Marcotte said.

Critics say the practice amounts to dumping hazardous waste in back yards. Three Virginia counties -- Amelia, Goochland and Rappahannock -- enacted bans on the dumping but were overturned this year by the Virginia Supreme Court. Other communities have sought tighter controls.

Some fault the EPA for basing its risk assessment on outdated studies. Others say that even if the practice could be safe, regulatory monitoring has been inadequate.

The hazards, opponents say, are pointed up by two people who died after coming into contact with sludge, including an 11-year-old Pennsylvania boy who drove through sludge on an all-terrain vehicle. State and federal officials say no link between the deaths and sludge has been proven.

For James Lear, it happened almost like a biblical plague. One morning last fall, the 77-year-old woke up covered head to foot in mysterious boils. His doctor said the burning rash came on the wind from sludge laid down on a pasture across the road from his Louisa County, Va., home.

"All the people up and down the road had problems," Lear said.

Doyne Shrader, a retired Army sergeant who rents a home near a farm in Culpeper County, said sludge poisoned the well water.

"It smelled exactly like that stuff they spread on the field. Exactly," he said.

Handshy, the former Culpeper County resident, said haulers often fail to warn the public of potential hazards. At the site near her home, the only signs around the area were small orange flags, similar to the kind used by utility companies.

"Anybody's pet could walk in there. Anybody's child could walk in there," she said.

At the forested site where Synagro was spreading Arlington's sludge, small orange flags marked the entrance. The only other markings were "Posted" signs, tacked to a tree by a hunting club that leases the property.

Peter Wekenmann, Fredericksburg-based operations manager for Synagro, kept watch as trucks unloaded. A front loader dug into the piles -- steaming even on a 96-degree day -- and loaded the spreader. The spreading machine -- a converted skidder used by loggers to drag cut timber -- then shot the sludge into the trees.

Wekenmann, who has been working around sludge for three years, said the material is safe if handled properly.

"I've never really had any health-related problems," he said. "Not as much as a cold."

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### VIRGINIA - CULPEPER - VICTIM SUFFERS BREATHING DIFFICULTIES, THICK MUCUS, FATIGUE, STOMACH CRAMPS, HEADACHES, SKIN RASHES, CYST, BURNING IN MOUTH AND THROAT

### (Excerpts from email received on May 5, 2000 to Helane Shields from Doyne Shrader)

The following article from David Swanson pretty well explains everything. To date my doctors say there is no link between water and my health. But something is really wrong with me. Symptoms are diffculity breathing, coughing up large caucks of mucus, sometimes clear, sometimes streaked with blood. Very weak, no energy

at all. Stomach cramps. Headaches and skin rashes. In December, and January of <u>99 I was so sick I could not get out of bed</u>. After reviewing your letter dated August 17 1999. I also experienced the burning in the mouth and throat. Although that has seemed to lessen. I took a shower in February before and after throat surgery to remove a cyst. Valecular Mass excision consistent with intraoral lymphoepithelial Cyst. I am trying to get the pathologist to test for the reason for the cyst but they don't know what to test for.

Please email me if there are any other questions. Thank you for your concern.

Doyne E. Shrader (540) 399-1813

>Prom David Swanson Culpeper News <u>attp://www.culpepernews.com</u> clpnews@hotmail.com ccswan@cstone.net

By DAVID SWANSON Staff Writer 13 April 2000

As discussed in the March 16 Culpeper News, the tenants in four houses swned by Wayne Lenn and his brothers in Culpeper County have been without safe water at least since December.

The Lenns have now returned from wintering in Florida and plan to have Leazer Drilling Co. Inc. drill a new well on the property in Stevensburg. As seen as they do so, Wayne Lenn said, they will pour cement down the old well and also down an even older one on the site has not been used for years.

One of the tenants, Doyne Shrader, has had some tests done on the contaminated water, but he has not yet had one done to identify whether the fecal coliform in it is human or from cattle or other animals.

Shrader and his neighbors began noticing problems with their water late last year after biosolids were applied to land adjacent to where they live. Lenn now says sludge use is the "about the only logical" explanation for the contamination.

Joiner Micro Labs in Warrenton can reportedly perform a test that petermines the source of fecal coliform, but the accuracy of the testing is incertain. A professor at JMU is reportedly able to do DNA testing to make this determination more reliably.

Sprader is considering having both such tests performed.

On March 19 James Burns, the local Health Department's district director, wrote to Shrader warning against using the water from his well but advising against doing additional tests of it. Burns wrote that the well was definitely contaminated, "probably by surface water entering the well . . I do not recommend further testing of this well, but the new well should be tested."

Failing to follow this advice, Shrader had some tests done the last week in March. Joiner Labs tested the well water and found MPN 80/100 ml for total coliform bacteria (meaning that the most probable number of organisms is 80 in every 100 ml of water). The test found MPN 8/100 ml for E. coli. An acceptable level in drinking water for coliform bacteria, including E. coli, according to the Health Department, is zero.

Joiner Labs also tested a sample of sludge from the Lenn farm adjacent to the tenants' homes and found MPN 9 per gram for E. coli. A sample of soil taken 10 feet from the well in the direction of the sludge was found to contain MPN <2 per gram for E. coli. Robyn Joiner explained that this means none was detected, but it is not necessarily absent.

On March 28, Shrader said, Suzanne Haldin-Coates of the Health Department told him that BioGro, the firm that applied the sludge on the Lenn farm, had applied for the permit on Lenn's behalf to dig a new well. Charles Shepherd of the Health Department confirmed on Tuesday that "BioGro applied on Lenn's behalf as his agent. They were the ones that had Mr. Lenn's telephone number. They were the ones that could contact him."

Shrader also said he has developed a rash on his left leg, beginning in March. He is continuing to have medical testing done.

On April 3, Shrader said, the Lenns had returned from Florida and had poured chlorine down the well but had not yet contacted him. The next day, Shrader says, Wayne Lenn called him.

Shrader says that Lenn suggested he move out and that Shrader told him he was "financially and physically incapable" of it. Then Lenn reportedly said he would have to consult with BioGro.

Contacted this week, Lenn said he has been waiting for days for Leazer Drilling Co. to show up and dig a new well. Mark Bannister, at Leazer, said the well will be drilled by the end of this week or the beginning of next.

"Circumstantial evidence," Lenn said, "points heavily to contamination from the sludge. That's about the only logical [explanation], but there seems to be no test that can prove it." Lenn said he had never heard of tests to identify fecal coliform as of human origin.

Lenn said he charges tenants rent that is "\$100 under the market," and that before he left for Florida in late January, he told his tenants he would give them \$100 per month to buy water. "As soon as my back was turned they decided they wouldn't pay the rent."

The tenants all stopped paying rent as of January.

Lenn said he had never heard of ground water getting into the well in years past, and that if he'd known the well casing was cracked he could have replaced it a year ago and avoided the contamination.

In response to his tenants' (and the Health Department's) complaints that they couldn't reach him for months, Lenn said, "Aw, hell's bells. The mail is forwarded! Didn't you know the postal service has been forwarding mail for 150 years?"

Lenn said he has evicted the tenants from one house, following a disagreement over rent. Asked whether others would be evicted, Lenn laughed loudly and said, "Call back in a couple of weeks."

Shrader said that he did not know the mail was being forwarded and that he has always paid cash because he has no check book. He said the Health Department had told him in early March the tenants would get free rent plus bottled water.

Shepherd said, "That's what I was told by Pamela Gratton of BioGro . . . . Where BioGro got the information I don't know."

Lenn does not think his tenants have had it very bad. He laughed

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uproariously through much of his conversation with the Culpeper News.

"Grocery stores are full of bottled water," he said. What about showers? "They've been taking showers all along." But they shouldn't have been, according to the Health Department.

To that, Lenn laughed and said, "Chicken and hamburger are full of E. to help those who need to live in modest-priced housing, the more we get screwed."

Lenn called back to say, "Ask all the tenants why in the world didn't they move out . . . . Not one of them has a security deposit. . . . If they didn't have the money to move, they would have had it by the second month of not paying rent." (Shrader's response to this was that he's had the expense of hauling water and eating out.)

Lenn called back again to say, "We farmed all our life for a living, and I am very partial to doing everything I can to help farmers. The reason I did nothing to the well prior to going south was I thought it would clear itself up after a liner was put in, and the [bacteria] count went down from 1,600 to 2.

"I thought if I gave up the well it might hurt farmers' use of the sludge. I still want to do anything I can not to destroy farmers' ability to use the sludge, because it's such a help. If a few tenants have to wash behind their ears with a dishrag for a few days, I'm going to be with the farmers."

Asked whether BioGro is paying for the new well, Lenn declined to answer.

Shrader and other residents have been discussing with Ted Korth, a Charlottesville lawyer, various possible courses of action.

. . . . .

Shrader said he has not yet heard back from Laurie Reynolds of the EPA, who told him she would look into this matter on March 20. Nor has he heard from Bill Chase (D-Stevensburg) or any of the other Culpeper supervisors, though Chase told him at last week's board meeting that he was sorry for not returning his calls and would eventually be in touch with him.

Shrader has been in touch with residents of Grand Bay, Ala., who have formed a group called Citizens Against Pollution Inc. to oppose the dumping of sludge there by BioGro. Gary Schaefer, a member of the group, describes illnesses to humans and dead dogs.

"Pamela Gratton got up at a meeting," he said, "and said she spent all day in the field with the trucks and never smelled anything. Three people , jumped up and just went berserk."

Schaefer said that he has mailed a video of violations to the EPA. He describes the EPA as extremely powerful. "[Federal Department of Transportation) regulations say [sludge is] hazardous material to transport, put EPA overrules DOT."

#### The Handshys

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Scott and Lori Handshy, who live in Stevensburg, next to a property where sludge has been applied, had the tests done at Joiner labs on Shrader's water as well as on their own and that of a neighbor, Pat Lake.

They are also having tests done out of state on Shrader's water for heavy metals and viruses. Scott Handshy said that several groups are helping to pay for the tests, including one called the National Sludge Alliance and another called People Against Toxic Sludge Inc.

The Joiner tests on the Handshys' well tested positive for total coliform bacteria but negative for E. coli. A stream on the site tested MPN 300/100 ml for E. coli.

Desiree Lopasic of the Health Department came out, at the Handshys' request, and tested their water. She found MPN <2 for fecal coliform in the Handshys' water and also in that of Pat Lake.

Lake said Joiner's test had found bacteria in her well, which she found hard to believe since she has had good water for many years. She said that both Lopasic's test and another done at Environmental Systems Services, a private company in Culpeper, found no fecal coliform.

Lake said she was very much relieved. However, the tests may not contradict each other, if -- as seems to be the case -- Joiner tested for total coliform and the other labs tested only for fecal coliform.

Health Department standards require the absence of any coliform bacteria. Coliform bacteria is an indicator of the probable presence of pathogens.

### The Settles

Sherri and Larry Settle live in a house near Beauregard Farms, a 3,082-acre farm near Brandy Station where sludge is applied. Beauregard is owned by Johanna Quandt and her family -- very wealthy Germans who are reportedly the main stockholders in BMW -- and managed by Jim Bowen.

The Settles blame sludge for the death in January of their Great Dane, who drank water in the fields at Beauregard. Sherri Settle was admitted to the hospital for two days herself and diagnosed with an intestinal virus on Jan. 28-29, something she said she'd never had before. She has also, she said, developed "pink, scaly stuff" on her trunk and legs where the water touches her in the bathtub. Settle said that she has seen her water come out of the tap black "like charcoal."

Recently, Settle said, her water has cleared up. But, she noted that no geese have come to the lakes on Beauregard Farm this spring, as they did in previous years.

Bowen said that sludge was applied on 500 of the property's 3,600 acres last year and on another 500 this winter, with more to come. Bowen said that six to eight neighbors had signed waivers of distance restrictions (county law requires that sludge be kept 400 feet from occupied dwellings), and that for about 12 rentals on the property there was no need for waivers.

"Nobody's complained to me," Bowen said.

### Asthma, allergies, and sludge odor

Diane Reno is a Stevensburg resident with asthma and allergies who says she still suffers whenever she has to drive through areas that were sludged last November.

"It has a musty, moldy smell, and I'm highly allergic to mold . When I come through that area I have to use an inhaler. I get headaches, Reno said her granddaughter and son-in-law also get headaches from being in sludged areas.

"I don't know why the board won't listen to us and find out what's in this stuff. . . . We're not opposing farmers. I have 40 acres. We're from farming families. We just don't want it to end up killing people. ". . . They say it's psychological. It's not psychological. I have to

use my inhaler. I feel like I can't breathe, . . . I liked it here until that stuff started being spread."

By DAVID SWANSON Staff Writer 13 April 2000

Complaints about sludge use in Culpeper have increased, and the Board of Supervisors' Rules Committee has taken steps toward beginning to monitor the practice.

Meanwhile, the Environmental Protection Agency's Inspector General issued

report on March 20 finding that "while EPA promotes land application, EPA cannot assure the public that current land application practices are protective of human health and the environment."

Since then, the chairman of the U.S. House of Representatives' Science Committee has recommended ceasing the spraying of class B sludge (which is used here in Culpeper) and getting the Centers for Disease Control involved in studying it. (See <a href="http://members.aol.com/lewisdavel">http://members.aol.com/lewisdavel</a>.)

The county Rules Committee, which is made up of supervisors Jimmy Lee (R-Cedar Mt.), Carolyn Smith (R-West Fairfax) and John Coates (I-Salem) met فاحدد مدمد فدت بالاستهادوا الن

Tuesday morning to hear an update from County Planning Director John Egertson. Egertson said that he, and County Attorney Andrew McRoberts met with BioGro and Recyc, the two companies dumping sludge here, and that, "They're willing to pay the salary for a monitor. We intend to have Andrew draft an agreement to be signed by Recyc and BioGro, and bring it back to you and the full board for approval."

"Who would this individual answer to?" Coates wanted to know. "That's a good question," said Egertson. He said that it hadn't been discussed, but that the monitor would work closely with his office. Egertson said the monitor would work part time only.

Following Tuesday's meeting, Egertson said the new employee would measure buffer distances where sludge is dumped and perform random testing of the sludge. This would be done by sending it off to a lab. The bill would be paid by BioGro or Recyc.

Egertson said the monitor would sometimes notify adjoining owners when sludge was going to be spread, but would not do so in every case.

"Why are they sitting at the table with BioGro and Recyc?" asked Stevensburg resident Lori Handshy, a vocal opponent of the use of biosolids here. "They should say, 'This is our county. This is what we're doing.'"

Other counties

At Culpeper County's sludge information meeting on March 15, more than one

of the panelists asserted that Fauquier collects a fee from BioGro and Recyc, the two companies dumping sludge there, a fee used for both processing applications and monitoring the sludge application. There have been no complaints in Fauguier in the last five years, according to one of the panelists.

But Beverly Pullen in the Fauquier zoning office said this week that Fauquier charges a \$100 fee per tax-map parcel for processing applications. (Culpeper charges \$200.)

Pullen said that Fauquier also charges a \$2-per-acre fee, but does not do any monitoring. That job, she said, is left to Desiree Lopasic at the state Health Department office, the same individual responsible for monitoring in Culpeper. Holly Meade, also in the Fauquier zoning office, said the \$2-per-acre fees go into Fauquier's general fund.

Pullen, who has been with Fauguier for three years, said they have had complaints, including ones alleging that sludge had contaminated water supplies. She advised speaking to Lopasic for the details.

Lopasic could not be reached for comment. Charles Shepherd of the Department of Health said Lopasic is responsible for 35 or 36 counties.

The Assistant County Administrator in Orange County who handles sludge, Linda Martin, said, "We're the only county in the state that has a biosolids monitor." She said that Orange is paid roughly \$10,000 per year by BioGro and Recyc to cover the \$10- per-hour wages and supplies and mileage costs of a county employee who checks on setbacks and buffers, makes sure lime-stabilized sludge is used, and adjusts sludging schedules to minimize the nuisance to neighbors.

Until recently the monitor was Michael Yancy. He has resigned, and Orange

has advertised for a replacement. Educational qualifications required are a high school diploma. The monitor does no testing, Martin said, but refers complaints to Desiree Lopasic.

Orange County Supervisor Grover Wilson said this week, "I never have supported using sludge. They've let them spread it in flood plains, and it's washing down the river. People in Fredericksburg and Lake of the Woods are drinking it."

Wilson said that adding lime has taken much of the odor away, "but it still has harmful materials, heavy metals. There are no inspections. All the monitor does is check the footage from houses. . . . It doesn't amount to a hill of beans. We ought to have a biologist do tests . . . . They don't know what they're spreading out there."

Wilson added that he was amused by Culpeper's recent sludge meeting. "I kind of got tickled. They wouldn't let anybody speak because it was an

educational meeting!"

According to Wilson, sludge is sometimes stored on farms in Orange until the weather is right for spreading it. "We have a lot of hand-dug wells that are only 28 or 30 feet deep. If people get sick, what's the county going to do? . . . It's only the last three or four or five years they've been hauling it in here. The majority of people are against it."

Wilson said he would be proposing this week in Orange, as he has been for years, a \$5-per-ton tipping fee to be used for testing, with any extra to go into the general fund. "Cities are paying \$500 to \$700 per load to trucking companies to get rid of this stuff. What's another hundred bucks?"

Martin said Orange would be discussing this week whether to begin charging

a fee for the permit application process.

Other localities

Other localities in the U.S. have instituted a "tipping fee," which is paid

by sludging companies and used to test and monitor their actions.

In Rush Township in Centre County, Pa., this fee is \$40 per ton and is used for testing. A sample ordinance drawn up in Pennsylvania and offered as a model for any locality calls for having each ton of sludge tested for "chemical composition."

The locality's enforcement officer is to take a sample and send it to a lab employed by the locality prior to each application. The ordinance requires a per-ton tipping fee to be paid quarterly. Noncompliance on

two occasions results in "a permanent ban on any further land application of biosolids by that person or corporation; and the payment of financial penalties as delineated in this ordinance."

All testing results are to be made public within 10 days. The ordinance does not specify what "chemical components" to test for, but gives the locality 30 days to produce a list.

A major hurdle any locality will face that wants to monitor the safety of sludging operations is determining what to test for. The EPA is not of much help in this regard, judging by its Inspector General's recent report.

Testing of dangers from airborne material is, in particular, an uncharted territory, according to Henry Staudinger, a retired lawyer from Shenandoah who has spent the past five years studying and opposing sludge use.

Speakers at the Board of Supervisors meeting

At last week's Board of Supervisors' meeting, three people spoke from the floor on the subject of biosolids.

The first was Doyne Shrader, a Stevensburg resident whose problems with a contaminated well were discussed in the Culpeper News March 16 and are further detailed in an accompanying article today. Shrader asked the board for a public investigation of the cause of the well's contamination. And he urged "anyone who lives in or around land where biosolids are applied to have their well tested and see their doctor for possible exposure to harmful chemical contaminants and bacteria."

The second speaker was Scott Handshy, who called the board's attention to the recent audit report on the EPA by the agency's Inspector General. This report concludes, "EPA does not have an effective program for ensuring compliance with the land application requirements of Part 503 [the EPA's own standards for sludge disposal]."

Handshy asked the supervisors, "If EPA can't themselves monitor regulations

they've established, how can the state of Virginia or Culpeper County? I've asked the state and I've asked each of you for the science on this and I've received nothing. The meeting [on March 15] was a paid political advertisement. . . I challenge you to present the other side."

# STATEMENT AND NEWS ARTICLE - SPRING 2000 RE: SLUDGE VICTIMS IN CULPEPER, VIRGINIA --DOYNE SHRADER, THE HANDSHYS, THE SETTLES AND DIANE RENO

DOYNE E. SHRADER

18058 Stevensburg Rd Culpeper, Virginia 22701 (540) 399-181 4/7/2000

TO: Virginia Dept. of Health 1538 East Parham Road Richmond, VA 23228

SUBJECT: Demand For Prompt Investigation

I have not had clean water since 12/12/99. The local health department tested for fecal colliform in January 2000 and the well is found to be contaminated.

Findings were as follows:

January 12 2000	Total Coliform>1600,Fecal Coliform 23
January 18 2000	Total Coliform present, Fecal Coliform not present
January 24 2000	Total Coliform 80, Fecal Coliform 2

Testing from an independant lab showed results of Total Coliform 13, Fecal Coliform 13 on 3/10/2000. Positive results for E-Coli in the well water are also present.

After considerable frustration, dealing with Local, State and EPA Officials who appear unconcerned and attempts to cover up this matter, I am demanding promt investigation and help.

My letter on 14 February 2000 to the Health Department on the uses of the water in its present condition was ignored until after a meeting with "the Virginia Department of Health, Office of Water Programs and Bio Gro". Bio Gro is the responsible party for land application of BIOSOLIDs on the fields near my house.

After a meeting on 3/17/2000, with the Director, Dr. Jim Burns, He assured me my questions will be answered in the near future. I was advised in a letter from Dr. Burns against using the water for "drinking or cooking" and it may be best to "bathe with water from an alternate source". "Boiling the water will kill any microorganisms, but would not remove most chemical contaminants".

I am currently concerned with my health related to the use of the well water after having learned that BIOSOLIDS had been spread on the fields within 117 feet of the well and 100 yards above my house in November 1999.

I have had preexisiting medical problems prior to the discovery of the well contamination which I believe are aggravated by the exposure to trimethylamine(TMA). In January 2000, after a CT Scan, I discovered a cyst in my throat. On the 5th of February, I had throat surgery to remove the cyst. I took a shower in the water believing it was ok to do so on the advice of the health department. Feeling of chest infection developed soon after.

Skin rash, breathing problems, bumps around my mouth, a burning feeling inside my mouth, unusual weight loss, gastrointenstinal distress, and feelings of ill health are being addressed at this time.

TB test, X-ray and heavy metal urine test are scheduled for the near future based on advice from Dr Sompali at the VA Medical Center, Martinsburg, WVA.

The expense, stress and inconvenience of handcarrying water for the past four months, traveling to Walter Reed Army Medical Center and Martainsburg WVA to take medical tests to determine if the water is the source of my medical problems has also caused a considerable amount of unnecessary stress and anxiety.

The property owners were on vacation in Flordia, could not be contacted and just returned on 4/2/00.

My appeals to the health department, the county supervisor for the Stevensburg area and several Federal, State and local officials are without response.

### RESPECTFULLY, DOYNE E. SHRADER

# CULPEPER (VIRGINIA) NEWS - AUGUST 2000

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Subject: sludge story

Date: Wed, 2 Aug 2000 10:20:30 -0700 From: John Borgmeyer <borgmeyer@c-ville.com> To: windspirit158498@aol.com

Biosolid happens Sludge hits the fan in Culpeper by John Borgmeyer

borgmeyer@c-ville.com

On a steamy June afternoon, Doyne Schrader lugs ragged armchairs, exercise equipment, and a baby stroller into his gravel driveway, arranging them in a yard sale display. He's cleaning out his house, one of four modest dwellings surrounded by cornfields on Highway 663 in Culpeper County. Schrader says his life has turned inside out in the past six months; his nealth has declined, his girlfriend left him, and he no longer feels comfortable in the house he's inhabited for the past five years.

The downward spiral started last December. Schrader was making a pot of coffee in his kitchen, when he got a phone call from his neighbor, Mable Harlow. "Does your water smell funny?" she asked. Schrader sniffed cis faucet. <u>"It smelled like dead crabs," he says. "It smelled just like</u> that shit they put on the fields a couple weeks before."

Schrader meant that expletive quite literally. In November, a company called <u>Bio Gro had spread truckloads of sewage sludge</u> on the confields just uphill from the four houses. Sewage sludge is composed mostly of human waste, but it also contains storm water and contaminants from homes, businesses, industries-- anything that makes the clockwise swirl down America's drains and passes through wastewater treatment plants. Consequently, sludge also contains disease-causing bacteria and viruses\_ called pathogens and heavy metals like lead and arsenic.

The Environmental Protection Agency (EPA) regulates sludge. One of the cheapest methods to dispose of the stuff is to treat it, rename it "biosolids," and give it to farmers as free fertilizer. Hundreds of rural bounties in America embrace urban sludge as a way to help farmers survive a slouching agricultural economy. In Virginia, Fauquier County has done it tor 17 years. Orange, Louden, Prince William, and Louisa counties also slow it. Last year, Culpeper County decided to lift its ban and jump appeard the biosolids gravy train.

While farmers welcome 18-wheelers full of free biosolids, others in Culpeper eye the trucks suspiciously. What's in that stuff? they wonder. The only thing they know for sure is that it smells terrible. Health ifficials say people have nothing to worry about; their vague but supremely confident tone has lead some to speculate a coverup is afoot.

"People make all kinds statements, but they can't back things up with facts," says Culpeper resident Bill Chase. "It's hard to get the facts."

Chase has been doing his research. As Supervisor for Culpeper's Stevensburg District, where Schrader and Harlow live, Chase helped make the Besision that allows truckloads of sludge to be dumped all over his Statist, where agriculture dominates. Culpeper considered lifting its fludge ban several times over the years. As farmers heard stories of lush ercps swaying in sludged Fauquier farmland, they asked the Board of Supervisors to revisit the issue.

"We started looking at biosolids mainly because of a sour spricultural economy," says James Bowen, a farmer who sits on Culpeper's Adriculture and Forest Advisory Committee. He says fertilizer costs between 780 and \$100 per acre, and fields typically cover hundreds of acres. "Feople were telling me they couldn't stay in business without it," Bowen says. "If a farmer can get free biosolids, it's a real savings."

The County invited speakers from two sludge application companies: Serve systems, based in Remington, Virginia, and Bio Gro, a national corporation from Millersville, Maryland. They also heard praise and constructed about biosolids from Virginia Tech faculty, the EPA and the Virginia Department of Realth.

Bio Gro and Recyc bring sludge to Culpeper from the Blue Plains Wastewater Treatment Plant in Washington, D.C.-- the final destination for every sewer and drain in the city and one of the largest plants in the country. The plant cleans the water and releases it into the Potomac river.

What's left behind is sewage sludge, a semi-solid byproduct containing mostly human waste but also a hodge-podge of metals, chemicals, and pathogens. About 60 percent of the eight million tons of sludge America produces annually is treated with lime or heat to kill disease-causing pathogens, then sold or given away as biosolids. When every last pathogen is eliminated, biosolids are classified as "Class A," which the Albemarle Waste Treatment Plant sells as compost. But most biosolids that end up on farm fields are "Class B," with many-- but not all-- pathogens removed.

Blue Plains tests the sludge before it's shipped. If it meets EPA limits for metal and pathogen content, it becomes fertilizer. If not, it may be burned or put in a landfill.

Despite a handful of protests, the Culpeper Board of Supervisors approved the use of biosolids last spring. Farmers who want biosolids need permission from the Board of Supervisors and the Planning Commission, who so far have approved almost every request. Application is limited to farmlands that have been designated by their owners as "agriculture and forest" areas. This means the landowner promises not to develop their land for eight years, using it only for agriculture or leaving it wild.

"We're trying to promote land use for agriculture in this county," Bowen says. "This is a rural county, and that's how we want to keep it."

Bowen says the number of agriculture and forest acres in the county has more than doubled since Culpeper allowed biosolids, because farmers feel more confident in their ability to produce. As a Bio Gro truck dumps a fresh pile of sludge on Bowen's hay fields, he laughs off sludge critics. "This year I've got the best crops I've ever seen. If I thought it was toxic, I wouldn't use it."

But Bowen knew the issue would be divisive. "Biosolids were a huge issue when we first considered it," says Harry Atherton, a member of Fauquier's Board of Supervisors. "I don't envy any county that's in the process of introducing this policy."

At first, opposition to the sludge appeared as sporadic letters to the editor or three-minute speeches at a public hearing. The most immediately obvious problem with sludge is the stench, which Bowen admits can be bothersome, especially if one's nose is downwind on a hot day.

But as more trucks dumped more biosolids in more people's backyards, sludge became big news. While Culpeper's daily Star Exponent virtually ignored the controversy, David Swanson at the weekly Culpeper News followed Schrader and Harlow's story. All the elements of underdog journalism were there: everyday folks battling big corporations, wealthy landowners, and the government.

Mable Harlow has rented her house on a cornfield owned by Wayne, Edwin and Kaye Lenn for 20 years, a more or less pleasant pair of decades. "I ain't never had no hassle from the Lenn brothers until this water got messed up," says Harlow.

Like many other states, Virginia added to the EPA's rules. The Health Department demands detailed reports from everyone who handles the sludge-- treatment plants, spreading companies, farmers, and inspectors. A field's individual soil type, crops, slope, and proximity to water must be evaluated to minimize the chances of runoff. Biosolids must stay 100 feet from wells and surface water and 400 feet from homes.

But some say that's meager protection.

No one inspected the well or talked to Harlow before the Lenn brothers allowed Bio Grow to spread biosolids in the fields. Shortly after the application, Harlow says rain created standing pools in the field. A few days later, she noticed her tap water was stinking.

"We had no problems with that well for thirty years," says Wayne Lenn, who owns the property. "Then the same week they spread the biosolids, the well goes bad." Soon after his tenants noticed the stench, Lenn installed a liner to stop water seeping into the well from the surface.

After persistent nagging from Harlow, the Health Department finally tested the well <u>and found the water was contaminated with fecal coliform, a</u> <u>bacteria originating in mammal intestines</u>, According to Robyn Joiner, who tests water for Joiner Laboratories in Warrenton, coliform bacteria is easy to detect, <u>and presence of any bacteria from the coliform family means the</u> water could be infested with any number of other contaminants.

The tenants started drinking bottled water. Harlow says the Lenn brothers promised repeatedly to drill a new well, but the weeks rolled on and no new well appeared. As the cost of bottled water and restaurant meals mounted, the tenants grew increasingly frustrated.

"I'm just drawing a military pension," says Schrader, taking a break from cleaning 20 years of possessions out his house to light a Marlboro. "I'm broke. I can't afford this."

In January, Schrader started trying to get information about sludge. In a letter to the Health Department, he asked if it was safe to shower, cook, or wash clothes with the water. It took weeks before they finally told him not to use the water, but they refused to tell him what was actually in the sludge.

was actually in the sludge. "I'm not for the policy or against it," Schrader says. "But they need better regulation. All they said is that biosolids are safe. Every time I ask for something in writing they blow me off. They won't tell me what contaminated the well. They won't admit it could be biosolids."

Schrader tried to find out why he should have to pay for bottled water and restaurant food when, in his mind, the county's sludge policy was responsible for spoiling the well. The county, Bio Gro, and Wayne Lenn have all refused to assist him, although Lenn allowed Schrader to withhold rent for five months.

He also complains of flu-like symptoms he says appeared after the application, and of a chest infection he believes resulted from showering with contaminated water after having surgery. Firing up another cigarette, Schrader admits his health hasn't been great since he returned from the Persian Gulf War, and two years ago a veteran's hospital diagnosed him with a heart murmur. But he's adamant his health has gotten worse since the biosolids arrived.

Since December an informal coalition of sludge critics banded together in Culpeper, sharing stories and frustrations with the Health Department. Schrader keeps careful records of all his sludge inquiry in a thick black binder. "In the Army I learned that you don't open your mouth unless you've got a piece of paper to back it up," he says. "I've talked to everyone but God," he says. "And nobody cares."

Swanson kept Daily News readers updated on the saga. Plenty of others were ready to speak out against sludge and the Health Department. Last summer in the Culpeper community of Stevensburg, Bio-Gro

spread biosolids in a pasture 600 yards from Lori and Scott Handshy's house, an agricultural district Mr. Handshy calls "the sludge capital of Culpeper."

As soon as the sludge was applied, Handshy says a "horrible dead body stench" permeated their whole house. "It made you gag. You just want to throw up," he says.

Handshy says the smell gave him and his wife nausea, diarrhea, and persistent headaches. When they complained to the Health Department, officials told them the sludge had been applied according to procedure and the biosolids were not causing their health problems.

"They all responded with the same canned crap they always put out," complains Handshy. "They say they have evidence it's safe, but they won't show it to us. They say 'Trust us, we're the government."

After biosolids were spread near the home of Larry and Sheri Settle in Brandy Station, their dog suffered severe intestine problems after drinking water off the treated fields. They euthanized their pet in October.
"He died from poisons in the water he was drinking," says Dr. Francis Grayes, the veteranatrian who treated the animal.

A couple weeks later, Mrs. Settle's stomach started feeling funny. "It got excruciating one night, and my daughter took me to the hospital," she recalls. "The doctor said it was some kind of bacteria problem in the intestine." But she never suspected sludge might be the cause until she read a newspaper article about biosolids a month later. "Then the lightbulb went off," she says.

Settle noticed a rash developing on her skin after she took baths. A test of their well water by Joiner Laboratories revealed it was contaminated with coliform bacteria. The Settles started drinking bottled water and taking hurried showers. They asked the Health Department to help them figure out what was contaminating their well.

"No one from the Health Department would return our call. They're more interested in covering things up," she says. She says sludge-bearing trucks rumble through her neighborhood at all hours of the night, and she's heard rumors that farmers get paid to stockpile sludge beyond county limits.

"They say we have to prove the stuff made us sick. How can we prove it? I've given up on them. Here lately I think the best thing to do is move. When it causes problems down the road, they'll just say 'Oops!' Just like DDT or Agent Orange."

Such stories were big news in Culpeper. But sludge supporters, like landowner Wayne Lenn, who found himself vilified in the reports, dismisses the furor as hype.

"We had a newspaper reporter riding up and down the road on a white horse, trying to save everybody," he says. "I can't help but think they were interested in a story that would sell newspapers, and in the process a lot of people got hysterical."

Lenn says the whole mess could have been avoided if Bio Gro fixed Schrader's right away. Instead, he says they played right into critics' hands by trying to cover up the mistake and deflect responsibility. "They say they can't make a mistake," Lenn says.

He says most of the sludge critics are "gentleman farmers," ex-urbanites who buy forty acres in Culpeper with idyllic visions of peace, quiet, and fresh air.

"They're a pain in the ass," Lenn says. "If they aren't willing to put up with a few days of odor, they should move back to the city. Biosolids are the best thing to come along for farmers in a while, and the county should be taking care of farmers who make a living from the land."

Pains or not, those gentleman farmers are a growing force in Culpeper, demanding to be heard. The person who hears most of their complaints is Desiree Lopasic, an Environmental Engineer in the Department of Health's Culpeper Office.

She stands in a field with Steve Foushee, president of Recyc Systems. They watch a semi truck crawl down a rutted path into the flat field where corn and soybeans will eventually sprout. The trailer rears up off its frame, and a heap of black muck slides onto the dirt. The truck lumbers away from the steaming mound like a cow sheepishly abandoning a giant patty. Then a machine called a "spreader" flings the sludge in a neat layer across the field. The air is punctuated with a smell somewhere between dog poop on your shoe and a loaded baby's diaper.

Tiny pink flags-- the kind that mark underground television cables-- show how close the biosolids can get to a nearby stream. Lopasic's job is to make sure today's application agrees with all the state and federal regulations. She eyes the spreader, making sure chunks don't fly past the pink flags.

Foushee picks up a tar-black chunk of biosolids. "Most of this stuff is just nitrogen, phosphorus, and potash. Crops need it," he says. "Putting this stuff back into the soil is just completing a natural cycle. If this stuff were dangerous, the people handling it every day would be the first to notice it. I've never heard of any workers getting sick."

Nothing is 100 percent risk-free, Lopasic says, but Virginia's biosolid policy is based on years of EPA science. Any claims against sludge ,c sury

need equally compelling evidence before the Health Department will take them seriously. "There's no proof biosolids are harmful," she says.

There's no proof. This is the chant repeated by the pyramid of biosolid cheerleaders, from the highest EPA scientist in Washington down to Lopasic standing in a Culpeper corn field.

"We have been accused of the most dastardly things, but none of them have been proven," says Bio Gro spokeswoman Pam Gratton. The company faces a lawsuit implicating them in the death of 26-year-old Shayne Connor, who died with respiratory problems after Bio Gro spread biosolids near his New Hampshire home. A trial will begin in April.

"There's no evidence of people getting sick," says Dr. John Walker, EPA scientist and head of the biosolids program. "Sometimes it looks like we're being protective, but we're just trying to find the facts."

But Schrader says he shouldn't have to prove biosolids are dangerous. Instead, the state should prove they're safe before dumping them on people's backvards.

"Maybe we don't have the best system," Lopasic says, admitting the Health Department doesn't always give squeaky wheels the grease they want. "There has been some cold shouldering going on. But there's never been a documented case where it's been proven biosolids are making people sick. Anything could have contaminated that well."

Lopasic believes people's health symptoms are merely psychological reactions to sludge's odor. "Our mothers always taught us human waste was bad. Bad odors can produce a 'road rage' type of reaction in some people," she says.

"They're just trying to cover their asses," Schrader says. "They're supposed to protect the health of people in the state, but that's a load of crap. They're more on the side of people who are spreading this stuff."

He may have a point. Just two weeks ago, the Centers for Disease Control and Prevention (CDC) released a report concluding that Class B sludge poses a health risk-- especially to workers or people like Schrader who have existing health problems-- from E.coli, salmonella, hepatitis B, and other viruses. The CDC recommends all sludge be treated to Class A standards, and advises workers handling Class B sludge to wear protective clothing and respirators. Despite the CDC's comments, the EPA says current data about biosolids do not warrant a change in policy.

Critics contend that because the EPA is responsible for sludge disposal and because land application is such a cheap way to get rid of it, the agency is likely to dismiss evidence that may jeopardize the program. An EPA microbiologist, David Lewis, is suing the agency, contending they tried to fire him after he criticized their sludge policy.

In fact, much of the information about biosolids that has Culpeper officials so thoroughly convinced of their safety is dessiminated by public relations gurus, not scientists. In the PR realm, where careful speakers spin facts into glossy pamphlets, truth is only what lawyers can prove in court. The potential health hazards of biosolids are mired in a pile of euphemisms and politics that smells fishier than a fresh field of sludge. In 1972, the Clean Water Act helped clean up America's quarantined

In 1972, the Clean Water Act helped clean up America's quarantined beaches, polluted lakes, and fire-hazard rivers, but it created a new problem. As the wastewater treatment process improved, the resulting sludge became more toxic.

The 1995 book Toxic Sludge is Good for You, an exposé of the public relations industry by journalists John Stauber and Sheldon Rampton, describes how the EPA teamed up with the Water Environment Federation (WEF) to transform sludge from hazardous waste into miraculous fertilizer. Founded in 1928 as the "Federation of Sewage Works Association," the WEF underwent many name changes but remains the sewage industry's main lobby and public relations organization, according to Stauber and Rampton.

The first thing sludge needed was a cleaner name. WEF members contributed hundreds of suggestions, including "bioslurp," "humanure," "powergro," "geoslime," and "nutri-cake." Eventually the WEF settled on "biosolids," which they defined as a "nutrient-rich byproduct of the cation's wastewater treatment process." Then the EPA compiled data from a host of public, private, and academic scientists. The EPA identified nine metals-- arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc-- that typically lace batches of sludge. Through a process called "risk assessment," they evaluated the various ways those contaminants could make their way from sludge to the human body. A child could eat the sludge, for example, or the contaminants may absorb into the tomatoes in your garden. Finally, they evaluated how much of each metal it takes to give a person cancer.

Based on these calculations, the EPA wrote its "Part 503" regulations, which require waste treatment plants to test the sludge and make sure contaminants do not exceed acceptable levels. But recent research sponsored by Cornell University suggests the Part 503 rules that Desiree Lopasic uses to justify land application in Culpeper may be based on shaky science.

"A Case for Caution," published by Cornell in February 1999 says sludge contains a host of potentially toxic chemicals, but when the EPA wrote its rules, the Agency ignored contaminants that appear in less than 10 percent of sludge or chemicals whose behavior they don't know much about. Furthermore, the EPA experiments assume people will be exposed to only one contaminant at a time and by only one pathway. The 503 rules don't take into account that a family may eat crops grown in sludge and drink milk from a cow grazing in sludged pastures, or that people may be exposed to a combination of arsenic and lead-- and possibly face greater risk.

The concept of "risk" is also debatable. <u>There's no such thing as</u> <u>safety in public health</u>, the Cornell paper reminds us, <u>there's only</u> <u>"acceptable risk."</u> The EPA's 503 rules assume <u>that one case of</u> <u>sludge-related cancer in 10,000 is an acceptable risk.</u> <u>The Cornell</u> <u>researchers say it should be raised to one in a million, and they say the</u> <u>EPA ignored other risks</u>, such as IQ deficiency or hormonal damage sludge <u>contaminants can cause.</u>

If the questions raised by "A Case for Caution" were troubling, the <u>EPA's response was chilling.</u> Ellen Harrison, head of Cornell's Waste Management Institute, testified before the House Committee on Science that the EPA tried to discredit the paper by making false claims about the scientists methods. <u>"They claimed we used metal salts and not sludges in</u> the study," Harrison said. "That is simply untrue."

Later in the hearings, which were called "EPA Sludge Policy: Closed Minds or Open Debate?" Harrison criticized the EPA for funnelling most of its research money through the WEF, telling Congress that "while the Water Environment Research Fund and related groups provide valuable contributions, they also represent the generators of sludge who have a pro-land application point of view. While that viewpoint is consistent with EPA's position...<u>it is inconsistent with maintaining scientific</u>, objectivity."

objectivity." Although the EPA's own inspector general has written a report saying <u>it's impossible to say sludge is without risk</u>, scientists within the agency are confident in their knowledge.

Dr. Walker at the EPA says they have more information on biosolids than any other compound. As Bonnie Smith from the EPA's public relations department monitored Walker's comments, he explained the EPA is always open-minded about new biosolids research. "We just have no evidence of people getting sick," he says.

"Oh, that's a good quote," Smith chimes in.

The public relations machine was in equally high gear at the Water Environment Federation. "Have you been reading Toxic Sludge is Good For You?," asked Nancy Blatt, head of WEF public relations, with an exasperated sigh. "That book is so full of misinformation." For truly reliable information about the WEF, Blatt suggests visiting the group's website, which describes WEF as "the leading technical organization for the water quality industry since 1928."

She says some members of the WEF represent the waste management industry, but that the federation is not a special interest group. She also insists they are not a lobby group, but members of the WEF do "work

#### closely" with members of Congress.

"We just want to see good science," Blatt insists. "The science behind the 503 regulations is sound, and if you follow it, you're okay." Bonnie Smith and Nancy Blatt have tough jobs, trying to convince people that, hey, flinging sewage sludge all over your yard is a great idea. But to critics they end up sounding like Shakespeare's lady who doth protest too much.

internet industry

So, who to believe? Even the EPA admits people should be wary when the government comes into town, smiling like a car salesman, saying Trust us. You have nothing to worry about... But in Culpeper, people are hearing what they want to hear.

Some sludge critics sacrifice their own credibility by spreading rumors of conspiracy. And while some sludge proponents criticize people for blind faith in crusading journalists, they faithfully defend biosolids with one-sided arguments supplied by EPA press releases and Bio Gro public relations.

As long as farmers like Lenn and Bowen, who survey their vast estates from impressive hilltop homes, have faith in biosolids, <u>Doyne</u> <u>Schrader and Sherri Settle</u>, who live downhill from Lenn and Bowen's sludged fields, posess neither the money nor the political clout to affect <u>Culpeper's policy</u>.

In Gouchland and Amelia Counties, vocal opposition led to bans on land application. But in Fauquier County, Supervisor Atherton says sludge protest tapered off long ago. At first, gloom-and-doomers shook their fists and wailed at public hearings. But the County kept applying biosolids. There were no mass poisonings. No high-profile stories of children with cancer. Then, like millenialists who shrugged and left their bunkers on January 1, 2000, many of the opposition just forgot about sludge.

In Culpeper, sludge sludge opponents who can afford to move are gone. The Harlows moved to another neighborhood, the Handshys to another <u>county where biosolids are still banned</u>. Schrader hasn't spoken to any of them in a while.

"I'd move too, but I don't have the money," he says. "I've about given up." He says ne's keeping his eyes peeled for an affordable place to live.

But as long as company trucks rumble into town brimming with <u>God-knows-what from the sewers of Washington D.C.</u>, some people will stay suspicious-- and publicly vigilant.

"Except for a few people complaining about the smell, we've had zero problems as far as I know," Atherton says. "But there's always the underlying concern of long-term, unknown damage from chemicals we may not even know are toxic." If the Center for Disease Control and other credible scientists continue to warn about pathogens and metals in sludge, Doyne Schrader says he has a right to something more substantial than vague assurances or perky cheerleading before Bio Gro dumps another load of biosolids in his neighborhood.

#### GERTRUDE CARTER, 26 BOLDEN ROAD, CUMBERLAND, VIRGINIA - 23040 804-492-5825

Email received by Helane Shields June 25, 2002 from friend of Mrs. Carter:

"HI!! I wanted to follow up with information regarding Gertrude Carter and her family from Cumberland, Virginia. If you remember earlier we corresponded regarding her family and their adverse health reactions to the spreading of sludge very close to their home. Ms. Carter and I spoke last week, and at that time the spreading had been halted and she was promised it would not start back again.

However, yesterday (6/24/02) the spreading began again. She telephoned me tonight stating she was sick and so were several members in her family; they all have asthma. One family member was able to be seen by a physician today; and that patient was told by the doctor . that the sludge was bad for them.

Ms. Carter attempted to be seen at Southside Community Hospital ER Monday night; however the wait to be seem was approximately 3 hours and she chose not to wait. After hanging up the phone with Ms. Carter I immediately telephoned the number for Cal Sawyer and left him a message requesting the spreading be halted and an investigation begin. Ms. Carter has telephoned her representative on the Cumberland County Board of Supervisors, with no response to date. I have advised Ms. Carter to do the following: telephone Cal Sawyer, telephone our local newspaper & also our local radio station just so they can witness first hand the horrid smell in Ms. Carter's neighborhood. I will continue to follow up on this with Mr. Sawyer and if we receive no action from Mr. Sawyer we will contact the Secretary of Health and Human Resources. Yesterday and today the temperature was above 95, with the heat index close 110; I cannot believe they would spread sludge in such conditions!!

This is exactly the same circumstances when my horse became so deathly ill when the sludge was spread very close to my farm; heat and heat index very high!!!!

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VIRGINIA - CUMBERLAND - SLUDGE VICTIMS SUFFER ADVERSE HEALTH EFFECTS, INCLUDING ASTHMA -DOCTOR SAYS SLUDGE IS BAD FOR PEOPLE

#### VIRGINIA - CYNTHIA MANN, 203 RÀINES TAVERN ROAD FARMVILLE, VIRGINIA 23901

Original Message ----- From: "cynthia mann"  $\diamond$  To: "hshields"  $\diamond$ 

Sent: Tuesday, August 13, 2002 9:45 PM

Subject: info on sludge

> Mrs. Shields, I am still reading all the information you sent me. It just makes me sick when I repeatedly here those words," We have no documented proof that anyone has become ill from sludge".

> A couple of weeks ago 1 was driving up to Cartersville, in Cumberland County, and I passed this truck so full of sludge that it was spilling on the road. The odor went up my nose and down my throat and 1 lost my breath.
> For sometime after that I gagged and could not get the odor out of my car. By the time 1 arrived back home 1 was so ill. My stomach hurt so much that I couldn't eat. Even now, two weeks later, 1 am still sick. I have also had these horrible headaches that just wont go away. The next day, after 1 had seen this truck, 1 saw the sludge people dumping this black stuff in a field next to the road. I had to go up this road so 1 had no choice but to
> pass this place.

They were spreading the sludge on Ann Sanderson's farm. Again I became ill, only this time my stomach hurt even worse. Cramps so bad that I couldn't move. That stuff gets in your nose and sufficates you. > You taste it and it feels thick in your throat. I had no idea they were putting it there or I would have taken the long way around. There were no signs warning people and they poured it right up on the fence which is only > a drainage ditch away from the highway. This was a horrible experience. How can anyone say it doesn't smell, how can anyone put this crap on their land. How can they state health department say they have no proof it makes > people sick?

> 1 just wanted to tell what happened to me because 1 think anyone who gets sick from this sludge should have it documented. I have never been that close to it before and I hope to never be again.

> Also my corn is now in the process of being tested. I hope to hear something soon. What do you think of people banning together and starting a co-op of sludge free feeds and hay for animals? Some people get angry when > I ask if they use sludge. I don't want to support any farmer who would do that to their land or subject any animals to that kind of feed. I have a right to know what I am feeding my animals.

> Thanks for all the information, I have friends that want to read it when I am done. What has happened to so many people just breaks my heart.

> Sincerely, Cyndi Mann

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#### VIRGINIA - SLUDGE VICTIM SUFFERS GAGGING, INABILITY TO EAT, STOMACH PAINS AND CRAMPS, HORRIBLE HEADACHES . . . "THAT STUFF GETS IN YOUR NOSE AND SUFFOCATES YOU"

#### VIRGINIA - WATERFORD - MARCH 13, 2002

I am a resident of Waterford, Virginia - a town of 300 in Loudoun County, Virginia, which is a National Historic Landmark and is surrounded by farmland.

About 18 months ago, a 150 acre farm within the Waterford Landmark began accepting sludge from Synagro -- according to their records, about 1250 tons. This farm lies to the west (upwind) of the main village, with the field on which sludge was applied about 150 meters from the nearest town residence.

We were assured by Synagro that the "biosolids" were safe -- EPA approved. We thought nothing further of it until a few weeks ago, when a town resident saw a guest on a television program question the safety of sludge in land applications. This resident also had just recovered from a 4 month long bout with "pneumonia", where the pulmonologist had tried 3 - 4 different antibiotics to try to cure the patient.

The word of mouth brought the anecdotal stories out of the woodwork -- including mine. I had severe asthma (waking up with mucus so thick I couldn't breath -- nosebleeds for the first time in my life) -- sores in my nostrils and under my eyelids ... to put it mildly, it has been a "sick year" in Waterford.

At least 8 others had agonizing bouts of pneumonia -- some out of work for months -with little benefit from antibiotics -- migraine headaches, nosebleeds, eye infections, acute respiratory trauma.

WE have been asked by the County office to compile some studies in the village to determine the extent and nature of the illness --- which seemed strange -- I THOUGHT THIS WAS THE JOB OF GOVERNMENT.

We are in the process of collecting the data. The SYNAGRO representative has called a few times to reiterate how safe their product is. We in the village truly don't know how to proceed, except that we are NOT naive enough to think that the Virginia Dept. of Health . or other agencies are going to do anything for us (based upon my search of the Web.) I would appreciate any assistance or advice your organization could give us.

Thanks. WILLIAM MULARIE, PO BOX 357, WATERFORD, VA. 540-882-4902

VIRGINIA - SLUDGE VICTIMS SUFFER PNEUMONIA, ASTHMA, ACUTE RESPIRATORY TRAUMA; THICK, CHOKING MUCUS, NOSEBLEEDS; SORES IN NOSTRILS & UNDER EYES; MIGRAINE HEADACHES & EYE INFECTIONS

#### EXCERPTS FROM LETTER DATED JUNE 5, 2002 FROM BARBARA RUBIN, TOWN OF WATERFORD, LOUDOUN COUNTY, VIRGINIA - TO STATE OFFICIALS AND LEGISLATORS

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"Over the period Class A and Class B sludge has been applied to adjacent Waterford fields, Waterford residents experienced an unprecedented spate of severe illness. Once concerned residents began asking about community health, they learned of <u>eight instances</u> of <u>pneumonia</u> in less than one year among some 200 residents. Unusually high numbers of <u>other severe respiratory</u> <u>illness</u> such as <u>bronchitis</u>, <u>sinus infection</u> and <u>flu</u>, <u>nose bleeds</u>, <u>rectal</u> and <u>internal bleeding</u>; <u>debilitating</u> and <u>recurring headaches</u>, <u>lesions</u> and <u>rashes</u> also were documented. The cause of the illnesses could not be medically pinpointed in a majority of cases, but was most often related to bacterial or viral infection. The strains were particularly virulent and did not respond to the normal course of medication. Many individuals stated they never had the sickness before. Most telling, the symptoms of some were <u>noticeably mitigated</u> when they <u>left the area</u> even for brief periods."

"To the west of Waterford village is an area of homes surrounded by working farms. Sludge has been applied to these farm fields on more than occasion. The sickness experienced in this community is even more remarkable for its severity and rarity. Four residents, two of them direct neighbors, have been diagnosed with variant forms of <u>cardiomyopathy</u>. Cardiomyopathy is a very unusual and in some instances fatal heart condition which causes the heart to malfunction. Environmental factors such as <u>exposure</u> to <u>toxic compounds</u> and <u>pathogens</u> are a known cause of certain forms of cardiomyopathy. All four individuals suffer from <u>virus-induced cardiomyopathy</u> that results from <u>exposure</u> to *pathogens*. Efforts are underway to focus the attention and resources of the Centers for Disease Control on this "hot spot."

"Cardiomyopathy is not the only health problem in this community. There are reports of <u>other</u> <u>severe</u> and <u>unusual sickness</u>, including <u>two miscarriages</u>, <u>pneumonia</u>, and <u>chronic intestinal illness</u> in homes constructed on land where sludge previously had been applied. There are two recent cases of <u>liver cancer</u> and one of <u>ovarian cancer</u> in a nearby area. These individuals also were plagued by a <u>nauseating stench</u> following the sludge application."

"This unexplained concentration of severe illnesses and rare diseases in and about the village of Waterford, in tandem with the wide scale application of sludge on adjoining farms, fuels the perception that the two are causally linked. Nor is Waterford by any means an isolated experience. Reports are emerging from many parts of the nation where land application of sludge is allowed that localized disease, and in several cases death, have a strong correlation to sludge use. In nearby Culpeper County, where sludge was previously banned, health concerns began to surface immediately after the ban was removed. An article on sludge by John Borgmeyer in the Culpeper News of August 2, 2000, gives a detailed account of the health problems experienced by <u>Culpeper residents</u> living close to sludge-applied fields.

VIRGINIA SLUDGE VICTIMS SUFFER SEVERE RESPIRATORY PROBLEMS, BRONCHITIS, SINUS INFECTIONS, FLU, NOSEBLEEDS, GASTROINTESTINAL ILLNESSES, PNEUMONIA, SKIN LESIONS AND RASHES, HEADACHES, BURNING EYES, NOSE, THROAT AND LUNGS, CARDIOMYOPATHY, CANCERS AND OTHER ILLNESSES

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#### VIRGINIA - CHATHAM - ELAINE MOORE - SEPT. 2002

Our address is 661 Climax Rd. Chatham, Va. 24531 434-432-0926

---- Original Message -----From: Jeremy Moore To: hshields Sent: Wednesday, September 11, 2002 6:44 PM Subject: Re: VIRGINIA - ELAINE MOORE -

Helane.

Just wanted you to know that my 19 yr. old son woke up this morning with a sore scratchy throat. This again could be coincidence but as with me I can't remember when the last time this kid even had a cold. I was awake most of the night coughing and developed a severe headache this evening when I came home from work. Some of it could be the stress of knowing what I am coming home to. The man has finished the field beside me which is approximately 10 acres. He now is up the road about 1/2 mile spreading on another field. Our neighborhood is going to be full of this stuff. I found it interesting on the 11 o'clock news last night they were talking about Appomattox Co. here in Va. had banned the use of sludge but the farmers were sueing to get to use it. It had been temporarily overturned and it showed a young woman who like me had the stuff placed beside her. She had a small child and had to leave home some days because of the smell. She was also fearful of what harm it could do to her family.

Luid write to my senators and congressman. I sent a copy of the Because statement to each one. I don't have much hope that it will do any good but at least it will be on record that I tried. Again thanks for the concern.

Flaine

---- Original Message -----From: Jeremy Moore To: hshields Sent: Thursday, September 12, 2002 8:26 PM Subject: Re: VIRGINIA - ELAINE MOORE -

Wanted to let you know of an incident with my 79yr, old dad who lives next door, he had to do some yard work yesterday so unfortunately he was outside for a while. The smell was terrible yesterday. He pastors a small church and when he went to prayer service last night he was so choked up he wasn't able to finish his sermon. He coughed and all so much he had to stop and explain to the people why he was like he was,

"Jeremy Moore" <jermoore@earthlink.net> From: "hshields" <hshields@worldpath.net> To: Monday, September 16, 2002 6:28 PM Sent: More Sludge Illness Subject:

Wanted to report that the smell from the sludge next door has been almost unbearable the last couple of days. It rained yesterday so I think that made it worse. Today my mom , who lives next door to me, went out side to pick some apples up that had fallen off the tree. She said before she could get back in the house the smell was so bad she was having to cover her nose with her shirt. When she got back to the house she had a severe headache and dizzy spell. She said it didn't pass quickly so she ended up having to take medicine for it.

Elaine

#### SLUDGE VICTIMS SUFFER SORE THROAT, COUGHING, SEVERE HEADACHES, CHOKING UP, DIZZY SPELL

### Nitrate Levels Could Be Unsafe in Neavily Fertilized Fields and Pastures

By J. B. Daniel, Extension Agent

Many hay fields, pastures and corn crops may contain excessive amounts of nitrates due to drought conditions across the state. Fields fertil ized with biosolids or heavy applications of poultry litter are especially dangerous durang this extreme drought. Nifrace levels in excess of 0.44%. instate for or 1000 ppm. N. trate N can be hazardous especially to pregnant cows. High nitrate concentrations infeeds can result in abortion of calves. If nitrate levels are high enough, death of cows or growing cattle can occur.

Animals that are poisoned by high nitrate-levels die from mability of the red blood cells to curry oxygen. Animals usuany die within 3 hours of m Lesting lethal amounts of marate containing forage. Hemogiobin in red blood cells binds. the nitrite ion formed from intratel more readily than oxygett, which forms methemoglobin. Methemoglobin will not ) arry oxygen. Fetuses of pregcont cows are even more susceptible than their dam to the toxic effects of nitrates. Fetal hemoglobin binds nitrate ions more readily, so nitrate concentrations that would not hurt cows will kill the fetus.

Safe feeding of high nitrate torages depends on the level contrate and the type of animal being fed. Table 1 lists natrate levels and safe feeding recommendations for cattle. In general, growing animals have the greatest tolerance for inmate whereas pregnant animals have the lowest tolerance

There are few options with high nitrate forages except to limit intake. This is extremely infiniale when feeding round bales. Rolling out timited amounts or limiting access tobales to only a few hours a day may work for forages in the 1000-1500 ppm nitrate N range. However, all it takes is one tammal to cat too much and its too late.

Deciding whether to test or feed a forage depends on the probability of high nitrate levels. The Tollowing forages should be tested: Pastures and hay tertinzed with biosolids. Pastures and hay fertilized with heavy applications of poultry litter. Pastures and hay fertilized with more than 50 - 80 units of N. Droughty corn used for hay or silage. Heavily fertilized summer anmuals. Any forage where there is doubt as to nitrate levels.

The Virginia Tech Forage Testing laboratory will analyze torages for nitrates for \$5.60 per sample. Other commercial forage testing laboratories offer this service as well.

Biosolid fertilized fields are particular concern because this product is usually spread at the maximum nitrogen rate. Under normal growing conditions biosolid fertilization will not cause nitrate toxicity to livestock. Unfortunately, during dry years any type of heavy fertilization can cause high nitrate concentrations in hay and pasture.

The ensiling process reduces nature concentrations by 50 to 70%. One management tool to reduce nitrate problems is to ensile forages instead of haying them. Howeven, producers still need to cest ensited forages after the ensiling process is complete before making feeding decisions.

Corn rolled for hay should be tested for nitrate levels. Corn is a nitrate accumulating plant, and drought stressed corn is often high in nitrates. Careful sampling is necessary to obtain an accurate sample of corn fodder hay.

Clearly, the nitrate concertrations in forages will vary greatly from location to location due to the highly scattered nature of rainfall this summer. Fields fertilized the same day, but getting different amounts. of ran may vary considerably in concentrations of nitrate. Producers should be extremely cautious this year with feeding hay or grazing pasture or crop residue from heavily fertilized fields. For more information or technical assistance with sampling procedures, contact you local extension office.

> FIELDS FERTILIZED WITH SLUDGE DANGEROUS DURING DROUGHT - EXCESS NITRATES CAN CAUSE ABORTIONS AND KILL COWS OR CATTLE

حييمية بنبد بالاندسانجد كلاكما اللماني (بالمعديدين)	State of Wastumeton "biusolids" policy is likely contributing to the	Thoda's neighbors are not in	npressed with his farm	ing practices and
	most omnious food supply disaster looming on the human horizen: Prions: Prions are protein crystals that grow in grain fungi. Prions are	equate living downstream fr flushing toilet.	oin hun to living down	utean from
Is the road to medical Armarcoulon being paved with buman foctal	nearly indeatmetible. We are being exposed to prious by caling unitaals such as cover that et prioue contaminated grains. We are also the factor of the other wave are referenced aminted reference	KING 5 Investigators decid one of Thode's ditches takes	od to compare a samp n in 1994 (before "bio:	le of the sediment i. solids") to one
by The Idabo Observer	Driver are rootaly. Crystals are attracted to cloctoniagocic crysty.	Inited in the exact same place state to spread the shudge of	ce after six years of be a his crops above the (	ing licensed by the ditch.
SEATTLE - KING 5 TV here reported Nov. 20, 2000, that thousands of tons of sewage shulge (processed human waste) that has been renamed "biosolids" are being spread on farms across the state	or brains produce electromagnetic energy, prious attracted to our brains cause lestons called enceptatiopathet; enceptatiopathets cause everyther of the brain swelling of the brain causes demonta. Having	Levels of all metals have in reportedly gave test results	creased drastically. KI to Dorsey, who though	NO 5 Investigators ht that pure
and other states throughout the country.	priors in your brain also makes a person more open to suggestions that may be encoded through the transmission of TV and radio waves.	"biosolids" - not ditch sodi of pharmaceutical drugs we	iment was what KIN are not tested, nor wer	ito 5 testod. Levels s the presence of
The practice is cause for concern in three specific areas with regard to contamination of the food chain.	Prion discase, which was called "huru" when it was discovered in the in New Onines in the early 1960s, is called "mad cow discase" in	prioris tested.	and in the second s	ione monthone and
Last month in The IO we reported that traces of unneulolized	cattle, "whinting disease" in fish, "scrapie" in pigs and sheep, "wasting disease" in wild game and Createfold-1000 tisease in	while our less is not compre- the state says more compre- coordidad	thensive testing may be	e nooded," KING 5
symmetry preminication in the groundwater of Europe and North	people (there is data to show that as marry as 200,000 Americans who have been misdiagnosed with Altheimer's disease may achually be		a strandoment five and	o loos as the
America, Loveis of these substances are being detected because as mich as 95 percent of somberic drugs incontrol are not metabolized	suffering the ravages of prion disease).	Plants absorp metally and or particles are small enough.	Therefore we have no	idea how much
and leave the body in their original forms through the urine and the proof. If more than their original forms through the urine and the	If our food supply is already contaminated with prions, which there is	metal may be ingested upor emiched soil.	o commption of food	l grown in "biosolid"
cen treated, we can infer that they will also be present in the	overwherming evidence to suggest that it is, used an analy why with human waste is going to exacerbate the situation.		ai anna faoi aina -	-hidee to be
biosolids" being spread all over the crops of this nation.	and the first strength of the first strength through the first first first strength through the strength streng	In government does not labeled," KINO 5 conclude	ed.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
he presence of metals in "biosolids" is also a concern. The U.S.	food survey organism has a rood supply uses a concerning of the organism must either			
invironmental Protoction Agency and Washington's Department of cology claim the metal content of "biosolids" processed at the	sdept or become extinct," Clyde Reynolds, ND, explained.		0007 A 1661 UI BOITH	
ato-of the-art West Point Treatment Plant in Scattle is minimal.	Scientists at Cornell University have serious concerns about the use	Xl mint	MAL POST	2000 PM
	of "biosolids" as fertilizer. A team from Cornell tore spart the EPA's			
<b>/est Fourt Manager</b> Dick Finger explains that raw sewage is	assumptions about the safety of the sludge.		(C.)	16.00
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upuera to the Delat. We make sure the products that we produce a of a time birth and har =id Errors	Comell found EPA's Cancer Risk Assessment is "not protective," and	Pho-phorou.	351.00	00.054
a of a very fugh quanty, such there.	its enforcement and oversight is "inadequate." It also found that		<b>6</b> .21	1200.00
overrencest agencies also claim that the potential for the spread of	pethogens may survive in soil, especially in cool, wet conditions.		74°.10	150.00
usenissible disease is how because the soil upon which it is posited will kill any remaining pathogens. "Am I concerned about publicated impacts to human bealth and the environment? No, not	The team from Cornell believes that there is no way to protect the public from leaching and flooding that may spread five pathogens.			
sed on the information I've seen so far," says state Biosolids	Despite these justifiable concerns. Washington state allows shulge to			
is east to an either decomposition of the furnishing of the furnish	be dumped in every county. There are no state-mandated testing	The John Observer		
is well proven that muy accompany matter and provides plants using is beneficial to the soil as organic matter and provides plants	procedures for pathogens once "biosolids" are duringed.	P.O. Box 457	3	
th the matricate recoded to grow healthy and yield abundantly. cated severage is not fully decomposed. For government ageneics to	KING 5 test results	Phone: 204-253-2307 Frank observer@dmi	6 H	
in that "biosolids" are safe is to ignore a trancadously unportant	"Bob Thode spreads 22,000 wet tons of sludge over 600 acres at his	Web: htm://prohiberty.c	pom/cbacret/	
by of published science.	Fire Mourtain Farms in Lowis County, For that, he is paid more than \$400,000 a year," reported KINO 5 News.	1		
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WASHINGTON - LEWIS C	OUNTY - DECEMBER 2000 - PAI			
DUMP 22,000 TONS OF SL	UDGE ON HIS LAND.			

#### SLUDGE VICTIMS - THE ZANDER FAMILY, LYNDEN, WASHINGTON

For 28 years Ray and Linda Zander lived in their picturesque yellow two story home, situated on a manicured lawn, surrounded by fruit trees, sugar maples and rhododendrons, raising their family and operating a successful dairy.

In 1988 sewage sludge was spread on neighboring 70-acre site which was leased by a waste disposal company. Within a year, the Zander's noticed a change in their herd. Milk production dropped from 19892 pounds in 1988 to 16575 pounds in 1990. The cows were not breeding back as quickly; some developed arthritis in their hind legs; calves were born with tendon abnormalities.

In 1990, the Zanders contested the re-permitting of the sludge site. The Hearing Examiner sided with the Zanders, saying "Bone development problems and increased calf mortality ... is consistent with exposure to detected levels of copper and zinc in the (Zander's) well."

When authorities investigated the sludge site, they found it was a converted wetland that was clearly unacceptable for sludge spreading. The low soil pH resulting in acidic conditions (which increases metals mobility), drainage pattern, and chemical content of the sludge enabled heavy metals to enter groundwater and move from the sludge site into the Zander's land and water

Blood and tissue samples taken from the sick cows showed extensive liver damage. Tests of the Zander well water showed levels of lead, copper and zinc far exceeding Federal Safe Drinking Water Act maximum contamination levels. Lead was 40 times above the federal guideline of 25 parts per billion.

The Zanders suffered numerous health problems. Linda experienced mycoplasma pneumonia, chemical induced brain damage, thyroid problems and immune system damage. Raymond suffers from hyperthyroid, lupus and nickel toxicity.

Others who lived in the area and on the Zander farm also suffered serious illness. Mrs. Zander's daughter-in-law almost died because it took her doctor over a year to properly diagnose the fecal parasite BLASTOCYSTITIS HOMINIS which was eating away her life blood. The source of this infectious disease is human waste. Mrs. Zander's 10 year old niece, who lived on the farm, was also infected with this intestinal parasite - she suffered severe stomach cramps and liver problems.

Their four dogs died; an autopsy revealed chemically induced hepatitis. A native Co-Ho salmon stream that bordered their property was destroyed by the sludge pollutants.

Weakened by their declining health, and insurmountable financial woes because of the high mortality of their dairy herd, the Zanders were forced abandon their beloved farm and file for bankruptcy.

#### WASHINGTON

The story of the Zander's sludge nightmare appeared in "Farm Journal, March, 1992". Dr. Susan Cook, (360)647-7926 investigated.

In June 1998 their attorney filed suit in the Washington Appeals Court to overturn a lower court ruling that the Zanders are barred from recovering their losses by the "public duty doctrine" That court apparently found that the "public duty doctrine" frees municipalities from responsibility for polluting wells, ruining crops, poisoning livestock and contaminating farms with toxic sewage sludge. The Zanders have been denied their day in court.

Ray and Linda Zander are slowly trying to regain their health and rebuild their life. Linda has formed a support group "Help for Sewage Victims".

Linda Zander, 803 East Main St., Everson, Wash. 98247 , (360)966-8829



"WE WANT TO SERVE AS A WARNING to other farmers not to allow this stuff [sludge] on their land," say Lynden, Wash., dairy farmers Linda and Raymond Zander. "You don't get something for nothing. There is a cost, and the cost could be your farm."

#### WASHINGTON - LYNDEN - DAIRY FARM DESTROYED BY MIGRATING SLUDGE METALS, TOXINS AND BACTERIA. VICTIMS SUFFER MYCOPLASMA PNEUMONIA, CHEMICAL INDUCED BRAIN DAMAGE, THYROID PROBLEMS, LUPUS AND NICKEL TOXICITY.

LINDA L. ZANDER 2003 Panghorn Rd. Lyaden, Wa 98264

803 East main ST Werson Winh Werson (1211

January 30, 1995

Dear Tom:

Our picturesque yellow two story home is majestically situated on a manicured lawn, abundantly surrounded by fruit trees, red sugar maples and rhododendrons anxiously avaiting spring and it's colorful burst of sunshine from their hidden, newly budding cavities. Only the dead alder trees along the Double (AA) Protected Creek give a clue to the horror that has taken place on our farm, our home and business of 28 years.

I am about to tell you of our battle and fight, that just reeks with horror, disgust, sadness, death and devastating financial loss to numerous individuals. It is more than  ${ar{ extsf{j}}}$ ust a story though, it is actual events, with real people. Numerous individuals through-out the United States have contacted me at Help For Sewage Victims (a Nation-wide non-profit organization) seeking the courage and legals to combat big corporations, greedy land-owners, and calloused Departmental Officials. I have been fighting an adjoining land-owner, the county, numerous cities and the company that hauled the untreated sewage waste next door to us, for almost five years. My efforts, deemed to some as abtorious, have uncovered illegal activities, for almost all the people involved in the operation. Yet, no amount of evidence seens to be compelling enough for anyone to step forward to offer any help. The cities we have named in our law-suit have borrowed \$500,000.00 from our bank to line their war-chest of defense. With money like that they can buy any expert witness and statement.

The bank, just a short interval of time later, would not give us our operational farm loan that was already approved, and Federally Secured by FNA. We have since been forced to sell our remaining dairy cattle, file bankruptcy, and hire another actorney to fight for rights that were disregarded by the bank. The issue clearly reflects the banks help to the cities and a conflict of interest.

We are seriously ill, with numerous health problems, and insurmountable financial worries, wondering if we will live long enough to free ourselves from our home, that is seriouslycontaminated with foul air and water, heavy metals, viruses and bacterias, that continue to rob us of our health.

The evidence we have clearly shows the continuance of illegal activities by all parties involved, but yet our pleas for help still go disregarded... A native Co-Ho Salmon runwhas been destroyed that used to border our property. It took the State Fisheries Department one year to respond. I thanked them in writing profusely!

The cows were sick, many died, and are now all gone. We could not pass an environmental test to satisfy the lending institutions. Four dogs have died, an autopsy revealed chemically induced hepatitis. Two people have died here and more people are nearing death in other locations from being poisoned. YES... It is from being poisoned from sewage sludge, as the tests clearly show... To tell you that I am angry about these contaminated materials being spread on the property located next door to me, would be a gross understatement. I am just literally appalled that the Health Department allowed this to ever take place, or make any efforts to respond to any complaints with urgency before the illness and death became a familiar part of our lives. Most of us have been unable to sell our property and do not have the money to just leave.

Yet, our E.P.A. states "we have no studies that show any humans ever getting sick from sewage." The absolute truth, however, is that they didn't do any studies! Research is definitely available and I am enclosing some for your records. Those before 1990 are questionable, because of the lack of technical capabilities and the lack of knowledge to properly sample sewage ground.

It is from my heart, that I beseech you to help us find someone to tell our story. It is terribly sad, touched with areas of humor. Like the day our county vet spent searching our barnyard for sharp objects and rat poison to explain why our cows were bleeding to death from the nose. Natural occurring rat poison is made from the sulfuric acids, organics and potassium which reside in sewage! Only after two such searches was our vet brought to reality, kicking and fighting all the way. It is really sad because these people have very little training in toxicology soils. The same ignorance exists with the medical profession.

A couple of miles east, in our local cemetery, is an unmarked grave. Our neighbor and dear friend died just three days after his 45th birthday from toxic levels of copper and a very rare 10 pound tumor on his spleen. His last months were wrought with pain. The air was so thick with the biting smell of sewage it would wake you while sleeping, seeping through the closed windows. The odor was so intense and putrid you could actually taste it in your mouth and smell it in your perspiration. Rot, Urine, Feces, Rotten smells of vegetables, and almonds permeated the air, while he fought to breathe on a ventilator, nauseated and unable to control his bodily functions, at the last. We won at the hearing just a week before his death, 72 findings of fact, with prime-facie established, that the land was not fit to accept sewage because it was a wet-land and peat soil. The permit was revoked. But the dumping lingered on during the night, illegally.

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Another dear friend of ours for many years was only 55 years old when he died after two and a half years of living at our home during the height of the dumping. The heavy metals in his body now clearly documented as a contributing factor in his death. He had just called our house with a message, minutes before he died.

My husband, grieving for this dear friend, refused to shave until justice was done. He finally did shave after a month, and much persuasion, but still grieves, as we all do from the enormous losses that have been wrought against us.

Tumors that are removed, grow right back, tumors grow in other locations too. Even primary tumors on the heart. The cows had tumors, the dogs had tumors, and several humans had and have tumors. Only the dead trees had no tumors, but the death has been painful to all. Sewage is mutagenic and tumorogenic, as well as carcinogenic, it got into our water and our air, with it came death, and destruction in the wet-lands were it was dumped. Is that how you preserve a wet-lands? That is how our County (Whatcom) does! Because there is hardly anybody there, and those farmers won't know the difference between sewage and cow manure! We are... or seem to be expendable...!

I am enclosing some of our daily logs. It is actually to painful for me to face them, as they bring tears to my eyes.

Please see if you can get a writer or talk show interested in exposing the corruption of our government in exchange for cheap disposal of a hazardous waste.

Sincerely, Linda L. Zander

360-966-8829 Telephone 360-354 360-354-0561 Business

#### http://members.aol.com/neurosite/sewage.htm

#### RAYMOND SINGER, PH.D, P.A. Correspond: 36 Alondra Road/Santa Fe, New Mexico/ 87505 180 E. 79th Street/Suite I-C/ New york, New York/10021 Telephone: (505)4660-1100/ Fax: (505)466-1101/email: raysinger@aol.com

#### NEUROTOXICITY FROM MUNICIPAL SEWAGE SLUDGE

<u>Purpose:</u> To evaluate the neurobehavioral effects of municipal sewage sludge in a family whose members were exposed for 8 or more years. Municipal sewage sludge, a mixture of household sewage along with industrial waste, is routinely applied as fertilizer to some farms in the USA.

This complex substance poses a significant neurotoxic threat to farmers, their workers, "nearby residents, and possibly to the general population through the food supply. Recently, the FDA attempted to allow food grown with such materials to be labeled as "organic", but is now reconsidering due to massive citizen protest. However, such food is still permitted in the general food supply.

[\*]Due to the clay under the soil, the drainage flowed towards the subject's property. The family's livelihood, a herd of 150 cattle, deteriorated to the point where they were given up and the property was abandoned.

Method: Neuropsychological testing of 9 family members.

<u>Results</u>: Based on results of the Neurotoxicity Screening Survey, symptoms consistent with neurotoxicity were found in all who completed the test. The two children born and raised on the farm have been classified by their schools as mildly retarded and having attention-deficit disorders, although there was no family history of these illnesses.

Case 1 was a 56 year old grandmother in prior good health, with a B.A. degree. Estimated pre-morbid FSIQ was 114. Current FSIQ was 98, with specific deficits in immediate memory, arithmetic, visual memory and visuo-spatial organization (scaled scores of 8,7,8,9), visual retention (14 errors), verbal fluency (COWAT of 18), Embedded Figures Test (5%tile), Expanded Paired Associate Test (1%tile immediate, 4%tile delayed), Grooved Pegboard Test (<1%tile), PASAT (<1%tile), Stroop (<1%tile), Trails (<5%tile), Logical memory (<1%tile), Visual Search and Attention Test (<1%tile), with mild anxiety, mild-moderate depression, normal mood, no indication of malingering on several specific tests of this function, and personality testing showing no personality disorders, high levels of conscientiousness and extraversion, low in neuroticism, average in openness and agreeableness. Similar results of cognitive testing were found in other family members. Sural nerve testing found slowed velocity on the left (33 M/s), and abnormal amplitude and EP dispersion on the right.

<u>Conclusion</u>: Municipal sewage sludge poses a measurable neurotoxic hazard to nearby residents and farm workers, who need to be informed of possible neurotoxic injury from their exposure, and then monitored using repeated neurobehavioral tests.

1. Singer, R. (1999, January, expected). Neurotoxicity from municipal sewage sludge. <u>Archives of Clinical Neuropsychology</u> \*The original abstract has been modified due to new information available to the author. I hope to have further information about this study available from my web site in the future.







Sewer contaminations may be related

Friday, February 9, 2001 By Associated Press

A series of sewage contamination incidents that have sickened dozens of sewage treatment workers may be related, officials said Thursday.

The latest incident on Wednesday prompted the evacuation of the Treasury Building near the White House. While the Environmental Protection Agency. continued to test water samples taken from the system, officials were speculating that chemicals were involved.

"It has gasoline or acetone-like qualities," said Libby Lawson, a spokeswoman for the District of Columbia Water and Sewer Authority.

The agency operates the 63-year-old Blue Plains Sewage Treatment Plant, the largest wastewater treatment facility in the world, with a capacity of 300 million gailons per day. It also runs the pumping stations that process all wastewater produced in the city of 572,000.

Since Jan. 9, workers at the main pumping station have complained of chemical turnes on three separate occasions. Fumes have been detected emanating from self-cleaning pumps that lift wastewater and storm run-off to the facility where it is treated before being deposited in the Potomac River.

"Chemicals could have been poured into any storm sewer, ditch or into any drain. It's all the same system," Lawson said.

Officials were considering the possibility that a small contractor who collects hazardous materials from industrial sites may be bypassing approved disposal methods to save money.

"There's obviously a pattern where the dumping may be occurring," said Ted Gordon, chief operating officer of the city's health department.

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#### WASHINGTON, DC - A SERIES OF SEWAGE CHEMICAL CONTAMINATION INCIDENTS SICKEN DOZENS OF SEWAGE TREATMENT WORKERS

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"As a result the agency has determined that it is currently unable to state, with appropriate certainty, that the existing 503 rule would be broadly protective of terrestrial wildlife and native plant communities."

"Wildlife may be at risk due to direct toxicity of pollutants in sewage sludge and through indirect impacts (e.g., nutrient effects) of induced changes in plant and invertebrate communities."

"Finally, the current Part 503 ecological risk assessment did not address impacts and/or benefits at population and community levels. Therefore, uncertainty exists about the significance to population growth rates and persistence on mortality or changes in reproduction due to chemical exposure."

"Clearly, sewage sludge contains numerous organic and inorganic chemicals. Uncertainties exist however about how to extrapolate available toxicity information to birds, mammals, reptiles, amphibians, and soil invertebrates, whose relative sensitivity to the pollutants of concern (e.g., cadmium, lead, and selenium) is relatively unstudied. Bioaccumulation and food-chain bioconcentration are also poorly understood in terrestrial systems. cope of Work for Intersgency Agroement - "Evaluation of Ecological Risks Associated With Land Application of Sawage Sludge" hetween Ecological Assessment Division and the Oak Ridge National Laboratory, U.S. Department of Energy ANI) Ecological Monitoring Research Division, Environmental Monitoring Systems Laboratory - Cluctunati - U. S. Environmental Protection Agancy EPA on ENVIRONMENTAL EFFECTS OF PATHOGENS IN SEWAGE SLUDGE:

"A major environmental concern (other than effects on public health) associated with land application of sewage sludge is the effect of pathogens on animals. Certain human pathogens can cross species lines and infect animals, particularly warmblooded animals. Little information is available on whether these pathogens pose a risk to wildlife."

Per EPA, the parasitic worms in sewage sludge can survive in the soil up to 7 years. Sludge parasites can infect humans, wildlife, livestock and family pets.

έ.

SEWAGE SLUDGE IS KNOWN TO CONTAIN HORMONE DISRUPTING CHEMICALS. Widespread amphibian malformities and grotesque aberrations are occurring in NH and around the country. PER NH DEPT. OF ENVIRONMENTAL SERVICES FROG SURVEY: "Preliminary endocrine results show that hormone levels in the malformed individuals were significantly lower than the levels in normal control animals."

A sandhili crane picks through the freshly spread sludge on Taylor Ranch property in Manatee County. The pools of sludge on the ground can cause contamination by runoff. and can be a hazard lo wildlife.

AUDUBON SOCIETY OF N.H.- 4/9/97:

"Sludge toxins, like other toxins such as DDT, can accumulate in the organs of animals, such as earthworms that consume the toxins. Robins and other birds, mammals, and reptiles that eat earthworms accumulate toxins, often at increasing concentrations. In the past, as with peregrine falcons and DDT, the buildup of toxins can have devastating effects: The entire population of peregrines in the eastern United States was extirpated because DDT caused eggshells to become too thin and brittle to support incubation."



This past summer, DES's Biomonitoring Program coordinated a frog monitoring survey and enlisted the help of 30 volunteers to assess sites across the state. This little one-legged frog was one of several deformed amphibians caught during the two weeks of frog-gathering. See page 5 for the complete story.

#### July 22, 2001

#### To Whom It May Concern:

Below is a statement with respect to the ill effects that we experienced and are experiencing regarding industrial shudge application by Superior Services on the nearby farm fields located in the Towns of Whitewater and Richmond:

On Thursday January 4, 2001 upon returning home from work we noted a pervasive and nauseating chemical smell in the air. We could smell this odor even in our house with the windows shut. We found out that the odor was due to "industrial sludge" applied to the top of frozen ice/snow. Through the following week, from Tuesday on, the odor was again completely pervasive, including in the house. (There was a series of separate applications over an approximately one-week period.) Our dog acted erratically when let outside on his lead, and threw up. For the entire week from Tuesday on we smelled this nauseating smell. My wife had migraines. The inside of her nostrils burned like they were on fire, subsequently she had bloody scabs in her nose. We called our neighbors next door and the woman of the house said that it was making her sick. I felt extremely lightheaded on Friday Jan. 5, and my wife and I both have experienced burning eyes and nausea as a result of this stench. We also spoke to two other neighbors who concurred that it was prohibitive to go outside due to the odor. My wife described as "a mix of rotten food and lacquer". This odor was extremely strong outside of our house for at least a month. Within several weeks of the application, my wife's adult daughter Bridget visited us with her children. Her eyes swelled shut in an allergic reaction. Bridget had been to our home dozens of times and never before had this reaction. Her son Brad subsequently developed small red rashes that was originally thought to be chicken pox, but which went away. An identical rash was reported by my sister-in-law Paula just after visiting us that same day. Each experienced these bumps on the insides of their arms and legs.

The odor gradually attenuated, but ruined the experience of being outside for months. In a markedly reduced form the stale smell of the sludge was even noticeable in the air when the wind blew in the proper direction as late as the start of June. We went through absolute hell during the first month of the application. Many other local residents reported similar effects, as noted in the Town of Whitewater meeting minutes for February 14, 2001.

Through subsequent efforts, an ordinance was passed in the Town of Whitewater to prevent non-incorporated sludge application in the future. This should solve the odor problem. Mr. Charles Warzecha of the WI Department of Health and Family Services also prepared a report on the sludge analysis and odor problem. Our present extremely pressing concern is that of nitrate levels in our well water. Prior to purchasing our home, we obtained a nitrate test result dated 3-31-99 of less that 0.1 mg/L. Kevin Shurilla of the Wisconsin Department of Natural Resources took a well water test that showed a nitrate level of 6.77 mg/L. Obviously the rapid jump is of concern. Mr. Shurilla informed us that our immediate neighbor had a reading of just under 10 mg/L, and that another nearby resident had a reading of over the "safety level" of 10 mg/L. We are working now to try and get the state authorities to stop this permit so as to protect our health due to nitrate levels as well as our property values. This situation is not easy since the WI DNR, who granted the permit, is an "advocate of bio-solid recycling". The WI DNR has not taken any action against the waste company with respect to various violations of the rules of the permit.

Sincerely,

Bernard & Kathleen Dalsey N7560 Kame Court Whitewater, WI 53190 Home: 262-473-3595

#### WISCONSIN - INDUSTRIAL FOOD SLUDGE VICTIMS SUFFER NAUSEA, HEADACHES, BURNING EYES, SKIN RASHES AND BUMPS, BURNING NOSE WITH BLOODY SCABS, AND RISING NITRATE LEVELS IN THEIR WELLS

#### HEALTH CONSULTATION

#### LAND APPLICATION OF SUPERIOR SPECIAL SERVICES FOOD DERIVED WASTE SLUDGE

#### Whitewater Township, Walworth County, Wisconsin

#### May 7th, 2001

#### Prepared by: Wisconsin Department of Health and Family Services Bureau of Environmental Health Under Cooperative Agreement with the Agency for Toxic Substances and Disease Registry

Preparer of Report: Chuck Warzecha, Wisconsin Department of Health and Family Services (608) 267-3732

#### **EXCERPTS:**

Page (1)

"This consultation provides an assessment of the public health issues related to the land application of waste sludge on the Property of Mr. Vinton Anderson in Whitewater Township, of Walworth County. Sample analysis of the waste material did not identify chemicals at levels that would be a health concern from either direct contact with soils or breathing the air at the sludge spreading location."

"However, the resulting air quality is as much a function of the method of application as the content of the sludge. Under some conditions the compounds produced from decay of this sludge can cause significant odors."

"These same compounds can cause **nausea and eye**, nose and throat irritation if they become concentrated. The conditions and method under which the sludge was spread played a significant role in the intensity and duration of the odors."

"The wastes included grease sludges from a variety of sources including meat processors. "Off-Spec." packaged foods were also disposed including vegetables, cat food, dairy products, baby formula, soda, and others."

"Odor complaints and health concerns were raised by residents adjacent to, or very close to the land application area."

Page (3):

"The decomposition of these food derived waste sludges is expected to produce volatile fatty acids (proprionic, butyric, isovaleric, isobutyric, etc.), alcohols, aldehydes and mercaptans (methyl, ethyl, and propyl)."

"The concentration of ammonia in the waste material cannot be translated directly to an air concentration for evaluation. However, its presence in the waste material likely plays a significant role in the odors and health complaints generated in this case. In addition to the ammonia present in the gasses generated, each of these compounds can be very strong odorants."

"Low levels of these compounds in the air can certainly result in objectionable odors. In sensitive individuals these exposures may trigger physical irritation effects and nausea. These irritation symptoms are particularly noted when the exposures include low to moderate amounts of ammonia. The most common symptoms attributed to exposure to these compounds are irritation of the eyes, nose, and throat, headaches, and nausea. <u>A number</u> of consistent irritation effects were reported by some of the residents in the area during periods of strongest odors."

"Elderly people, children, and people with lung diseases, such as asthma or emphysema, may be especially sensitive to these effects."

#### 

[Many of the chemicals emitted by food sludge are also emitted by sewage sludge, including aldehydes; methyl, ethyl and propyl mercaptans; and ammonia.]

Contact Mr. Warzecha - warzej@dbfs.state.wi.us - to obtain copy of this report.

#### WISCONSIN DEPT. OF PUBLIC HEALTH FINDS FOOD SLUDGE ODORS CAN CAUSE IRRITATION OF EYES, NOSE, AND THROAT, HEADACHES AND NAUSEA.

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Aine News for wastewater professionals

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Anicle

Return to News & Community Home

Endotoxins: a new concern for workers in the wastewater industry 10/4/2000

In the past, many respiratory health effects related to workers in the wastewater field may have been incorrectly diagnosed and may be directly related to exposure to large doses of endotoxins, which are produced by bacteria—specifically gram-negative bacteria—during cell growth, division or death.

By Fimothy R. Horn, Industrial hygienist, ECS Risk Control

Table of Contents Why the concern over endotoxins? Semoting and enalysis procedures What can be done to control workers' exposure to endotoxins?

A portion of the outer wall of a gram-negative bacteria cell, endotoxins have been essociated with many respiratory symptoms and complaints related to specific occupetional environments. In particular, the wastewater industry routinely deals with becteria and, as a result, endotoxins during the treatment of human waste and its by-products on a daily basis. The bacteria associated with those processes are often that which the human body is trying to rid itself of. Studies have indicated that daily exposure to these bacteria may not be healthy.

## Why the concern over endotoxins?

Exposure to endotoxins has been linked to fever, cough, shortness of breath, headache, nose and throat irritation, nausea, chest tightness, acute airway flow restriction and inflammation. Response to endotoxins varies with dose, site, route and repidity of release into the blood system. Response also may be affected by the general overall health of the individual, Even tow doses can cause changes in body temperature, metabolism, and in the hematological (blood making), immune and endocrine systems of the body.

Gram-negative bacteria are naturally occurring and found in a number of environments. They are associated with plants and animals, and found in the oral cavities and intestinal tracts of many different mammals. They are also plentiful in water. Studies indicate they also have been found to populate ventilation systems and humidification devices. The type of gram-negative bacteria that contain endotoxins include but are not limited to E. Coli, Salmonetta, Pseudomoras, and Haemophilis. Endotoxins have been detected in the eir, dust and water, however typical exposures occur through the air. Endotoxin exposure is highest when the water containing the endotoxin is aerosolized Significant exposure locations include studge pressrooms or aeration tanks at wastewater treatment facilities. The processes in these areas tend to aerosolize water and create droplets that can be inhaled by workers. (<u>Return to Tasts of Contents</u>)

Sampling and analysis procedures

Air sampling for endotoxins consists of a sampling device equipped with an

endotoxin-free, gless-fiber filter cassette. The sample is collected in the breathing zone (eight to 10 inches from the nose and mouth) of the employee or in the area of the suspected exposure. At the conclusion of sample collection, the sampling cassette containing the filter is sent to a lab for analysis by Limulis amebocyte lysate (LAL) kinetic chromogenic method. Sampling for endotoxins also may include placement of sampling water and dust into andotoxin-free containers.

No enforceable standards have been established to date by the Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety and Health (NIOSH) or the American Conference of Governmental Industrial Hyglenists (ACGIH). These organizations typically establish acceptable levels of exposure to occupational contaminants. Therefore, worker exposure results have to be compared to guidelines based on challenge studies, worker expositions. Dr. Ragnar Rylander, establishes a no effect level 94 leading authority on endotoxins, Dr. Ragnar Rylander, establishes a no effect level 94 less than 10 ng/m3. The following table indicates the expected health effects when exposed to the listed concentration.

1 ng endotasin is approximetely equel to 10-15 endotoxin	(paric information of the lungs)	Systemic effects 100	Disease type Concentration (	Table 1: Expected health effects when expessed to end.
undis (EU)			(rundeu).	etexine

Recent studies conducted by ECS Risk Control at wastewater facilities found endotoxin concentrations as high as 290 ng/mJ. Several of the employees at the facilities had complained of respiratory distress on the job and after they left the workplace. Possible exposure is not limited to the wastewater industry; exposure also has been associated with agricultural and industrial waste processing settings. (Return to Table of Contents)

What can be done to control workers' exposure to endotoxIns? Control of endotoxins in wastewater facilities can be difficult since they are naturally occurring in water and even more prevalent in wastewater. Uncontrolled flow of wastewater in areas populated by workers should be minimized and releases cleaned up quickly. Ventilation in these areas should be properly functioning to draw aerosolized water away from the breathing zone of the employee. HEPA filtration systems can be used to collect the airborne dropiets. Weating a respirator equipped with a dust, mist and fume cartridge in these areas can also offer protection to the employee.

About the author: Tim Hom is a senkir industrial hygienist for ECS Risk Control. ECS, an XL Capital Company, is an underwriting manager providing integrated environmental risk management solutions worldwide, and is headquartered in Exton, Pennsylvania. For more information, contact the company at 520 Eegle View Boulevard, Exton, PA 19341; phone 610-458-7280. \_i was informed earlier this year that NIOSH funded research for the study of respiratory hazards in composting sewage sludge. The research concluded that endotoxin levels were extremely high. Apparently no enforceable standards (for endotoxins) have been established to date by the Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety and Health (NIOSH) or the American Conference of Governmental Industrial Hygienists (ACGIH).

Please find enclosed, sections of Dr. Eckardl Johanning charts which were used at the international Commission 26th Annual Conference on Occupation Health (held in Singapore; August 27 - September 1)."

The presentation was entitled:

"Assessment of respiratory hazards in US composting facilities exposure study."

Endoto	Dr. Eckardt kin Exposure by	Johanning: Type of Co	mpost Facility
Endotoxins	Sludge (Synagro)	Food	Garden waste
	ng/m3	ng/m3	ng/m3
Mean)	531.5	8.9	10.3
Median	9	1.   1.	7.3
Standard Deviation/	1996.4	12.9	931-
Minimum	0.17	0	
Maximum,	10881	36.5	25.7
	screening	loader	sorling

Dr. Ragnar Rylander
Table 1:
Expected Health Effects When Exposed to Endotoxins
Link: Water Online News

Disease type	Concentration-(ng/m3)*
Airway inflammation	10
Systemic effects	100
Toxic pneumonitis (toxic inflammation of the lungs)	200
*) ng endotoxin is approximisely equal to 10-15 endotixin - units (EU)	

"I am personally interested how these numbers translate into public health effects, from endotoxin exposure, 300 feet from one of these facilities or 300 feet from a sludge land application site."

#### RETURN TO NIGHTBREAKERS, ORG/SYNAGRO

#### JUNE 6 - 8, 2001 - SYMPOSIUM- WATER ENVIRONMENT FEDERATION - INNOVATIVE PROCESSES RE: BIOSOLIDS AND ANIMAL MANURES -

#### "HEALTH ASPECTS AS RELATED TO MANURE AND BIOSOLIDS" BY ELIOT EPSTEIN, Ph.D, E & A ENVIRONMENTAL CONSULTANTS, INC.

#### PLEASE NOTE OVER HALF OF DR. EPSTEIN'S SLIDES FOCUS ON HEALTH EFFECTS FROM BIOAEROSOLS AND ODORS

VOLATILE SULFUR CO	OMPOUNDS
_ POLYCYCLIC AROMATIC	HYDROCARBONS
	PLANT NUTRIENTS
	(ALL VALUES IN PERCENT)
WASTE TYPE	NITROGEN
BROILER LITTER	1.7- 6.8
POULTRY LITTER	3.23
CHICKEN MANURE	1.8 - 7.2
FEEDLOT MANURE	1.16 - 1.96
PIG WASTE	2. <b>2</b>
BIOSOLIDS	3. 3
	BIOLOGICAL ASPECTS

- PATHOGENS
  - \_ BACTERIA
  - \_ VIRUSES
  - \_ PROTOZOA
  - HELMINTHS NEMATODES
- BIOAEROSOLS
  - \_ FUNGI
  - \_ ACTINOMYCETES
  - \_ ENDOTOXIN
  - \_ ORGANIC DUST

SOME PATHOGENS IN ANIMAL MANURES WHICH CAN CAUSE DISEASES IN HUMANS

- BACTERIA
  - \_\_ YERSINIA ENTEROCOLITICA -
  - \_ CAMPYLOBACTER JEJUNI -
  - \_ LISTERIA MONOCTOGENES -
  - \_ MYCOBACTERIUM PARATUBERCULOSIS CROHN'S (?)
- ESCHERICHIA COLI 0157:H7 - VIRUSES
  - ADENOVIRUSES -
  - INFECTIONS
- ENTEROVIRUSES - PARASITES

  - \_ CRYPTOSPORIDIUM PARVUM -
  - \_ GIARDIA LAMBLIA -
  - \_ TOXOPLASMA SPP. -

GASTROINTESTINAL INFECTIONS BLOODY DIARRHEA MENINGITIS GASTROINTESTINAL DISEASE

PHOSPHORUS 0.8 - 2.6 2.12 1.4 - 3.4 0.32 - 0.85 2.88 2.3

- EYE AND RESPIRATORY
- RESPIRATORY INFECTIONS

#### CRYPTOSPORIDIASIS GIARDIASIS TOXOPLASMOSIS

SLUDGE SOME PATHOGENS IN SEWAGE SLUDGE AND POSSIBLY IN CLASS B

- BACTERIA
  - \_ SALMONELLA SPP. -
  - \_ CAMPYLOBACTER JEJUNI -
  - \_ ESCHERICHIA COLI 0157:H7 -
  - \_\_ SHIGELLA SPP. -
- VIRUSES
  - \_ POLIOVIRUS -
  - \_ COXSACKIEVIRUS -
  - \_ HEPATITIS A AND E VIRUS -
- PARASITES
  - \_ CRYPTOSPORIDIUM PARVUM -
  - \_ GIARDIA LAMBIA -
  - \_\_ ASCARIS LUMBRICOIDES -

#### SALMONELLOSIS GASTROENTERITIS GASTROENTERITIS DYSENTERY

POLIOMYELITIS MENINGITIS, PNEUMONIA INFECTIOUS HEPATITIS

CRYPTOSPORIDIASIS GIARDIASIS ASCARIASIS

- SOME POTENTIAL MANAGEMENT OPTIONS FOR MANURES IN ORDER TO DESTROY PATHOGENS
- COMPOSTING
  - \_ PASSIVE AERATION CLASS B EQUIVALENT
  - \_ ACTIVE AERATION CLASS A EQUIVALENT
  - \_ WINDROW CLASS: A OR B EQUIVALENT
- ALKALINE STABILIZATION CLASS A EQUIVALENT
- MESOPHILIC ANAEROBIC DIGESTION CLASS B EQUIVALENT
- THERMOPHILIC ANAEROBIC DIGESTION CLASS A EQUIVALENT

#### BIOAEROSOLS

- BIOAEROSOLS ARE ORGANISMS, OR MATERIALS DERIVED FROM ORGANISMS, OR BIOLOGICAL AGENTS THAT CAN BE DISPERSED THROUGH THE AIR AND AFFECT HUMAN HEALTH.
- THEY CAN BE RELEASED DURING MANIPULATION OF MANURE, BIOSOLIDS OR BIOSOLID PRODUCTS

#### BIOAEROSOLS

- BIOAEROSOLS CAN CONTAIN:
  - \_ FUNGI
  - \_ ACTINOMYCETES
  - \_ BACTERIA
  - PROTOZOA
  - \_ ENDOTOXIN
  - \_ MICROBIAL ENZYMES
  - \_ MYCOTOXINS
  - \_ ORGANIC DUST

#### WHAT IS THE HUMAN HEALTH EFFECT FROM BIOAEROSOLS?

- ALLERGY
  - \_ HYPERSENSITIVITY PNEUMONITIS
  - \_ ALLERGIC ASTHMA
  - \_ ALLERGIC RHINITIS
- INFECTION
  - \_ PNEUMONIA
  - \_ ALLERGIC BRONCHOPULMONITIS
- INFLAMATION
  - \_ MUCOUS MEMBRANE IRRITATION
  - \_ ACUTE BRONCHOCONSTRICTION
  - \_ CHRONIC BRONCHITIS
  - \_ ASTHMA
- \_\_\_\_\_\_ / DERMATOLOGIC IRRITATION/INFLAMATION

DATA ON BIOAEROSOLS

- MANURE
  - \_ BIOAEROSOLS
    - ORGANIC DUST
    - ENDOTOXIN
    - MOLDS •
    - ACTINOMYCETES .
    - BACILLUS ANTHRACIS
  - DISEASES
    - ORGANIC DUST TOXIC SYNDROME
    - HISTOPLASMOLISIS
    - BRUCELLOSIS
    - LEPTOSPIROSIS
    - ANTHRAX (PULMONARY) ٠

#### DATA ON BIOAEROSOLS

- BIOSOLIDS •
  - BIOAEROSOLS COMPOSTING, HEAT DRYING, LIME STABILIZATION
    - ASPERGILLUS FUMIGATUS •
    - **ENDOTOXIN** ٠
    - ORGANIC DUST •
  - BIOAEROSOLS LAND APPLICATION
    - AEROSOLIZED BACTERIA
      - AEROSOLIZED VIRUSES

#### MANAGEMENT OF BIOAEROSOLS

- REDUCE DISPERSION ٠
  - \_ MOISTURE CONTROL
  - DUST CONTROL
  - PERSONAL HYGIENE
  - **RESPIRATORY DEVICES**
- EQUIPMENT
  - \_ MIST SPRAYERS ON SCREENS
  - \_ DUST COLLECTORS
  - \_ FILTERS IN CABS

#### ODOR AS A HEALTH ISSUE

- ODOR ARE BEING CONSIDERED A HEALTH ISSUE ٠
- ODORS PER SE CAN RESULT NOT ONLY AS BEING A NUISANCE BUT ALSO CAUSING STRESS; STRESS IS CONSIDERED A DISEASE OR CONDITION LEADING TO DISEASES
- ODORS CAN CONNOTE THE PRESCENCE OF CHEMICAL COMPOUNDS THAT MAY BE A HEALTH HAZARD

#### SUMMARY MANAGEMENT PRACTICES TO INSURE PUBLIC HEALTH

- CHEMICAL
  - \_ CONTINUED CONTROL OF INDUSTRIAL INPUTS FOR HEAVY METALS IN BIOSOLIDS; REDUCE AS AND CU IN MANURES
  - \_ CONTROL OF ORGANIC CHEMICAL DISCHARGES
  - \_ INCREASE USE OF BIODEGRADEABLE ORGANIC PRODUCTS
  - BETTER NUTRIENT MANAGEMENT
- BIOLOGICAL
- K \_ PRODUCE CLASS A FOR BETTER PATHOGEN DESTRUCTION
  - MANAGE BIOAEROSOLS BY REDUCING EMISSIONS AND DISPERSION





http://biosolids.policy.net/proactive/newsroom/release.vtml?id=1934

#### Sam Hadeed

NBP Technical Communications Director/Web Site Administrator

The Biosolids Odor Albatross

Water, water everywhere and all the boards did shrink. Water, water everywhere nor any drop to drink! - Rhyme of the Ancient Mariner (S.T. Coleridge, -1800)

Odors, odors everywhere and all the biosolids did stink, Odors, odors everywhere but Not In My Back Yard you fink! - Rhyme of the Ancient Biosolids Manager (S.J. Hadeed, 2000)

Odors, quite frankly, are the number one reason for lack of public acceptance of biosolids. Just as the ancient mariner bore the curse of wearing the albatross around his neck for killing a symbolic bird of good fortune at sea, the blosolids manager and applicator wear a similar albatross in the local community for transporting and applying biosolids that stink on land.

Most past and current nuisance complaints from blosolids and manure have focused on the physiological effects that unple odors sometimes create in nearby residential areas. A new challenge to biosolids professionals that parallels nuisance issues pertains to concerns being raised by some that claim low levels of odors from biosolids and manure may be potentially contributing to respiratory health symptoms. Vulnerable populations may potentially include individuals with asthma and immunosuppressed conditions and workers with high occupational exposure to odor and dust.

For these sensitive individuals, the issue is whether the physiological effects of unpleasant odors from blosolids are contributing to their persistent health symptoms and/or aggravating existing medical conditions. Further research may be necessary determine if the chronic levels of dust, endotoxins, or other copoliutants in odorous plumes are high enough to cause health symptoms in neighbors of agricultural or municipal operations.

What can the wastewater profession do to address odors? The first step to effectively address this challenge is a strong commitment and coordination by wastewater treatment facility management to

control odors, particularly from biosolids. This process must include close coordination of individuals at all levels from biosolids generators through recycling. Critical control points need to be identified and managed to detarmine how to minimize odors during further processing or land application of biosolids. Some of these steps could include actions such as the use of proper processing chemicals, lime before dewatering, complete biosolids digestion, directly covering or incorporating biosolids into the soil, and diverting odorous blosolids from land application sites.

Effective risk communication with the public also begins with an understanding of the concerns being raised and taking the prudent steps to address those concerns. This concept applies to all wastewater professionals. The environmental management system (EMS) for biosolids under development by the National Blosolids Partnership is designed to "raise the bar" by going beyond meeting regulatory requirements. The manual of good practice, which will be available by the end of 2000, will address techniques to help mitigate odor concerns through changes in operational mechanisms and implementation of best management practice. Other guidance documents such as the USDA-EPA Field Storage of Biosolids manual and research studies underway by several universities are other positive steps to address these concerns.

Odorous biosolids applied in nearby residential areas interfere with an improved quality of life. On the flip side of this same issue, odors may not constitute an issue in remote areas. While we can never live in a risk-free society, complacency cannot be tolerated Eliminating or mitigating odors is among the great challenges in gaining "public acceptance" of blosolids.

The ancient mariner was ultimately relieved of his burden and curse when land was sighted. Lucky stiff Local communities must clearly understand the rewards and benefits of biosolids recycling and how good management practices are being applied. Failure to meet this challenge will be the rhyme of the ancient blosolids manager . implementing an effective risk communications program that addresses and aliays public health concerns will be the salvation of the contemporary blosolids manageri

imagine for a moment that all biosolids production, transportation, and application sites have the following placard: How is my odor? DIAL 1-800-CALL-NBP. Wild thought ... huh?

Environmental stewardship and leadership in local communities -Anything is possible for those who believe...

WATER ENVIRONMENT FEDERATION ACKNOWLEDGES SLUDGE **HEALTH PROBLEMS:** 

"A NEW CHALLENGE ... PERTAINS TO CONCERNS ... THAT... **ODORS FROM BIOSOLIDS... MAY BE POTENTIALLY** CONTRIBUTING TO RESPIRATORY HEALTH SYMPTOMS. VULNERABLE POPULATIONS MAY POTENTIALLY INCLUDE INDIVIDUALS WITH ASTHMA AND IMMUNOSUPPRESSED CONDITIONS . . . "

**"FOR THESE SENSITIVE INDIVIDUALS, THE ISSUE IS WHETHER** THE PHYSIOLOGICAL EFFECTS OF UNPLEASANT ODORS FROM **BIOSOLIDS ARE CONTRIBUTING TO THEIR PERSISTENT HEALTH** SYMPTOMS AND/OR AGGRAVATING EXISTING MEDICAL CONDITIONS."





Oct 18, 2001

#### What's in a name? A lot if it's sludge

Sludge by any other name can smell as funky.

A decade ago, supporters of sludge the dark, gelatinous byproduct of sewage treatment - decided the oft-fragrant material needed a linguistic cleansing.

The Water Environment Federation, a group representing sewage professionals, solicited suggestions for a new name.

Suggestions for a new name included "biolife," "black gold," "sca-doo," "the end product," "humanure," "hu-doo," and "nutri-cake," according to John Stauber and Sheldon Rampton in their book, "Toxic Sludge Is Good for You!"

The winner was "biosolids." Proponents say it better describes the organic material that has been treated to reduce germs and can go on farmland to improve soil.

Not everyone agrees.

"My personal view is, I don't think we should be using euphemisms," said Alan Hais, the EPA's program manager for sludge regulations.

While EPA Web sites are rife with references to biosolids, Hais said the agency's formal regulations still use the word sludge. Virginia regulations call the material biosolids.

And some sludge opponents use words that are even earthier.

- Rex Springston

This story can be found at : http://www.timesdispatch.com/frontpage/MGB215UOYSC.html

#### ALAN HAIS, EPA SLUDGE PROGRAM MANAGER, SAYS "BIOSOLIDS" IS A EUPHEMISM -- FORMAL REGULATIONS STILL USE THE WORD "SLUDGE"

http://info.timesdispatch.com/printversio.../MGB215UOYSC.htfnl&oaspagename=printthispag 10/31/01

SLUDGE OPPONENTS.	PROMOTE SLUDGE SPREADING AND TO DEBUNK AND DISCREDIT SLUDGE VICTIMS AND	FEDERATION (PUBLIC RELATIONS AND LOBBYING ARM OF THE WASTE INDUSTRY) TO	THE EPA HAS GIVEN MILLIONS OF OUR TAX DOLLARS TO THE WATER ENVIRONMENT
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Middletown, NY		Verona, NY	lslip. NY	Sauk Center, MN	. Sparta, MO	Hannibal, MO	Carolinar, MO	Miller, MO	New Lathrop, <sup>1</sup> MI	Kings Creek, MD	South Portland. M E •	Darrington, IN	Hayworth, IL
wildlife at Sensinguede Creek. NYC studge composting operation strongly opposed by citizens group.	Operation which received permits without a public likeling itom NYS DEC.	Town Board goes to court to stop sewage sludge spreading	Governor's onbudsman requests compost operation closed after high levels of fungal spores reported by N.Y.S. health department. I mount first flar 75 way old man dive from aspectfillus fumisatus.	Sewage sludge causes family sickness and ill cowa.	Farmers cows died from mercury and other toxic materials. A lawsuit has been filed.	Sewage sludge caused farmer to file lawsuit after his cows died and his water became contuminated.	Lawsuit started after nearby City's sewage sludge was dumped on widow's farmland without her permission.	Farmer loses his stock after effluent from a municipal waste water treatment plant ran into his creek.	Several dairy framers had problem with dairy production & healthy calves. Problem was resolved after molybdinum found in excess on sewage crop land. Ratio was adjusted. Here Brand War & 3 - 6 3 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -	Locat citizens and doctors block treated sewage from being dumped into a nearby creek.	Compost plant closed after widespread community respiratory problems and ourage over powerful odors from operation.	Scwage contaminated creekwater and soils.	Neighbors shut down sludge spreading operations after beef cante suffered illness.
Elkton OH	Toledo, OH	Oklahoma City, OKL	Statesville, N.C.	Louisville, NC	Edgeboro, NJ	Pinclands, NJ	HEMORY, NJ	White Plains, NY	Putnam Valley, NY	Sunset Park, NY	Calonie, NY	Southeast, NY	Stuyvesant, NY
Two actions filed by residents because of odors, medical problems, contaminated well water and lake, and devalued property on two separate instances.	Odor problems and dust caused officials to close the studge processing facility.	A farmer sues over loss of 14 miniature horses from liver failure he claims was from hay grown on sludge treated land.	People report illness and over powering odors from sewer studge pile.	Litigation initiated after hepatitis A illness caused by sludge dumping operation.	Foul sludge odors from landfill cover overwheims area.	2000 inuckloads of sewage sludge dropped on State's most sensitive water source. Preservation Alliance challenged NJ. DEP and stopped further dumping to prevent aquifer contamination.	Curzens save legal action after odors from composing operation forces children to play indoors and affects community's quality of life.	Community groups take legal action to stop expansion of composing operation after obnoxious odors and health problems.	Cluizens and officials block plans for a sewage sludge composiing plant in the N.Y.C watershed.	Community defeated plan for 100 acre sludge composiing operation. Complain of disgusting odors from rail containers stored in the area and used to ship sludge.	Landfill ordered to stop accepting sludge because of odor complaints.	Cuizes and officials block composing operation which planned to bring N.Y.C. and Nassau sludge into the middle of three reservations.	Plan to bring N.Y.C. sludge to area meets with strong opposition.

SLUDGE VICTIMS UNANIMOUSLY AGREE THAT WHEN THEY SOUGHT HELP FROM STATE AND LOCAL SLUDGE "REGULATORS", THEIR PLEAS FELL ON DEAF EARS. NO-ONE WOULD

CARTEAL NUMBERY OF LOCATIONS AFFECTED BY SEWAGE SLUDGE Based on news reports, triephone conversations and her information received directly from those affected.

# RELEASE THE INFORMATION IT HAS ABOUT SLUDGE VICTIMS AND SLUDGE COMPLAINTS. NETWORKING. THE EPA HAS REFUSED ALL FREEDOM OF INFORMATION REQUESTS TO THESE INCIDENTS ARE JUST THE TIP OF THE ICEBERG - GATHERED BY GRASSROOTS

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1 toy, AL	Beel cattle sick from sewage sludge.	DIJMI CO	Complaints of asthmatic condition caused by pollution from fand applied sludge.	
India, AZ	Citizens organize to stop sewage sludge after odors, files and dust from composting.	Kiowa, CO	Ann Kreutzer (719-436-2259) - Bio-Grow, A subsidiary of Waste	
Bowie, AZ	Citizens ask to stop N.Y.C. sludge spreading before water supply is nuned.	00 111	received and run our of roads, smell was horrible.	
Tucson, AZ	State tests showed 2200 purs per million of petroleum hydrocarbon from NYC sludge.		County consultant liads higher metal contents in sludge being dumped by Wheelbanar than Wheelbarier reported. High copper content sloudge pur on land that should have been land filled. Sludte dummed on iand with our obvisition nearests	
Bahamas	Jury in Miami avards 16.9 Million to farmer after crop destroyed by anacrobic bacteria from Dade County Sludge Compost.	Hudson, CO	Reports of trespass nuisance from neighboring studge operations.	· · ·
Thermal, CA	ladiars from Torrey -Martinez Reservation block sludge shipments after groundwater and drinking water becomes contaminated.	Suatford, CT	State officials move to cover toxic sewage studge sites which were used to fill wettands and low lying areas.	
Riverside, CA	Board of Supervisors ask DA to investigate sewage sludge import bypassing EPA.	Polk County, FL	Sevage sludge spreading cause nosebleeda, tumor growths and arthritic hind quarters.	N.
Foruna, CA	Hurband and wife have immune system damage. 500 parts per pillion of Triburytin, a perticide, was found in the studge. 520	Manatce County, FL	Courry considers morstorium after overwhelming odors and fear of contamination from sewage studge spreading.	
	milion lawsuit filed. Dury cows bled to death out their anus, were emaciated & crippled. (Awe + PAT CoPPHM)	Sarasota County, FL	County officials try to stop sewage sludge spreading abuses by enacting stricter regulations than the stare.	
Modesto, CA	Stanislaus County Farm Bureau (ssuce statement of concern that pathogen transmission and heavy net leaching from fand applied studge will affect public health & crops.	Kissimmee, FL	Sludge dumping caused sickening smells avenwhelming Florida Tumpike drivers.	
Turlock, CA	Mercer County enters court action over sewage studge.	Dade City, FL	Sewage sludge spreading blamed for arthritic and hind quarter mobleme for A news cour band	
Tustin, CA	A lava-like flow of sewage sludge blocked traffic after a S ton spill fouled the air.	W∎tuki, HW	compost plant employees all are filing for permanent disability for service 20	
Anabeim, CA	A spill of 500 pounds of sevage sludge sputed a multiple collision on Riverside freeway.	Kuna, ID	ater genung un. Hiners reported from sewage sludge spreading.	
San Jose, CA	Study showing adverse health affects from sludge composting operations (aspergillus fungus) respiratory problems.	Taylorville. IL	Lawsuit filed after neighborir studge spreading operation caused (amily to become ill.	
		Lebanon, I <b>L</b>	Dead esives and cows from land spreading of sewage studge.	

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Litigation filed after PCB's found in water supply and cows started to die.

Flora, IL

			· Int
ven fecal coliform bacteria from adjacent sludge sewage related illnesses - one child had	trailer with	ading operation saturates their property. Two children	Tou
maniver of several to more than ALS.	-	ENT SLUDGE VICTIMS - JAN. 1997 - IAUREL HILL, FLORIDA:	
Sewage studge fertilizer links to Lou Gerhig's disease after unusual	Milwaukee, WI		
Neighbors complain about purid smell from composing facility.	Spokane, WA	The composing to see their occort.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	·	Doctor warms community that is exposed to odors from sludge	Excer, PA
Lawsuit initiated after sewage smell made neighbors sick &	San Juan Island, WA	Horrible smelling sludge causes illness in neighbor's family.	Deny, PA
headachez, sinus & throat infections, & respiratory infections.		A Studge spreading caused neighbor's cattle to get ill and contaminated his soil with heavy amounts of lead.	Brownsville, P
Neighbors around sewage site all sick with flu-like symptoms,	Winlock, WA	picketing sludge site.	•
City paid Weyerhauser \$421K after 40 acres of their trees were killed by sewage sludge spreading.	Seanle, WA	14 year old suffers from nose virus from sludge spreading operation. Neighbors suffered blisters in nose and mouth while	Stewardstown, PA
namers have serious itness, with I men dying after neighboring sewage sludge spreading operation on a converted wetland was filled. Native Co-Ho salmon died from contamination. Stor - 966 - 86 ± 9	-	County ordinance prevents application on the land to protect public. health after beef animals died from sewage lead. $f_{0/L}^{out} = f_{3/L}^{out} - f_{4/L}^{out}$	Hiller, PA
Duiry cows and registered U.S. champion Dobermans die and	Lynden, WA	contamutation by sewage from adjoining property. $p_{eff} = g_{ff} - f_{eff} - f_{eff}$	
with first financial loss, Kowier Kenze Toda 21, 21, 21, 21, 21, 21, 21, 21, 21, 21,		After two years well water has 60 ppb of lead. Law suit filed due to	Sligo, PA
	North Clandon	Sewage studge spread on strip mine contaminating wells and stream. Well water had no lead before studge application.	Curlsville, PA
Calves born dead or with spinal cord damage. U. of PA Veterinary School believes metal content of sludge applied to pasture was the	Delaplane, VA	Land application of sludge halted until effect on well water could be determined.	Monroe, PA
sewage sludge and that was a rational basis for banning land application. The State Court found that the county had legitimate concerns about the adequacy of federal regulations.		Citizens blocked sludge shipments after well was found to be contaminated and runoff impacted neighboring properties.	Somerset County, PA
Ordinances banning land application were challenged in both State and Federal Courts. The Federal Courts found that there was an on- going debate in the scientific community about land application of	Rappahannock County, VA	Citizens complain about respiratory problems and odors from composting operations.	Lancaster, PA
pneumonia from hay from sludged fam.		Refused expansion of composting operation as a result of odors.	Clackamas, OR
Sewage sludge spreading stopped after neighbors reported arriva	 Lake Dallas, TX	Smells, water contamination from studge causes State Board of Commission to ban sewage studge from state lands.	Kiows County. OK
Everytime neighboring farms were sludged, neighbors became ill with asthmand eve information	Sanger, 1X	sludge.	C .
eenshaariy reported devastating effects.	TX TX	Officials declare a featility and environmental motatomium against	Censholiocken.

SLUDGE INDUSTRY AND EPA SAV NO-ONE HAS EVER REEN HARMED BV SI IFDCE SPDEADINC

## WOTEL UNITUE "

Review of biosolids land application 5/9/2001

## By Rob Amer



In early August, the U.S. Environmental Protection Agency (EPA) asked the National Academy of Sciences (NAS) to review the science and methodology behind the sludge program's standards in order to ensure that government standards for land application of sewage sludge protect numan health and the environment. EPA both funds and has set the scope of this study called, "Risks from Toxicants and Pathogents in Biosolids Applied to Land."~ After the NAS is done with its study, EPA hopes to receive suggestions on how

to strengthen the program. The U.S. Center for Disease Control—National Institute of Occupational Safety and Health has agreed to work with EPA and NAS on this review. The National Research Council (NRC) & undertaking the 18-month study of the environmental and health risks of sludge. The scope of review has been described as follows:

- 1. Review the risk-assessment methods and data used to establish concentration limits for chemical pollutants in sludge to determine whether they are the most appropriate appropriate appropriate evil also consider the NRC's previous (1966) review and determine whether that report's recommendations have been appropriately addressed. Issues to consider include: (a) how the relevant chemical pollutants were identified; (b) whether all relevant exposure pathways were identified; (c) whether analyses, particularly from indirect exposures, are realistic; (d) whether the default assumptions used in the risk assessments are appropriate.
- 2. Review the current standards for pathogen elimination in sludge and their adequacy for protecting public health. The committee will consider: (a) whether all appropriate pathogens were considered in establishing the standards; (b) whether enough information on infectous does and environmental pensistence exists to support current control approaches for pathogens; (c) risks from exposure to pathogens found in Class B sludge; and (d) new approaches for essessing risks to human health from pathogens in sludge.
- Explore whether approaches for conducting pathogen risk-assessment can be integrated with those for chemical risk-assessment. If appropriate the committee will recommend approaches for integrating pathogen and chemical pollutant risk-assessments.

At the first meeting on March 14, there was public testimony as to the concerns that the Committee's scope would not include many of the health and environmental assues identified by those exceed to sludge and coastble has in the review process. Some have questioned whether this committee is balanced

the review process. Some have questioned whether this committee is balanced to assure an independent review of information on the land application of sludge and independently evaluate the methods used by the EPA to assess risks from chemical pollutants and pathogens in sludge.

> Critics argue that the committee—as initially constituted—lecks objectivity. Also, It will only be reviewing existing studies, not investigating areas that lack good research such as aerosols impacting people's respiratory system. Finally, it is also argued that paid industry representatives—who are serving as committee members—can be expected to promote their respective industries.

Since people questioned the panel's makeup, the Academy has agreed to review the committee's composition. Since this meeting the Committee has selected a critic of the EPA 503 Sludge Rule to serve on the panel and one industry representative has resigned. The academy is a private, nonprofit assembly of scholars that regularity furnishes scientific and engineering advice to the government. Capsule biographies of the committee members posted on the academy's Web site show that some have ties to various industries or trade groups, while others have no relationships, and for some it is unclear.

James Reisa, director of the Academy's board on environmental studies and toxicology noted that, "we want to make sure that ... a balanced range of viewpoints are represented."

# Concerns over the land application of studge remain

Citizens and scientists have continued to raise concerns about land application of sludge. Critics are concerned that study is limited and will not evaluate full extent of this issue. Not only has EPA dismissed these concerns, but employees within EPA have taken overly aggressive actions against these critics. EPA officials have sent hostile and threatening letters and e-mails and unsolicited calls to these private citizens at home; attempted to discredit actentists who question the 503 Sludge Rule; filed unfounded ethics violations, denied promotions, and attempted to discredit officials concerned who specifically critical of the current Sludge Rule.

The 503 Studge Rule allows land application (spreading) of sewage studge (also known as biosolids) as to condition the soll. However, this may be cheaper method of disposal instead of being marketed as a fertilizer. Biosolidis may not provide the numerical study and the being marketed as a fertilizer. Biosolidis may not that fertilizers do. While EPA has promoted the use of studge for land application, it has provided insufficient risk and health analysis that this land application requires. In 1983, the EPA published the 503 Sludge Rule setting standards for the use or disposal of sewage sludge.

Over 16,000 sewage treatment facilities serve nearly 190 million Americans (the 72 percent of the U.S. population which is served by sewers). In addition, these facilities serve thousands of industrial and commercial establishments. Approximately eight million dry metric tons of blosolids are produced annually—that's about 70 pounds per person per year. About 54 percent of the blosolids are land applied as a fertilizer or as a soil conditioner.

Critics of EPA's biosolid rules cite that there are risks from todcants and pathogens in sewage sludge disposed through land application. Also, they cite that the selected NRC has limited scientific expertise and review selective review of the many todcants and pathogens that can be found in sludge. They also point out that the EPA Rule failed to have the necessary peer review by scientists in EPA. Special questions are raised about the lack of information regarding potential long-term effects of sewage studge on public and the environment. The public is concerned that that EPA funds are used for promoting, not monitoring and enforcing, the present rule. Even the Inspector

land-applied in accordance with EPA standards. General of the EPA report last year cited there is no certainty that sludge will be

self-reported health symptoms consistent with exposure to initiants. They include Rule. Epidemiological studies in communities with animal operations and agents in sludge that may pose harm to humans in mood. The jury is still out on the wide variety of chemicals and microbial drowsiness, nasal congestion, palpitations, shortness of breath and alterations eye, nose, and throat irrhation, headache, nausea, hoarseness, cough, municipal wastewater facilities have reported increased occurrence of concern. Since no pathogen risk assessment was performed by the 503 Sludge The health effects of ambient odors and air emissions of biosolids are also of

Science Foundation workshop.<sup>1</sup> reference below is an abstract from a paper presented a year ago at a National Around the U.S. there have been various incidents of health concerns. The one

exposed to at least 260 parts per million (ppm) of ammonia and 100 ppm of dimethyl disulfide emitted by biosolids. Residents were also exposed the eyes, skin and mucous membranes followed by respiratory and exposure to irritant gases. infections, are consistent with enhanced susceptibility to infections after pathogens known to cause respiratory illnesses. Symptoms, which include severe initation to mucous membranes followed by respiratory to blosolid dust containing significant numbers of opportunistic bacterial tests and mathematical model outputs show that residents were probably respiratory distress approximately six weeks after application. Laboratory gastrointestinal illness. A 26-year old male died during one episode of Class B biosolids were applied in 1995 experienced severe irritation of Most of 20 residents living in Greenland, NH neighborhood near where

### Conclusion

page 4 to the Association of Metropolitan Sewage Agencies stating that promulgets occupational safety and health regulations. In a December 18, 2000 response letter by Marilyn Fingerhut, Chief of Staff for NIOSH, she writes on sewage sludge. However, NIOSH does not have statutory authority to the 503 Sludge Rule were inadequately protective of workers exposed to The National Institute for Occupational Safety and Health (NIOSH) which is apart of the Cunter for Disease Control and Prevention found that guidelines of

gestrointestinal liness in workers and exposures that were suggestive the illness was of occupational origin. It is prudent public health is suspected, such as at LeSourdesville. practice to control or limit exposure when occupational cause and effect for the Hazard Review. In that study, repeated episodes of Data from LeSourdesville constituted one component of our assessment

potentially present in sludge indicates the enormity of what research nust be only a national survey testing for 420 of the 60,000 industrial pollutants incases occurring among people who inhale or ingest this material. Currently biological constituents of biosolid land application can be responsible for types of biosolids impacts public health and environment. The chemical and There is a growing body of information that Class B sewage sludge and other

> contaminants to organic materials in sludge, variability of sludge application ecological effects of pathogens and other sludge contaminants, binding of potential movement of contaminants from sludge into surface and groundwater sewage sludge on public health and environment. These concerns include the Even EPA's own scientists have raised concerns about the long-term effects of practices, bioavailability of sludge contaminants to plants and animals, and the effects of long-term environmental changes.

have a different perspective as to what regulators claim as to the safety of biosolid application. They have their own personal injury as sufficient evidence the instance in the safety of the safety process has begun due to comments made at this first meeting. Affected parties applying biosolids in an unbiased manner? Since the panel has added a new Will good objective science explore in greater detail the health concerns of lance member, Ellen Harrison of Cornell University, a better balance to this review that such investigation is warranted

<sup>1</sup> Devid Lewie et al., "Enhanced Susceptibility to Infection from Exposure to Gaees Emitted by Severg Studget A Case Study," NSF Workshop, College Pk, ND, 41000

\* This report can be found at www.hng...edu/cp.ns/af/aboe/2044/2940-948/52/50306/04/367/1/s06010447/51c5/78e8525668/2000.3587

20 years. He can be reached at ramer@shentel.net. (Back to too) environmental issues both inside and outside of Washington, D.C. for the past About the author: Rob Amer has worked in the field of solid waste and

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#### EPILOGUE

The people sickened by the sludge plague are victims of germ warfare being waged against them by the waste industry and US EPA. They are forcibly subjected to this biologically active infectious waste against their will. Sludge pollutants are trespassing into their air, land and water. . . indeed, right into their homes. Their health, property values and quality of life are being destroyed by these powerful entities who dismiss them as "acceptable risks".

Sludge victims are told by the public agencies who should be protecting them that they are hysterics, hypochondriacs and their illnesses are "psychosomatic" Victim after victim say that when they appealed to local, state and federal agencies for help, their pleas fell on deaf ears. "No one cared" ... "No one would listen". "The EPA says it's safe so it can't be making you sick".

Many victims told me, "The person who owns the land where they are spreading the sludge is rich, powerful, politically influential. He doesn't live here so he is not affected . . . we are afraid to go up against him."

Land spreading is the cheapest way to get rid of sludge, saving cities and POTWs millions of dollars over the cost of land filling or other disposal methods. Also, many property owners are being paid to put sludge on their land. Thus, the EPA's sludge policies are driven by financial interests which supersede any concern for the health and well being of the neighbors.

Another reason sludge victims may be treated with disdain and contempt by the waste industry and EPA is because they usually are people of modest financial means living in sparsely populated areas with little or no political clout. No sludge is land spread in well-to-do communities. Thus, the land spreading of sewage sludge is an issue of environmental injustice -the infliction of polluting facilities or environmentally degrading activities on Rural Americans who do not have the money or political connections to fight back.

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## "VICTIMS" UPDATE and

SUPPORTING DOCUMENTS furnished to each member of the National Academy of Sciences/National Research Council Committee reviewing health effects from exposure to sludge/biosolids:

(1) Ecological Risk Assessment - Bioaerosol Transportation" by C. Gerba, F. Pepper, S. Dowd and S. Pillai

(2) "Hazards from pathogenic microorganisms in land-disposed sewage sludge", by T. Straub, I. Pepper and C. Gerba. <u>http://www.friendsofthecreek.org/azreport.htm</u>

(3) Excerpts from EPA - Control of Pathogens and Vector Attraction in sewage sludge. http://www.epa.gov/ORD/NRMRL/Pubs/1999/625R92013.pdf

(4) Enhanced susceptibility to infection from exposure to gases emitted by sewage sludge: A case study ... by D. Lewis, S. Shepherd, D. Gattie, S. Sanchez and M. Novak <u>http://members.aol.com/LewisDaveL/Proceedings.htm</u>

(5) Expert witness testimony, David L. Lewis, PhD - Rockingham Superior Court (NH) - Joanne Marshall et al v. Wheelabrator, et al

http://members.aol.com/lewisdavel/Expertreport.htm

(6) Journal of Agromedicine: Potential health effects of odor from animal operations, wastewater treatment and recycling of byproducts
(sludge/biosolids) -Dr. Susan Schiffman, Duke University, and Dr. John
Walker, US EPA, lead authors <u>http://www.penweb.org/issues/sludge/health-odor.htm</u>

(7) Excerpts from USDA/EPA guide to recommended practices for field storage of biosolids, Appendix A - Odor characterization, assessment and sampling. <u>http://www.barc.usda.gov/nri/smsl/temp/appendix.pdf</u>

[All documents are available upon request. Please contact: Helane Shields, PO Box 1133, Alton, NH 03809 Phone/fax: 603-875-3842 Email: hshields@worldpath.net]