Approved March 20, 1989
Date

MINUTES OF THE HOUSE COMMITTEE ON ENERGY AND NATURAL RESOURCES.

The meeting was called to order by Representative Dennis Spaniol at
Chairperson

3:30 ~~x.m.~~/p.m. on March 2, 1989 in room 526-S of the Capitol.

All members were present except:

Representative Charlton (excused)

Committee staff present:

Raney Gilliland, Legislative Research
Lynne Holt, Legislative Research
Mary Torrence, Revisor of Statutes' Office
Betty Ellison, Committee Secretary

Conferees appearing before the committee:

Representative Wisdom
Representative Turnbaugh
Charlene Stinard, Kansas Natural Resource Council
Nealie Atkins, Kansas City, Kansas
Jerry Hazlett, Kansas Wildlife Federation, Inc.
Betty Roberts, Kansas City, Kansas
Marvin S. Robinson, Kansas City, Kansas
Gerald B. Lee, M.D. West Central Medical Society of Missouri
Kermit A. Mangun, Superintendent of Water Processing, retired
Kansas City Board of Public Utilities
Nedre Bonds, Kansas City, Kansas
Alan S. Caldwell, Member, KS Lower Republican Basin Advisory Committee
G. Gordon Thomas, Mayoral Candidate, Leawood, Kansas
Ervin Sims, Jr., Manager of Water Operations,
Kansas City Board of Public Utilities
Margaret Ahrens, Sierra Club, Kansas Chapter
Joyce Wolf, Kansas Audubon Council
Dennis Murphy, Director, Bureau of Waste Management
Kansas Department of Health and Environment
John J. Bukaty, Sr., Attorney, Browning-Ferris Consultants
Dr. J.D. Campbell, P.E., Woodward-Clyde Consultants, Overland Park, KS
Bob Everett, Regional Government Affairs Manager, Browning-Ferris
Industries, Memphis, Tennessee
Leonard Graham, Schlup, Becker and Brennan, P.A., Engineers and
Architects, Kansas City, Kansas

Chairman Dennis Spaniol called the meeting to order, calling attention of the committee to the minutes of February 23 and a fiscal note on House Bill 2232 which had been distributed.

House Bill 2363 - Prohibiting location of landfill near navigable stream or water intake station.

Representative Wisdom, sponsor, explained this legislation, noting that the peanut of the bill could be found on page 3, lines 103 through 114. He told the committee that the bill was introduced because in 1982, the Kansas City, Kansas city commission had issued a special use permit to allow the site of the old Quindaro commercial area to be operated as a sanitary landfill. He felt that the location of this landfill was inappropriate and the intent of this legislation was to not allow it to be located there. Representative Wisdom called attention to a legislative post audit committee study which was done in July, 1988 relative to state agencies' handling of water contamination and pollution problems in Kansas. This audit addresses the following specific questions:

1. What fresh water resources in Kansas have become unusable because of contamination or pollution in recent years?
2. How well are State agencies handling Kansas' water contamination and pollution problems?

Unless specifically noted, the individual remarks recorded herein have not been transcribed verbatim. Individual remarks as reported herein have not been submitted to the individuals appearing before the committee for editing or corrections.

The study showed that in January, 1987, the Department of Health and Environment prepared a report identifying 274 contaminated sites. The list also included 54 potential water contamination sites and four soil contamination sites that were not examined. Representative Wisdom drew a parallel between a Riley County landfill which was included in the study and the Quindaro site in Wyandotte County. Copies of pertinent sections of the study discussed are included in Attachment 1. Representative Wisdom noted that the profile on the Quindaro site contains an error--it is located on the Missouri River, not the Kansas River.

Responding to a question relative to intent to include water wells on lines 113 and 114 of the bill, Representative Wisdom said he was not opposed to that, and would leave it to the revisor.

Representative Turnbaugh testified in support of Representative Wisdom and his bill. He commented that he had been a lifelong resident of Kansas City, Kansas, which has a population of approximately 165,000. He advised that the landfill is located on a hill just above their waterworks plant. Since there is no doubt that landfills do leak, contamination could reach their waterworks. The Quindaro ruins would be included in the landfill and many people feel that these should be preserved. He urged the committee to support the bill and make it impossible for a landfill to be within one mile of a major river source.

Charlene Stinard, representing the Kansas Natural Resource Council, supported the intent of House Bill 2363 to protect drinking water from contamination threats associated with solid waste management. However, she felt that it did not address the specific need for the development of siting rules and regulations, nor the hazardous and liquid waste issues. Attachment 2.

Nealie Atkins, Kansas City, Kansas, spoke as a proponent of House Bill 2363. She discussed toxic chemicals which are disposed of in landfills and dumps and eventually affect drinking water, liquid hazardous wastes deposited at disposal sites, and various health problems caused by them. Attachment 3.

Jerry Hazlett, speaking on behalf of the Kansas Wildlife Federation, supported passage of House Bill 2363 because it includes restrictions on solid waste sanitary landfills. However, he suggested two amendments to the bill, as outlined in his written testimony. Attachment 4.

Betty Roberts, Kansas City, Kansas, testified in favor of House Bill 2363. She cited the threat of health problems and a desire to retain historical buildings and monuments in the Quindaro area. Attachment 5.

Marvin Robinson appeared in support of House Bill 2363. He provided four exhibits to be retained in Chairman Spaniol's office and available to committee members for one week. These exhibits are described in his written testimony. Attachment 6.

Gerald Lee, M.D., appearing on behalf of the West Central Medical Society of Missouri, endorsed House Bill 2363. He displayed a chart which listed various contaminants that could come from the landfill and medical problems caused by those contaminants. Attached to Dr. Lee's testimony, Attachment 7, were the following: A Resolution of the West Central Medical Society of Missouri, 7a; a letter written to Governor Hayden by Dr. Lee on March 30, 1988, 7b; a letter written to Governor Hayden by Dr. Lee as Chairman of the Forestry Committee, Conservation Federation of Missouri, on August 20, 1988, 7c; a paper listing possible pollution of the Missouri River by the Quindaro Landfill, 7d; a paper describing possible Quindaro Landfill Medical Problems, 7e; a Resolution signed by the National Wildlife Federation March 16-19,1989, 7f; a letter written to the Mayor and City Council, City of Kansas City, Kansas by Dr. Lee on June 16, 1988, 7g.

Kermit Mangun, retired Superintendent of Water Processing, Kansas City, Kansas Board of Public Utilities, testified in favor of House Bill 2363. He noted that the Kansas City, Kansas water intake was on a curve on the same side of the river as the proposed landfill, so any leachate would go directly into the facility without even the possibility of being diluted with river water. He related an incident involving a Browning-Ferris landfill near Parkville, Missouri. Attached to Mr. Mangun's written testimony was a copy of an article in The Kansas City Times on February 22, 1983. Attachments 8 and 8a.

Nedre Bonds, Kansas City, Kansas, appeared as a proponent of House Bill 2363. She displayed a bag of empty containers of drugs she takes for a condition she has had since living near a municipal sanitary landfill for five years. Attached to her written testimony were pictures illustrating the medical condition she has. Attachments 9 and 9a.

Alan S. Caldwell, a member of the Kansas Lower Republican Basin Advisory Committee and the Kansas City Consensus Task Force on solid waste management, testified in favor of House Bill 2363. He discussed the necessity of high quality water as well as the solid waste management issue. Attachment 10.

G. Gordon Thomas, a candidate for Mayor of the city of Leawood, Kansas, spoke as a proponent of House Bill 2363. He noted the importance of an adequate water supply on the eastern side of the state. Attachment 11.

Ervin Sims, Jr., a licensed professional engineer in the State of Kansas and Manager of Water Operations for the Board of Public Utilities in Kansas City, Kansas, appeared in support of House Bill 2363. He expressed concern regarding the threat of the Browning-Ferris Landfill to the water supply of Kansas City, Kansas. Mr. Sims advised that the state of the art in landfills will not assure containment of leachate and other contaminants. He noted that the proposed site of the Quindaro Landfill was too close to the Kansas City, Kansas water intake facility for safety. He believed that if contaminants did reach the facility, they would pose a significant hazard because it would be impossible to know what the contaminants were or what they might have decomposed to. Contaminants could possibly go undetected because no facility monitors for every chemical that could affect the water supply. A copy of a Resolution of the Board of Public Utilities in Kansas City, Kansas was attached to Mr. Sims' written testimony. Attachments 12 and 12a.

Margaret Ahrens, representing the Kansas Chapter of the Sierra Club, supported House Bill 2363. Her written testimony contains recommendations for additional language in the bill. A copy of a letter addressed to Stanley Grant, Secretary, Department of Health and Environment by the Kanza Group of the Sierra Club was attached to her testimony. Attachments 13 and 13a.

Joyce Wolf represented the Kansas Audubon Council, supporting the intent of House Bill 2363. Her written testimony, which was provided following the meeting, outlines additional recommended requirements. Attachment 14.

Dennis Murphy presented testimony of the Department of Health and Environment. His testimony included background of the situation in Kansas City, Kansas, provisions and potential impacts of House Bill 2363, and recommendations of the Department. Attachment 15.

John Bukaty, Sr., Attorney, appeared on behalf of Browning-Ferris Industries of Kansas City, Inc., in opposition to House Bill 2363. He gave details of Browning-Ferris' involvement in the siting of a landfill in Kansas City, Kansas, noting that this was not a hazardous waste or toxic waste application. Mr. Bukaty discussed expenses incurred by Browning-Ferris since receiving their permit in 1982, in acquiring access roads and construction

of an overpass over I635 in order for trucks to reach the landfill. He advised that the cost of the overpass alone would be approximately $1.5 million and no public monies have been involved. Attachment 16.

Dr. J.D. Campbell of Woodward-Clyde, a geological engineering firm, testified in opposition to House Bill 2363. He requested the committee to work with the Department of Health and Environment to set up appropriate siting and location standards that will effectively protect the health and welfare of the State of Kansas. Attached to his written testimony was a copy of requirements as promulgated by the EPA in the federal register relative to solid waste disposal facility criteria, August 30, 1988. Mr. Campbell called attention to the location restrictions listed under subtitle B of those requirements, noting that none of those standards related to navigable streams or public water supplies. He emphasized that this is a groundwater issue, not a surface water issue, and groundwater monitoring systems are required at the waste management unit boundary. Attachments 17 and 17a.

Bob Everett, Government Affairs Manager for Browning-Ferris Industries, opposed House Bill 2363. He described the stringent conditions and requirements including hydro-geological surveys, that had been met in order to make sure that the Quindaro site was environmentally sound.

Representative Freeman urged Mr. Everett and Browning-Ferris Industries, due both to safety and historical concerns, to reconsider their choice of the Kansas City, Kansas site. He felt they could promote good will in Kansas and throughout the nation if they would consider preserving history on that site and locate another site for a landfill. Mr. Everett replied that they had spent three years and over $.5 million in recovering what artifacts were there. He said that the County Historical Society had complimented them for what they had done relative to a historical site. He emphasized that they had tried to take care of all major concerns.

Leonard Graham, a civil engineer and partner in the firm of Schlup, Becker and Brennan, one of the two firms which had participated in the design of the Quindaro landfill facility, opposed House Bill 2363. He listed a number of problems with the proposed legislation as it would relate to future landfill construction in the State of Kansas. Specific issues relating to the Wyandotte County facility were also addressed. Attachment 18.

Written testimony and attachments were submitted to the committee by Donald E. Reck, Program Director, Coalition for the Environment, Kansas City, Missouri. Attachments 19, 19a, 19b and 19c.

The Chairman announced that a brief meeting would be held on March 3 upon adjournment of the House for the purpose of taking final action on some bills that had been previously heard.

The meeting was adjourned at 5:30 p.m.

Date: March 2, 1987

GUEST REGISTER

HOUSE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

NAME	ORGANIZATION	ADDRESS	PHONE
BILL OHLEMEIER	KANS. ELECT. CO-OP	TOPEKA, KS	272-8760
DICK COMPTON	MIDWEST ENERGY, INC.	HAYS	625-3437
Tyson D. Coggs	Bd. of Public Util	700 Minnesota K.C.K.	573-9473
Charles Herdon	Quindaro town prs society	KCK	621-1656
Ruth Herdon	Quindaro Town Res. Soc.	1426 N 25th KCK 66102	(913) 342-2787
Nedra Bonds	Human Race	2243 Garfield	KCKS 66104
Leslie Atkins	Quindaro Town Pres Soc.	P.O. Box 4268 KCK	66104 321-1220
Mary Jordan	Quindaro Town Pre Soc.	3028 No. 10th St KCKS	66104 342-1399
Lee Johnson		P.O. Box 1233 Pittsburg Ks.	316 232-1133
Linton Barthett	City of Kansas City	K.C., KS	913 573-5017
Kermit Mangum	RETIRED Kans City Kans	2007 N 88th	913 334-4282
Betty Robert	535 Westvale Rd →	Kansas City Ks.	321-8024
DEBBIE MCCASKILL	KS DEPT COMMERCE	TOPEKA	6022
Jayne Wray	Ks. Audubon Council	Lawrence	749-3203
Dennis Murphey	KDHE	Topeka	296-1592
Erwin Sims Jr	K.C. Ks Board of Public Utilities	K.C. Ks	573-9660
WAYNE PENROD	SUNFLOWER ELEC COOP	GARDEN CITY KS	275-7402
Larry Freeze	Ks. Electric Coop.	Topeka, Ks.	272-8740
ADRIEN ROBINSON	United Elec Co-op	Iola Ks	66076

CASE SUMMARY:
RILEY COUNTY SANITARY LANDFILL

The Riley County landfill has been in operation since 1976. Before receiving a permit to operate as a sanitary landfill, the site was the Manhattan City Dump. Department of Health and Environment officials were concerned about the poor location of the dump. Because it was near the Kansas River, groundwater was shallow and leaching was likely to occur. Some effort was made to find an alternate site for the sanitary landfill, but these efforts were unsuccessful. As a result, in 1976, a sanitary landfill permit was issued for the site.

In 1981, trace amounts of pesticides were found in on-site monitoring wells. In late 1985, the first off-site contamination was found. The off-site contamination was identified after a nearby resident complained. This resident had recently purchased a home near the site. According to a Department district official, the water the resident was complaining about was discolored, full of sediment, and had an unpleasant smell. After the water from the old well was inspected, the resident was advised not to drink it or use it for cooking. The resident also was advised to construct a new well, because the old well was in poor repair. Tests of the water from the new well were completed in November 1985. The tests indicated the water from this well was contaminated with cancer-causing volatile organic chemicals. Upon that discovery, the advice to the resident was not to use the water from the new well for drinking, cooking, or bathing.

In November 1985, after the off-site contamination was found, Department of Health and Environment officials sent a letter to Riley County officials county advising them of the problem. That letter directed Riley County to undertake a groundwater monitoring program at the landfill to trace the groundwater flow. A suggestion was also made that the county consider acquiring the affected resident's property. The letter also suggested that making a public water supply available to the area was an attractive option. The agency also analyzed some water samples of other nearby residents and sent information to them about the results of those tests, which generally did not show any significant contamination problems.

In November 1986, Department officials sent a letter to the county indicating that testing showed continued contamination of the off-site wells. That letter again suggested that the county consider providing an alternate water supply for the area.

On July 17, 1987, the Department ordered Riley County to prepare a remediation or containment plan and an updated long-term groundwater monitoring plan, to provide nearby residents with a drinking water supply until city water was available to them, and to close the facility and relocate it to another site within three years. The County has addressed most of these requirements.

No specific cleanup activities have occurred at the site. Recently, a lawsuit seeking damages has been filed by one of the residents declaring the landfill a nuisance and in violation of federal law.

CASE SUMMARY:
DINKEL FARM WELL

The Dinkel farm is located between Hays and Victoria in Ellis County. The farm is supplied with water from private, domestic wells.

Oil has been produced on the Dinkel property since the 1950s. The oil operation on the property currently has two active production wells. The saltwater produced by the wells is transported through a pipe to a disposal well located on the section to the west of the Dinkel property. In the past, the operation included a disposal evaporation pond that was used until 1959, followed by a disposal well that was used until 1970. After 1970, the well on the adjacent property has been used to dispose of the saltwater.

A test well was originally drilled by the property owner on the advice of the Department's district personnel because bacteria and nitrates had been identified in a September 1984 water sample from the house well. In November 1984 the owner brought a water sample to the Department of Health and Environment's district office. This water sample came from the test well that he had drilled on his farm property. When tested, the water sample had 1,625 parts per million of chloride. This level

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Attachment 1

Preventing Water Contamination is Cheaper and Easier Than Curing It

Cleaning up water contamination, when cleanup is even possible, is expensive and difficult—prevention is a cheaper and easier alternative. This audit yielded the following examples of knotty cleanup problems that could probably have been prevented:

- The source of contamination of the Brewster public water supply has not been pinpointed, but all indications are that it is a gasoline spill or a leaking underground tank. A systematic effort to test active tanks, locate abandoned tanks, and educate the public about the danger of spills would have been cheaper than the remediation effort now required. One area official estimates that the most cost-effective solution now could be installation of home treatment equipment, which might cost upwards of $600 per home for about 180 homes in the affected area.
- Similarly, although no one knows the source of the Eudora public water supply's brief but intense contamination, a likely source of contamination in another city well was a city crew that washed down an asphalting machine with a barrel of solvent. The site where the equipment was cleaned was near the city's wells. Breakdown products of the solvent were identified in the contaminated water. Training of city employees, and public awareness of the sensitivity of Eudora's groundwater to such pollution might have prevented the contamination.
- Pesticides and volatile organic compounds have been found in leachate from the Riley County Landfill. In general, officials say that solvents, pesticides, fuels, and similar substances should not be disposed of in sanitary landfills. Providing alternative disposal methods—and educating the public about those alternatives—might have prevented or lessened the contamination.
- One recent case cited by a groundwater management district official involved an overturned tank truck that spilled 1,500 gallons of diesel fuel along the roadside. The official said the Department was notified immediately but did not respond. After nine days, county officials decided to excavate the contaminated soil. Because so much time had elapsed, the amount of needed excavation was increased significantly from what would have been required if the remediation had taken place sooner. If the county had not cleaned up the spill, the fuel would have eventually entered the groundwater, necessitating an even more costly and extended cleanup.

Area officials told the auditors that prevention of contamination is of the utmost importance because of the great expense of remediation, but that the State does not have enough staff in the field to prevent contamination or to catch problems before they become very expensive to clean up. No one knows how much of the pollution represented by the Department's list of 332 actual and potential contamination sites could have been prevented through public education, providing alternative disposal methods, and the like. In addition, many of the disposal practices now recognized as faulty, such as evaporation pits and holding ponds, were the state of the art when they were introduced. However, as the above examples show, in some cases prevention might cost the State less in the long run than expensive and lengthy remediation efforts.

Dinkel's domestic well, the Corporation Commission appears to have followed its regulations. For instance, when poor disposal practices were no longer allowed, evaporation ponds were required to be closed. In addition, proper mechanical integrity tests were performed on the pipelines at the site. Finally, when the contamination in the Eudora public water supply was found to exceed the Kansas Action Level, the State appropriately required the well to be shut down.

Only at the Western Petrochemical site was the State not doing what it was required to do. That company was subject to the State's solid waste disposal statutes for about three years before it closed down. However, it was never issued a permit. The site could also have potentially been regulated under statutes requiring a permit for the storage of oil or refuse in surface ponds. Again, the company had no such permit. Statutes also prohibited the discharge or disposal of sewage into "the waters of the State." Although the State required the company to make some clean-up efforts, it apparently never fully enforced these statutes.

Most Local Officials and Other Interested Parties Are Not Satisfied With the State's Handling of Water Contamination Problems

The auditors interviewed a variety of people knowledgable about State water issues. These officials, and other interested parties generally had some concerns about the way the State responds to water contamination problems.

- There are too many water agencies whose actions are overlapping and uncoordinated, particularly the Department of Health and Environment and the Groundwater Management Districts.

- The [contamination] problem has been handled competently, but [the district office geologist] does not have enough time to devote to the problem.

- Chemigation is an area that the State needs to provide additional resources for. There is only one person monitoring this for the Board of Agriculture for the entire State. Also, district offices of the Kansas Department of Health and Environment need additional personnel. [The official has] submitted several complaints about open wells and has not even received acknowledgment of those complaints. Two of the more than 300 sites listed as contaminated are in [this] district and [the official has seen] no activity on them. In one case the owner was required to drill an observation well about five years ago and the State has not yet asked for a sample of the water.

- The Department is under-funded and understaffed in the field offices. The organization is top heavy in Topeka. The Dodge City district office [staff] are doing the best that they can with the available resources. Chemigation is used extensively in the district and one person from the Board of Agriculture is not enough to monitor the whole State. The State agencies need to pay more attention to the construction and plugging of wells. Not all requirements are being met in this area and the State is not monitoring them.

- The main problems boil down to money; Department district officials have no equipment for taking samples, and not enough field personnel to maintain a field presence in the district. Most local people would have no idea who to call at the Department if they had a water problem.

- The Department has some serious problems in the way it approaches its duties. For example, the Department takes the position that officials cannot do anything without specific statutory authorization. The Department is top-heavy, administratively, and has "too many chiefs and not enough Indians" in the field. It is not just a question of money; the Department is inefficient now, and if officials get more money, they will just spend it inefficiently. The Department needs to re-structure its environmental machinery.

- The Department seems to do planning at the expense of a fundamental preventive program and actual cleanup. Although planning is necessary, the Department does a great deal of Environmental Protection Agency-mandated planning and investigating, but no actual implementation of those plans. The Department should break those federal ties that require the Department to spend so much time and money on "planning for the sake of planning", and begin fundamental preventive programs aimed at specific sources.

- There is a need for increased enforcement by the State. There is also a need for the State to have more personnel in the field to control the water quality. There are too many chiefs in Topeka and not enough Indians in the field. The Topeka office of Health and Environment is primarily concerned with Environmental Protection Agency programs that keep those people forever in the planning stage of contamination cleanup without ever getting to the implementation stage.

sees a void in the State's water pollution control program. He said that because the State does not actively pursue the plugging of abandoned water wells in his district, which he thinks is an appropriate State activity, the district has undertaken such a program. In response, Department officials say that the districts have a single task, but the Department has "multi-tiered" tasks, and sometimes the districts do not appreciate the demands that those other responsibilities put on the Department.

- **The Department often defers to localities' decisions, particularly as related to sanitary landfill sites.** The file for the Riley County sanitary landfill showed that

the State had concerns about the location of the site before it issued a permit. Although numerous attempts were made to locate another satisfactory site, the county still chose to locate its landfill at the site of the old city dump. The Department of Health and Environment gave the county a permit to operate the landfill at that site despite its concerns, which ultimately proved well-founded. Department officials told the auditors that it is up to a locality to find a site for a landfill. As long as the locally approved site meets State criteria, these officials said the Department has no choice but to issue a permit, unless an imminent public health threat can be shown. A similar situation has surfaced with the Quindaro landfill site being considered in Wyandotte County. As described in the accompanying profile, this site is located on the Kansas River above the intake for the Kansas City, Kansas, public water supply.

Quindaro Site - Wyandotte County Sanitary Landfill

In 1982, Kansas City, Kansas, officials issued a special use permit to allow the site of the old Quindaro commercial area to be operated as a sanitary landfill. Following that approval, this site received a permit from the Department of Health and Environment in 1983. The site is located about 3/4 of a mile upstream from the Kansas City, Kansas, public water supply intake. Residents and city utility officials are concerned that the location of the site poses too great a risk to the city's water supply. Their concern is that all landfills will eventually leak.

Because of the close proximity of the water intake, Health and Environment officials have attached numerous conditions to the permit to ensure that it will be as safe as possible. These officials acknowledge that the site poses some risk, but they also think that the conditions they have imposed will minimize the risks.

- **There are limited staffing and funding resources to address contamination and pollution problems.** For example, in Health and Environment's northwest district office, one person is responsible for pollution clean-up activities (including investigation and monitoring) in the entire 19-county area. In addition, the Kansas Board of Agriculture has only one person responsible for operating the State chemigation program, which is designed to prevent contamination of groundwater by irrigation chemicals. Department officials told the auditors that its Bureau of Remediation is not yet fully staffed nor fully funded. Several positions are not yet filled, and fiscal year 1989 will be the first year that substantial State money will be available for clean-up operations. Federal cleanup money, officials say, is just now starting to flow into the State. Much of that money will be directed toward cleanup of major contamination sites, such as the Galena area in southeast Kansas.

- **The Department of Health and Environment spends a considerable amount of time planning or investigating, in part to try to meet federal requirements.** A number of people the auditors talked with faulted the Department for this, and for spending too little time actually cleaning up contamination. The auditors noted, for example, that at least 15 separate site investigations, visits, or assessments have been conducted at the Western Petrochemical plant over the years, but the source of the pollution—petroleum sludge on the ground—has never been cleaned up. Department officials respond that much of the investigation and planning is done because of federal requirements, and because it is supported by federal funds. For example, the Hydro-flex site was investigated under two federal programs, the Resource Conservation and Recovery Act and the Superfund Act. Because cleanup can be so costly, Department officials say they need to try to obtain federal cleanup moneys whenever possible.

Testimony before the House Committee on Energy and Natural Resources
HB 2362: solid waste facility siting

Charlene A. Stinard, Kansas Natural Resource Council

March 2, 1989

My name is Charlene Stinard, and I represent the Kansas Natural Resource Council, whose members advocate sustainable natural resource policies for the state of Kansas.

HB 2363 deals with siting of solid waste disposal facilities. Solid waste management poses two serious environmental problems: 1) groundwater contamination from landfill leachate, and 2) contamination of surface waters from landfill run-off.

In assessing how serious the threat, consider that in 1986, 21% of the National Priorities List sites slated for cleanup under the federal Superfund, are landfills.

Federal performance standards under Subtitle D of the Resource Conservation and Recovery Act (RCRA) establish minimum technical requirements for environmentally sound municipal solid waste disposal facilities. New EPA regulations are expected later this year, but currently few landfills meet minimum design features to prevent contamination of groundwater and surface water.

PERCENTAGE OF LANDFILLS USING DESIGN FEATURES, EPA 1986

Liners	15%
Leachate Collection/Removal Systems	5%
Run-on/Run-off Controls	46%
Waste Restrictions	40%
Groundwater Monitoring	25%
Surface Water Monitoring	12%

The enforcement of federal performance standards is left to the states. As a member of the KDHE Solid Waste Management Advisory Task Force, I am concerned that current state standards for siting solid waste landfills are under-developed. Rules and regulations have not been promulgated. The agency's review process is guided by general criteria, which allow broad discretion in siting decisions.

H Energy and NR
3-2-89
Attachment 2

1516 Topeka Avenue • Topeka, Kansas 66612 • (913) 233-6707

Current law does not protect municipal landfills from the dumping of small quantities of hazardous wastes generated in households, on farms, and by businesses. Current practices allow disposal of huge quantities of liquid wastes in municipal landfills. (The Brooks landfill in Wichita has only recently been ordered to refuse the 3 million gallons which were annually dumped there.) The combination of these factors poses a serious threat to our water resources.

The protection of our drinking water supplies is the most critical environmental issue facing Kansans in the 1990's. HB 2363 attempts to fill a void in existing law -- to prevent the siting of solid waste disposal facilities which could contaminate critical drinking water supplies.

We support the intent of this bill to protect our drinking water from the contamination threats associated with solid waste management. However, HB 2363 does not address the specific need for the development of siting rules and regulations, nor the hazardous and liquids waste issues. It is also unclear if all solid waste facilities (including recycling centers, e.g.) are included in the bill's intent, and whether all public water supply systems, including wells, are protected by this bill.

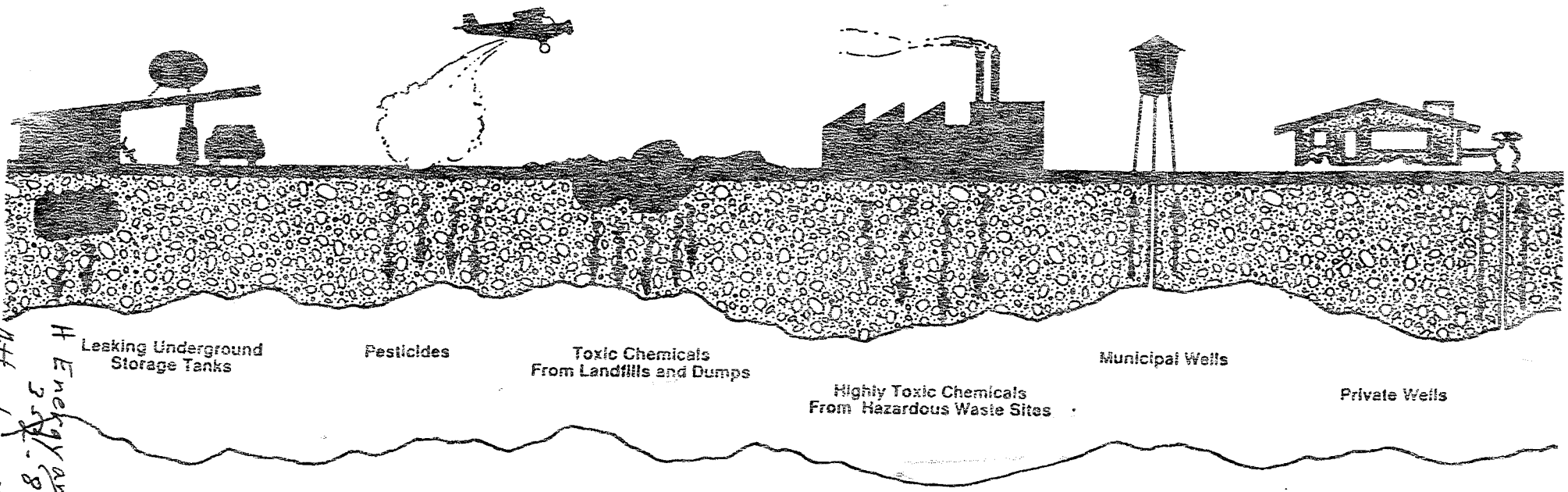
Given past performance, we cannot count on landfill management or the rules and regulations governing their activities to protect our water supplies. It seems only reasonable that the siting of solid waste disposal facilities near critical water supplies ought to be prohibited.

What Goes Into the Ground . . .

"This much we know: If we put toxic chemicals into the ground, they will eventually end up in the groundwater we drink.

Nearly 80% of the toxic wastes end up in the ground, where they will stay for decades, even centuries. The country is literally laced with millions of potential contamination sites".

- Congressional Research Service



H Energy and NR
3-8-89
Attachment 3

Over 500 Billion Pounds of hazardous chemical wastes are improperly disposed of every year.

1. Every day, 50 billion gallons of liquid hazardous wastes are deposited at 26,000 disposal sites. 85% are located directly above aquifers. Some chemicals, such as TCE are so toxic, a single gallon can contaminate a year's worth of drinking water for 3,800 people.

2. Every year, 100 billion gallons of liquid hazardous wastes are absorbed into groundwater supplies.

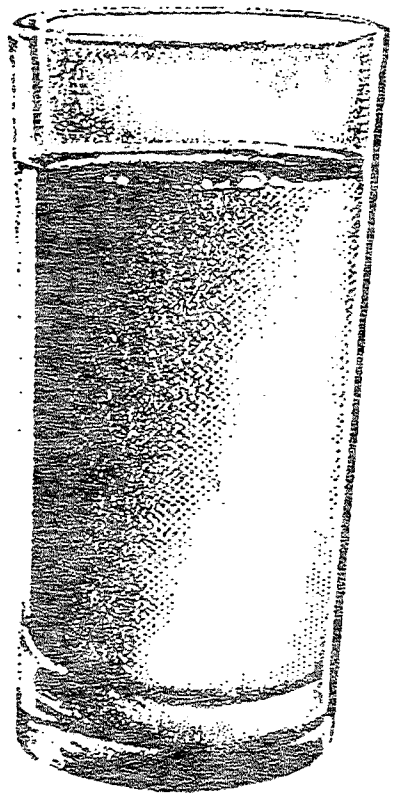
3. Of the 700 chemicals that have already been found in drinking water, most water companies test for less than 30.

4. Of the 1,000 EPA Priority waste sites in the U.S., not one has been cleaned up since the EPA's inception.

Comes Up In Our Drinking Water

Over 700 Chemicals have been found in America's Drinking Water...and most of the time, they can't be tasted or seen.

While there are hundreds of contaminants which have been found in America's drinking water supplies, almost none can be tasted, seen or smelled. Lead, Arsenic, Mercury, TCE, THM's, Nitrates, Nitrites, and pesticides such as DDT and DBCP are among the hundreds of contaminants which have invaded our drinking water supplies. While many of these contaminants are known to cause cancer, others can inflict damage to vital organs including the kidney's, liver, cardiovascular system and even the brain.



Looks Fine...
Tastes Fine...

Is it Fine?

Clear....Doesn't mean safe

"We've been drinking this water for years, and nothing's happened to us yet."

This statement reflects a major misconception held by millions of Americans. They haven't been afflicted by cancer or some other dreaded disease so they think that their water can't hurt them. First, the drinking water crisis has not always been with us. It is a problem which, like a snowball, grows worse with each passing year. So although a person may have been drinking from the same tap for years...the quality of water may have only become problematic, recently. The second reason this is such a misconception, is because the chemical concentrations can be so minute, that it can take years of exposure before irreversible damage is done. By the time symptoms are experienced and diagnosed, the damage is already done.

A word of warning from a Boston University Doctor

We just don't know most of the effects that are occurring. But, the things we've been most concerned about, of course, are those such as cancer because those kinds of effects can appear after even a relatively small exposure to many of these chemicals. These exposures, which sound very small, like one part per billion or ten parts per billion are really very very large at the chemical level. Think of each one of these molecules of a chemical as a bullet aimed at one of the cells of your body that can cause cancer. If you have one part per billion in a quart of water, we're talking about a number of "bullets" equal to one with 15 zeros after it (1,000,000,000,000,000). It's just an enormous number of that supposedly very small amount of chemicals. These numbers aren't very small at all. They're really quite large. So that's one thing. We're concerned about those cells developing into cancer. -Dr. David Osonoff, Epidemiologist, Boston University

3-2

Kansas Wildlife Federation, Inc.

200 S.W. 30th, Suite 101 • P.O. Box 5715 • Topeka, KS 66605

TESTIMONY HB 2363

HOUSE ENERGY AND NATURAL RESOURCES COMMITTEE
PRESENTED BY Jerry R. Hazlett, Executive Manager
March 2, 1989

The Kansas Wildlife Federation is a not-for-profit natural resource conservation and education organization. Our 8000 volunteer members join with the 10,000 Kansas members of our affiliate organization, The National Wildlife Federation to support the sound use, management and enjoyment of our vital air, water, soil and wildlife resources.

The Kansas Wildlife Federation thanks you for this opportunity to testify in support of HB 2363.

KWF supports the passage of this bill because it includes restrictions on solid waste sanitary landfills.

Our concerns about landfills are based on two facts:

Fact 1 - Regardless of the existing state of landfill technology, landfills do leak. Break-down chemicals within landfills leach into surrounding ground and/or surface waters.

Fact 2 - Many of the leached chemicals are potentially and/or actually dangerous to all biological life - plant, animal and human. This danger is compounded when one considers most landfills receive hazardous urban wastes such as paint, pesticides, cleaning compounds, medical and light industrial. These leachates run a whole dangerous chemical spectrum from arsenic to vinyl chlorides.

Even though KWF is in support of this legislation as written, we would also support amending line 103 and 104 restricting this bill to solid waste sanitary land fills only.

It is our understanding that current EPA regulations now prohibit such land fills within the 100 year flood plain of any stream. Thus, to be consistent with EPA, we advocate amending line 107 by striking "within one mile of a navigable" and replacing it with "within the 100 year flood plain of any".

KWF's final reason for supporting this bill is that, if passed, it will stop the development of the Quindaro Landfill Site in Wyandotte County. It will allow an opportunity to preserve that site for its historical and cultural significance to Kansas. In addition, it will help protect the already environmentally besieged Missouri River and our Missouri neighbors upon whom our contaminants will be cast.

KWF respectfully asks this Committee's serious consideration of HB2363 and its need for Kansas.

H Energy and NR
3-2-89
Attachment 4

Hon. Dennis Spaniol, Chairman
Energy and Natural Resources Committee
Representative, Kansas Capital Building
Topeka, Kansas

HB 2363
March 2, 1989
3:30 p.m. Hearing

My name is Betty Roberts a Kansas City, Kansas Citizen of 535 Westvale Road, Kansas City, Kansas 66102.

I'm testifying for passage of HB 2363 regarding keeping our rivers clear of toxic chemicals. I'm speaking especially of preventing a landfill operation on the Missouri River which empties into the Mighty Mississippi River all the way to the Gulf of Mexico. This is one of our greatest natural resources and any contamination would be a disaster to the health of our citizens of Kansas City, Kansas, Kansas City, Missouri and on to New Orleans. The intake valve for our water supply of Kansas City, Kansas is less than 3/4 mile from the proposed Quindaro dumpsite (Johnson County buys ½ of our water supply). Kansas City, Missouri gets their water from the Missouri River and their intake valve is within 3 miles of the dumpsite. Mayor Berkley has been on T.V. against it, Council chairman Protem Immanual Cleaver waited til midnight at a Kansas City, Kansas hearing to have the privilege of testifying against the Quindaro landfill because of the threat of water contamination endangering the health of their citizens. They seem to be more aware of the cost to the city of depending itself awgainst lawsuits of the citizens to treat cancer, infertility, bladder infections, etc. they may get from the polluted water or airborne lung problems.

The chemicals that brew in a landfill are nothing to be sneezed at. I know personally because it is painful for me to sneeze as a result of lung scarring from my first attack SLE Lupus which left me with 1/3 lung capacity, many bladder infections. My immune system is compromised so I'm open to any infections that go around. Even a cold or flu can put me out for weeks or a month. I can't imagine any sound-minded person allowing a dump right next to the old Douglas Hospital which is now a nursing home for elderly people. It and John Brown Italian marble statue for which black people raised the $27,000 with penny contributions and inscribed In memory of John Brown...from a grateful people... the land to be used for the people I don't think a dump on their history is what the penny contributors had in mind. The landfill would also destroy the Quindaro Cemetary where the early white settlers from New York and the East drawn by glowing reports of new opportunities in the Kansas Territory at Quindaro were buried and is still in use today by blacks. The founder of Quindaro, Abelard Guthrie married the daughter, Quindaro, of the Wyandotte Indian Tribe Chief who lived on the land before the white men came. Traditional Indians don't "own" Mother Earth so it was easy for the Federal Government to move them to Shawnee Indian Territory (we still have the national historic Shawnee Indian Missouri in Johnson County). The modern Shawnee tribe filed a lawsuit in 1988 claiming ownership of their tribal grounds but they lost the lawsuit since this is now Mission Hills Golf Course elegant homes such as owner of the Royals, Ewing Kaufman, The Russell Stover home, many churches including Methodist church on Johnson Drive near the Mission.

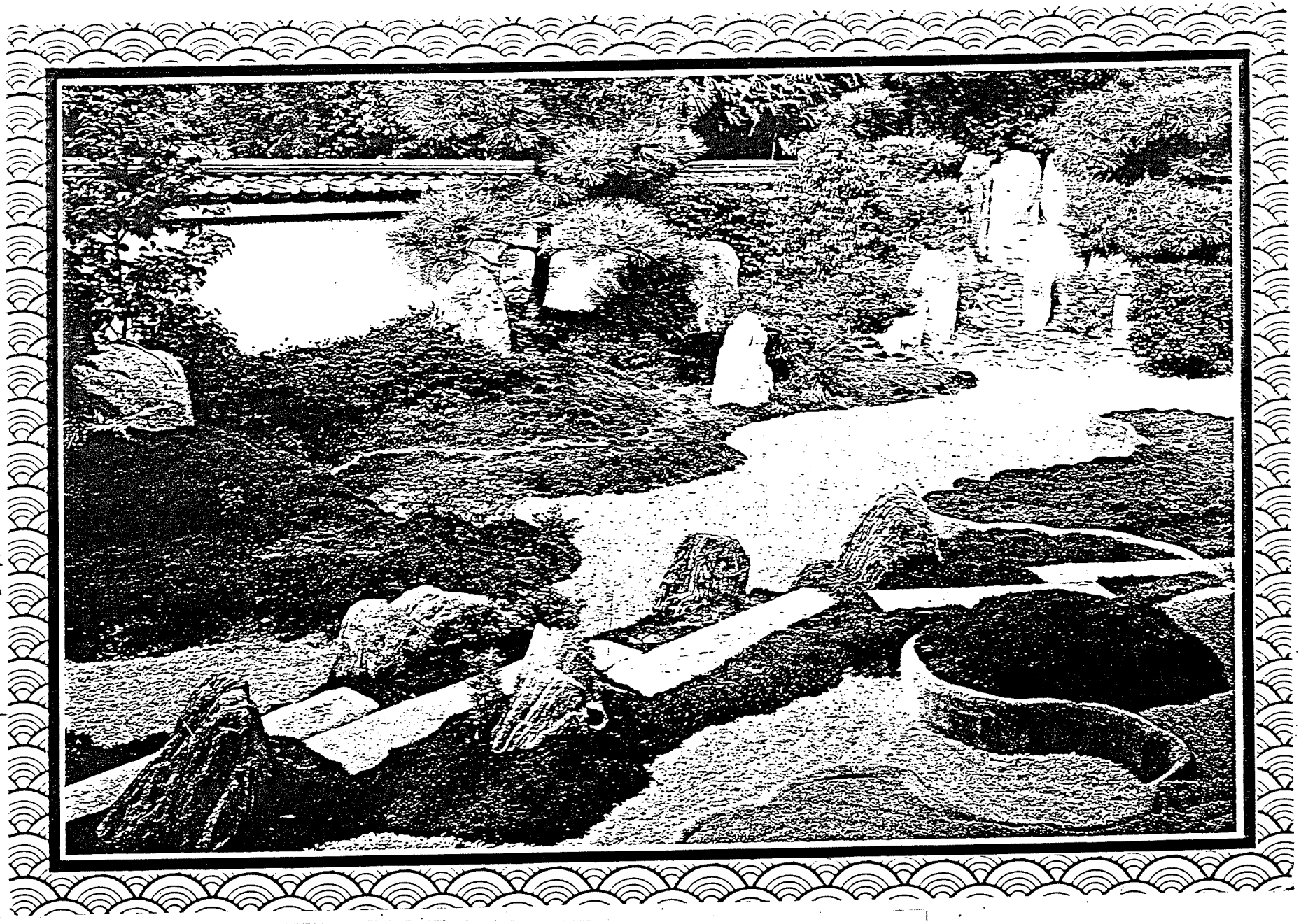
Back to my own interest in preventing this landfill which would contaminate our drinking water - I and my 7 brothers and sisters and our husbands and wives adn my 82 year old stepmother and her realtor-assessor friend, Bob Vaughan, 82 also graduated from Wyandotte High School, now a National Architectural Monument, and we all drink the Kansas City, Kansas water. I would prefer it not be detrimental to our health.

Thank You,

Betty Roberts
535 Westvale Road
Kansas City, Kansas 66102

There are 3 nearby communities who have offered to our city to take our trash. Whether we need them may depend on your ruling.

H Energy and NR
3-2-89
Attachment 5



Quindaro Ruins/Underground Railroad

H Energy and NR 3-2-89 Attach. 6

Session of 1989

a Natural Resource

HOUSE BILL No. 2363

ENERGY & NATURAL RESOURCES
HB 2363

02 March 89

Statement of Marvin S. Robinson, one of the Independent Volunteer Researchers to prevent more Missouri River contaminations, and serious water destruction, before the Natural Resources and Energy Committee in Topeka.

The Quindaro Ruins/Underground Railroad -Missouri River prevention is synonymous and inseparable with standard dictionary definitions to Energy and Natural Resources. On behalf of Interested Parties and Persons, other Independent Volunteer Researchers it is my humble privilege to convey our fervent appreciation for the opportunity to address the Energy and Natural Resources Committee.

Independent Volunteer Researchers present: Exhibit **1.A.)** Informational Workbook- compiled by the currently unincorporated- Quindaro Town Preservation Society; Exhibit **2.A.)** the City of Kansas City, Missouri's Review of the Proposed Quindaro Landfill; **3.A.)** A videotape of news broadcast from three local stations and public television's KCPT-19; and **4.A.)** a article from the oldest Black weekly newspaper west of the Mississippi River. K.C. THE CALL of which a continuous series has been published since May of 1987 about the water and natural resources of the Pompeii of Kansas.

Each of these four information materia
will be [redacted] available, in the Honorable Chairman Rep.
Dennis J. Spaniol's office, for your prompt review,
at leisure. In the same vein, I must plea for
their return, because as I tried to explain previous
we are just volunteers and have no access to
vouchers, billing statements, expense accounts
are other ~~luxurious~~ services agencies or entities have
at their pleasure.

Archeaology, Culture, Art, Anthro-
pology, Creativity, Water, Health, the Environme
and Rivers are Kansas - ENERGY and Natural
Resources. An Urban Archeaological Laboratory
would serve just fine to wipe the mud off of
the Diamonds of God through Universities and
New Welfare Reform programs.

HB 2363 demands your very prompt
serious attention, as a matter of fact your yes
votes on HB 2363 will signal the abolishment
of Environmental SLAVERY. Dumps, Incinerators
River Port Trash barges are not unique, they
are common practice of "state-of-the-art"
expert theories. But the experts can not tel
us how to grow, build, manufacture, nor
franchise water resources such as creeks
Spring water trails or rivers. Mississippi River
users will also be directly adversely affecte
if efforts to save the Slave Caves

in 'e Pompe' of Kansas. ; since HB 63
is available as an optional service delivery
target, it becomes my duty to BEG on
mercy of your jurisprudence and spiritual
conscience.

Europe has banned the export of
American beef products because of growth hormone
imports. The Food Drug and Administration in 1988
ordered the destruction of seventy million pounds
of chickens because of ~~chl~~ heptachlor contamination
which was only banned by the EPA in Dec. 87.

Kansas Department of Health and
Environment told me I should not be concerned
when an article appeared in the KC Times
about rural infants outside of Topeka, developing
the Blue Baby Syndrome, "Because it was a
rural problem and people in urban and suburban
areas had no reason to be concerned."

Even the City of Topeka dumped
over 50 million gallons of raw and liquid
sewage in the Kansas River, with K.D.H.E.
approval and supervision. Worst was no downstream
river users were notified.

In closing, thank you for
the privilege of allowing regular folks to
take part in the process, unlike the
Appropiations Committee Chairman, who has
decided not to hold a hearing on the
historical acquisition.

A yes vote on HB 2363 is
a affirmative vote to halt Environmental Slavery.

Marvin S. Robinson P.O. Box 2603 • K.C. Ks. 66110. 6-4

Gerald B. Lee, M.D.
Lee Family Practice
3005 Strong Avenue
Kansas City, Ks 66106

Representative Bill Wisdom
State Capital Building
Topeka, Kansas 66612

February 28, 1989

Dear Representative Wisdom,

I support house bill 2363 designed to protect our major rivers and drinking water resources from contamination by improperly placed landfills.

The West Central Medical Society of Missouri, of which I am the President, endorses your proposed legislation wholeheartedly. The physicians of the West Central Medical Society, as well as many physicians that I have spoken with in the Kansas City area, are dismayed that anyone would want to place a landfill in juxtaposition to our rivers because of the harmful effects to the human body from consuming contaminated water.

Not a day passes that we don't hear on the radio or see on television or read in the newspaper of a new contaminate to our water resources. Not a day passes that we, as physicians, don't see a patient who has suffered because of mismanagement of our environment. Not a day passes that we do not hear through the press about a toxic clean-up that could have been avoided if more planning and foresight had been utilized.

Nearly all of our citizens are aware of the harmful effects of pollutants in our drinking water. I have included, as an attachment to this letter, several previous letters I have written to various state agencies outlining the medical consequences of contaminated drinking water.

We as physicians agree that landfills should be placed at least 1 mile away from our major water resources and rivers.

H Energy and NR
3-2-89
Attachment 7

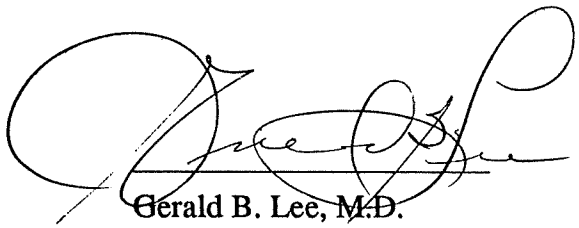
The environmental community endorses your house bill 2363 and commends you for your leadership and foresight. The Conservation Federation of Missouri, along with the Kansas Wildlife Federation - the Missouri and Kansas affiliates of the National Wildlife Federation, respectively, applaud you for your proposed legislation.

The National Wildlife Federation will vote on a resolution which is quite similar to your proposed house bill 2363 at the annual convention in Arlington, Virginia on March 16. It is my understanding that resolution will pass without any descending votes - since we of the Federation are quite concerned about the long-term harmful effects of chemicals, pesticides, etc. on human beings as well as wildlife.

If we can be of service to you, or testify before the house committees considering this bill, please do not hesitate to contact us.

Best regards.

Sincerely yours,



Gerald B. Lee, M.D.
President, West Central
Medical Society of Missouri

Quindaro Landfill and Pollution of the Missouri River

Whereas, the West Central Medical Society of Missouri is comprised of physicians dedicated to serving the citizenry of 5 counties to assure them optimal health care.

Whereas, the Missouri River is one of our greatest natural resources and is expected to supply 80% of Missouri's drinking water by the turn of the century,

Whereas, the Environmental Protection Agency (EPA) stated in the August Federal Register that all landfills and leachate collection systems ultimately fail,

Whereas, Browning - Ferris Industries plans to place a solid waste landfill on the Quindaro Bend of the Missouri River 400 feet from the river.

Now, Therefore, Be It Resolved, that the West Central Medical Society at its November 30, 1988 meeting in Butler, Missouri opposes this landfill.

Be It Further Resolved, that we support the opposition of this landfill by the Conservation Federation of Missouri and request the Missouri State Medical Association also oppose this landfill because of the probable medical harm to our citizens and their offspring.

Be It Further Resolved, that the Environmental Protection Agency develop stricter criteria for municipal solid waste landfills so that no future landfills be placed in the 500 year flood plain and at least one mile distant from our major water resources or their major tributaries,

Be It Further Resolved, that the Department of Natural Resources of Missouri and the EPA commence cleanups of landfills that have been inappropriately placed in juxtaposition to our rivers.

H Energy and NR
3-21-89
Attachment 7a

GERALD B. LEE, M.D.
3005 STRONG AVENUE
P.O. BOX 6037
KANSAS CITY, KS 66106

913-831-1111

March 30, 1988

Governer Mike Hayden
State Capital
Topeka, Kansas 66612-1590

Dear Governer Hayden:

Thank you for replying to my letter regarding a landfill at Quindaro. There continues to be sharp differences of opinion regarding the safety of this project. As a physician, I would like to point out problems that will occur to future generations as a direct consequence of placing a landfill alongside our Missouri River.

My first concern is direct flooding of the landfill and the lagoon. Using the Missouri River Profile provided by the US Army Corps of Engineers, Kansas City, Missouri, November 1977, the 500 year flood will rise to 767.1 feet mean sea level (MSL) or five feet ABOVE the bottom of the lagoon and ABOVE the landfill. At the time of that flood, the flow will be enormous - 460,000 cubic feet/sec which will probably demolish the sides of the lagoon and rip out the drainage pipe that drains toxics from the landfill into the lagoon. That flood will probably flush water back into the bottom of the landfill but as the flood recedes, there will be direct flow from the bottom of the landfill back into the Missouri River. The 50 year and 100 year flood levels will not be as high and the volume of flow will not be as great but those floods will come dangerously close to, or cover the lagoon and landfill.

My second concern is pollution of our key water resource by adjacent ground water contamination. Browning-Ferris Industries plans to use the state of the art Geonet liner system; however, all the experts agree that this technique will retard leakage but sooner or later all landfills leak regardless of the technology used. The reason why these liners eventually leak is that household and small business items such as solvents, paints, cleaners, disinfectants and auto products cause damage to the liners. This has been verified by Ervin Sims, Jr., Manager of Water Operations, Board of Public Utilities, Kansas City, Kansas. Therefore, Mr. Sims and the Board of Public Utilities oppose Quindaro.

A third concern I have is plans for another solid waste landfill 1.2 miles west of Quindaro also in the flood plain of the Missouri River. Exact elevations of this landfill are not known but plans by Deffenbaugh Disposal Service are proceeding.

H Energy and NR
3-2-89
Attachment 7b

A fourth concern I have is the additive or cummulative effect of pollutants upstream from Kansas City. As the Missouri River begins in Montana and meanders through the Dakotas and various other states, it picks up tributaries and pollutants which eventually arrive in Kansas City and other municipalities on the river. The higher the concentrations of these toxics downstream, the greater carcinogenic effect on the human body using that water - and a greater likelihood of mutation of genes of the unborn fetus. It appears to me that we should not compound the problem by adding <u>two</u> more landfills along side of the Missouri River.

Congress directed each state to be responsible for its solid waste twelve years ago. You are the only individual who can stop this project.

Last month the Conservation Federation of Missouri issued a resolution opposing the Quindaro landfill. Currently, the Executive Committee of the Missouri State Medical Association is considering a similar resolution.

I am firmly convinced that through your strong leadership and examination of the facts, Quindaro will be halted.

Sincerely yours,

Gerald B. Lee, M.D.

GBL/erd

CONSERVATION FEDERATION OF MISSOURI

DEDICATED TO THE CONSERVATION OF OUR NATURAL RESOURCES

728 WEST MAIN STREET • PHONE 634-2322 JEFFERSON CITY 65101-1534

ED STEGNER
EXECUTIVE DIRECTOR

CHARLES F. DAVIDSON
ADMINISTRATIVE ASSISTANT

August 20, 1988

The Honorable Mike Hayden
Governor of Kansas
State Capitol
Topeka, Kansas 66612

Dear Governor Hayden:

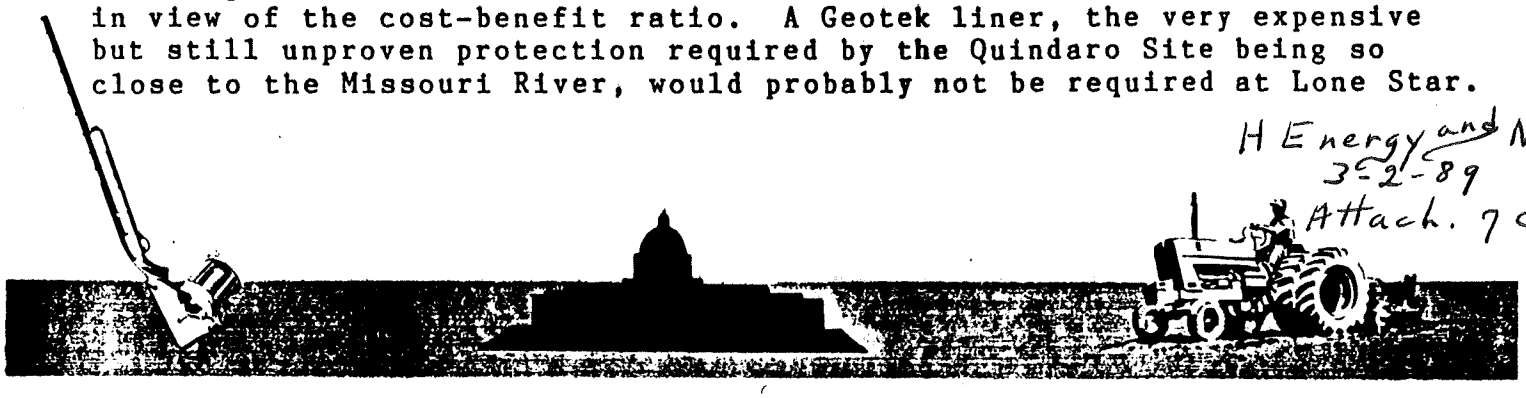
Governor John Ashcroft has shared with us your recent letter addressing the problem of a proposed landfill at Quindaro Bend. We of the Conservation Federation of Missouri are pleased that the governors of both states have been willing to look at this problem and through your leadership we are confident a compromise can be achieved.

As you know the Conservation Federation of Missouri objects to a landfill adjacent to the Missouri River because it basically is our only source of drinking water for millions of Missourians as well as Kansans. We commend the efforts of the Kansas Department of Health and Environment for requiring strict guidelines for Browning-Ferris Industries and their Quindaro plans, but the placement of a landfill so close to the Missouri River simply does not make good sense. We believe an alternative site can be chosen which will satisfy all parties concerned and in the long run will be much better for all citizens of Kansas and Missouri. We urge that a coordinated bi-state planning effort be undertaken so that we can adequately address the problems of trash disposal for the next decade as well as the next century.

One possible alternative to Quindaro is at Bonner Springs, the Lone Star Site. Lone Star is located in the western portion of Wyandotte County, just north of I-70, and has numerous advantages over Quindaro Bend. There are 13-1/2 million cubic yards of storage capacity for trash, almost twice as much as there is at Quindaro. And, the location should not pose a direct threat to the major water supply for the region - the Missouri River.

Browning - Ferris Industries should be interested in this alternative in view of the cost-benefit ratio. A Geotek liner, the very expensive but still unproven protection required by the Quindaro Site being so close to the Missouri River, would probably not be required at Lone Star.

H Energy and NR
3-2-89
Attach. 7c



Furthermore, at the Lone Star Site, the more modern "transfer station" concept could be applied. This concept would allow large back-loading trash trucks to dump their load at a building with a concrete slab whereby a process to sort the trash for three different uses would begin.

The first phase would be to sort out the recyclables such as aluminum, steel and iron. Such an operation would create new business and jobs for Wyandotte County citizens. Secondly, articles which are unsafe in landfills but which can be safely incinerated, would be sorted. An incinerator could produce a positive cost-benefit ratio for Browning-Ferris or some other company, and it is possible that they could also generate their own electricity -- a trash to energy plant. Should this approach be taken, less high sulfur coal would be needed to produce electricity, helping reduce sulfur dioxide, the main precursor of acid rain. The remainder of the items could then be landfilled at the Lone Star Site safely and with the satisfaction of knowing that we had all applied our most up-to-date knowledge to avert potential environmental problems.

Such a transfer station concept sounds complicated. But on August 17, Boulder, Colorado entered into such an agreement with Western Disposal, the major trash hauler for that area, and with Eco-Cycle, which is a non-profit organization that currently has been working in the Boulder area recycling various items for 22,000 Boulder households. It is my understanding that Denver and Colorado Springs are currently thinking about a very similar proposal. If it can be done in Colorado, I feel that we in Missouri and Kansas can also protect our environment and use the "transfer station" approach to deal with our trash and its various components.

Should an alternative site be selected, Quindaro could then be made into a national monument, a concept which is extremely appealing to several legislators at both the state and federal levels. This national monument would be a symbol in honor of the "black freedom historical movement" which played such an important role just prior to and in the early days of the Civil War.

Kansas City, Kansas would gain from tourism benefits, and a marina could be considered at the Quindaro site. If that is not feasible, it might at least be possible to construct a landing with a bridge so that foot traffic could safely cross over the Missouri Pacific tracks to access the historical monument which would be on the hill above Quindaro. A national monument should appeal to the City Council of Kansas City, Kansas much more than an open field with methane gas produced from the landfill leachate.

We at the Conservation Federation of Missouri stand prepared to cooperate with you to find solutions to this very serious problem that straddles our state line. We would like to see a short-term as well as a long-term plan that addresses the problem of management of trash so that we can enter the next century knowing that we are protecting the public health of all our citizens, both in Missouri and Kansas.

Very truly yours,

Gerald B. Lee, M.D.
Chairman, Forestry Committee

br

cc: Governor John Ashcroft
Charles Bell, President CFM

Pollution of the Missouri River by Quindaro Landfill

1. Groundwater Seepage

2. Surface Flooding

3. Cummulative Effect of River Pollutants

H Energy and NR
3-2-89
Attachment 7d

Quindaro Landfill Medical Problems

I. Inorganic

Lead	Brain, Blood
Mercury	Brain, CNS
Cadmium	Liver, Kidney
Arsenic	Cancer of skin, Lung, Kidney, Liver

II. Other

Aromatic Amines	Bladder Cancer
Vinyl Chloride	Cancer of Liver
Toluene	Depress CNS, Alteration of Genetic Expression
Benzene	Leukemia
Chlorinated Hydrocarbons	

H Energy. and NR
3-22-89
Attachment 7e

Alternative to Proposed Landfill at Quindaro Bend on the Missouri River

WHEREAS, the Missouri River has historically been regarded as one of the most significant natural resources in these United States; and

WHEREAS, Browning-Ferris Industries of Kansas City, Inc., has applied for permits to place a sanitary landfill at the Old Quindaro Townsite in Kansas City, Kansas; and

WHEREAS, this landfill would be only 200 to 400 feet from the major drinking water resource of the State of Missouri - The Missouri River; and

WHEREAS, the landfill location is sixteen blocks upstream of the Kansas City, Kansas drinking water in-take and 2.1 miles above the water in-take for Kansas City, Missouri; and

WHEREAS, if the landfill were allowed, chemicals hazardous to human health would leak into the surrounding land and water or would be carried in run-off to the river despite "state of the art technology;" and

WHEREAS, the U.S. Environmental Protection Agency has said in the Federal Register (Aug. 1988) eventually "All landfills and leachate collection systems eventually fail;" and

WHEREAS, Kansas and Missouri health and environmental officials have said that "if the landfill leaks and contaminates the Missouri River, the consequences would be serious; and

WHEREAS, the placement of a landfill so close to the Missouri River simply lacks prudent constraints; and

WHEREAS, alternative sites exist that are far more acceptable and outside of the floodplain of any river or stream; and

NOW THEREFORE BE IT RESOLVED that the National Wildlife Federation at it's annual meeting assembled March 16-19, 1989, in Arlington, VA., hereby opposes the placement of a landfill at the proposed Quindaro Bend site on the Missouri River and urges an alternative site be selected not within the 1000-year floodplain of a major river or stream; and

BE IT FURTHER RESOLVED that the Environmental Protection Agency adopt this as a minimum standard where reasonable for landfill placement throughout the United States.

H Energy and NR
3-2-89
Attachment 7f

GERALD B. LEE, M.D.
3005 STRONG AVENUE
P.O. BOX 6037
KANSAS CITY, KS 66106

913-831-1111

June 16, 1988

The Honorable Mayor and City Council
City of Kansas City, Kansas
1 Civic Plaza
Kansas City, Kansas 66101

Dear City Officials:

Most of the correspondence over the past four years has stated there would be no contamination of the Missouri River drinking water if a solid waste landfill were placed on the Quindaro Bend in Kansas City, Kansas. However, a letter dated May 31, 1988 from the Kansas Department of Health and Environment raises new concerns from a public health standpoint.

In that letter, Secretary Stanley C. Grant, Ph.D, stated the landfill will be well constructed and is state of the art - but contamination of the Missouri River drinking water downstream from Quindaro could occur and "the consequences would be serious."

What types of materials do we generally discard weekly from our households and small businesses that may cause serious consequences to human life if those materials gain access to our drinking water? Materials such as waste oils, batteries, spent solvents, waste paints, corrosives, metal wastes and empty pesticide containers all may harm the human body.

Currently the EPA is working on a list of 83 contaminants to establish maximum contamination levels (MCL's); Congress mandated that the EPA establish these levels by 1992. From that list of 83 contaminents, let us examine only 8 substances and 2 groups of compounds that have been recognized as causing cancer or organ damage in humans; each of these substances is found in the trash daily. As references, I have used only the standard testbooks of Toxicology and Cancer 1, 2, 3.

H Energy and NR
3-2-89
Attachment 7g

LEAD Lead may lead to a variety of neurological problems such as mental retardation, muscular weakness (wrist drop) and in children, convulsions and coma. Lead may also lead to kidney or blood disorders. Lead is cumulative in the body and once deposited in a tissue or organ, it remains forever.

Lead is widely used in and out of industry. Used batteries and printers' type are lead products that are eventually disposed of in landfills.

MERCURY Mercury also causes brain and nerve damage. Kidney damage may be seen. A salt of mercury is corrosive and may errode through clay liners used in the bottom of landfills. Mercury is widely used in business and industry. Dentists and doctors' offices routinely use mercury compounds and discard them in their waste baskets or trash.

CADMIUM Cadmium is widely used in industry - a byproduct of zinc smelting. Cadmium is used in nickel - cadmium batteries and as a fungicide on lawns and golf courses. Cadmium causes liver and kidney damage.

ARSENIC Arsenicals are used as rodenticides, insecticides, herbicides and in paints. Acute arsenic poisoning is well known but less well publicized are the chronic effects of arsenic. Lung and skin cancer are caused by chronic exposure to arsenic as well as liver and kidney damage. A commonly used insecticide - calcium arsenate - is highly toxic and may cause damage to the liver, kidney, brain, bone marrow and peripheral nerves.

AROMATIC AMINES Naphthylamine - A compound used in the dye and cleaning industry causes cancer.

In one dye factory, 100% of the workers developed cancer of the bladder. Similar aromatic hydrocarbons are being used by our cleaning establishments today.

VINYL CHLORIDE Vinyl chloride is used as a refrigerant and aerosal propellent. Vinyl chloride causes a rare form of liver cancer, angiosarcoma.

TOLUENE Toluene is a solvent used in the rubber and plastic industry as well as the medical laboratory. Medical effects of Toluene are two fold 1) depression of mental function and 2) alteration of the genetic expression or structure of the unborn fetus.

BENZENE Benzene was recognized by OSHA to be the cause of cancer of workers exposed in 1977. Benzene and closely related compounds are widely used in the manufacture of drugs, chemicals, pesticides, degreasors, varnishes, stains and cleaners.

Chlorinated Hydrocarbons and related compounds An example of this very large, poorly understood and complex group is Lindane or benzene hexachloride (BHC). This compound has nine different isomers or

structures all of which have different effects on the human body. For example, one form of Lindane is a stimulant and another isomer of Lindane is a central nervous system depressant. The EPA has sharply curtailed the availability of many of the compounds in this family but Lindane is still used and is the active ingredient of many of the products for pest control in the home and on the farm.

Lindane is even used in medicine as the active ingredient of the drug to treat scabies (Kwell).

ORGANOPHOSPHATES - Pesticides Fonofos (Dyfonate) is one example of this group. A widely used pesticide, may produce nerve damage. Malathion (Cythion) is another in this group. It is a widely used mosquito spray that has been reported to be relatively safe. However, it has been recently discovered that malathion changes its structure after nine years to isomalathion which is highly toxic to nerve tissue. In fact, sprayers from Pakistan using malathion thought to be 15 years old had serious neurological complications. Of the 7,500 workers, 2,500 developed peripheral nerve problems and 7 died. Placing substances such as malathione at Quindaro could prove to be catastrophic to future generations.

Speaking as a physician, I feel there should be no landfill at Quindaro. Four hundred feet from our major source of water is too close. Secretary Grant says there could be pollution, if so, it would be serious. I suggest you follow his advice. I ask you to revoke the permit. Let us correct our mistake. Let us find an alternate site for the landfill which will not harm our water supply or endanger human life.

In closing, I quote part of the letter that Indian Chief Sealth of the Duwanish Tribe of Washington wrote to President Franklin Pierce in 1855, only two years before Quindaro was officially founded. "The whites too, shall pass - perhaps sooner than other tribes. Continue to contaminate your bed and you will one night suffocate in your own waste."

Sincerely yours,

Gerald B. Lee, M.D.

GBL/erd

References

1. Clinical Toxicology of Commercial Products, 5th Edition, Gosselin, Smith and Hodge, Williams and Wilkins, 1981.

2. Cancer, Principles & Practice of Oncology, 2nd Edition; DeVita, Hellman, Rosenberg, Lippincott, 1985.

3. Recognition and Management of Pesticide Poisonings, U.S. Environmental Protection Agency, 3rd Edition, 1982.

March 1, 1989

The Honorable Dennis Spaniol
State Capitol Building
Topeka, Kansas 66612

Energy and Natural Resources Committee H.B. 2363
Chairman: Dennis Spaniol

The Honorable Representative Dennis Spaniol

I am very much in favor of House Bill #2363 which would prohibit a solid waste disposal site from being located within one mile of a water stream or a water plant intake. I would hope that your committee would approve it without delay and send it on to the House of Representatives for passage.

After having worked at the water treatment plant of the Board of Public Utilities, Kansas City, Kansas for a span of 38 years, as a Chemist and Water Plant Superintendent for the last nine years before retiring, I am very much aware of the danger to the water supply of a city that is adjacent to a solid disposal site. The danger that such a site presents is not only when the disposal site is being filled but also for years after it is full and forgotten and substances begin to leach out. The Environmental Protection Agency has made the statement that "all landfills eventually leak".

As an example of another serious possibility, one of which I have had first hand knowledge, is as follows. In January, 1982 when I first learned of the possibility of a landfill being built less than one mile upstream from our intake, I wrote a letter to the Utility Manager and the City-County Health Department informing them of my concern. Later, Browning-Ferris Industries took us to visit one of their landfills near Parkville, Missouri to show how carefully they were built and how each load was inspected to prevent any toxic materials from getting into the site. A few months later, it was discovered that some 12,000 gallons of toxic material had been dumped into this same landfill. They were required to dig them up and take them to a toxic waste site near St. Louis. (See attached memo.)

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Attachment 8

Studies by the E.P.A., in connection with the Safe Drinking Water Act have determined that other materials such as plastic bottles, etc., eventually break down into undesirable chemicals. It is because of the above and other possibilities I am convinced that landfills should not be located near streams or water plant intakes. Thus, I would request your support of H.B. #2363.

Respectfully submitted,

Kermit A. Mangun

Kermit A. Mangun

B.P.U. Superintendent of Water Processing, retired 1985
Chairman, Kansas Section, American Water Works Assn. 1972-73
American Water Works Assn. George Warren Fuller Awardee 1979
International Board of Directors, A.W.W.A. 1979-1982
Kansas Section, A.W.W.A. Operators Meritorious Service Award 1985

Kermit A. Mangun
2007 North 88th Street
Kansas City, Kansas 66109

MEMORANDUM

TO: Mel Heuer
Erv Sims

DATE: 2-22-83

FROM: Kermit Mangun K. Mang

SUBJECT: LANDFILL, TOXIC WASTE

I want to call your attention to this article in the morning paper concerning toxic waste being dumped into the landfill we visited. You'll note that the landfill employees did not catch the potential problem. It was only the honesty of the chemical company who discovered their mistake, after it had been in the dump site for two weeks. This is just such an incident that gives me concern regarding the K.C.K, landfill.

K. C. Times
Tuesday, February 22, 1983 ★

Landfill deemed safe after sludge is shipped away

By Bruce Bigelow
A Member of the Staff

More than 12,000 gallons of waste sludge contaminated by a hazardous pesticide has been transferred from the Plattco Sanitary Landfill near Parkville to a hazardous-waste dump in eastern Missouri, but not without stirring some anxiety.

State and industry officials said Monday that contaminated material found in the Plattco landfill had been "completely excavated" and posed no danger to nearby residents.

The shipment stemmed from the discovery last week by Mobay Chemical Corp. officials that a mechanical malfunction had resulted in discharge of pesticide wastes into the plant's wastewater treatment system, according to Robert C. Scott, Mobay's division vice president.

Non-hazardous waste sludge is routinely shipped to Plattco from Mobay, which makes agricultural chemicals at a plant in Kansas City. Mr. Scott said Mobay officials found that the error caused the contamination of four shipments of sludge, about 60 cubic yards total, which were taken to the Plattco landfill during the week of Feb. 7.

Mr. Scott said the pesticide wastes were byproducts of a process used to make disulfoton, an insecticide that kills sucking insects like aphids. The insecticide is marketed by

See WASTE, Page B-4, Col. 4

WASTE

Continued from Page B-1

Mobay under the brand name Disyston.

A handbook published by the Chemical Manufacturers Association identifies disulfoton as a poison that can be fatal if inhaled, swallowed or absorbed through the skin. The handbook recommends special protective clothing and breathing apparatus to handle the chemical.

But Mr. Scott said pesticide concentrations amounted to about 2 percent of the waste sludge. Contrary to reports by Parkville residents, he said, no special protective clothing was used in transferring the waste.

"In this particular case we were working with very low concentrations out in the open," he said. "There was absolutely no risk for the workers who were exposed."

Mr. Scott said Mobay last Wednesday notified the U.S. Environmental Protection Agency, the Missouri Department of Natural Resources and the landfill operator about the error. The company also hired a Kansas City firm to transport the wastes to Wright City, Mo., about 30 miles west of St. Louis.

"I saw no real problems if it had been left in place," said John D. Doyle, chief of the technical services section for the Missouri Natural Resources Department. "But we will be following up with Mobay, in particular to find out what happened exactly and why."

Parkville, however, was filled with rumors Friday after residents saw huge trucks that bore placards marked with a skull and crossbones and carrying placards that warned: Poison.

"I saw them coming out of Plattco all day Friday," said Claude Hulen, who lives along the truck route leading to the landfill about four miles east of Parkville. A number of residents, including Mr. Hulen, have sought to close the the landfill, operated by Browning-Ferris Industries of Kansas City Inc.

Others called James G. Trimble, a former state representative and vocal landfill opponent, to say they had seen workers at the landfill Friday wearing protective "space suits."

The big trucks startled some residents hundreds of miles away the same day when they began arriving shortly after 7 p.m. Friday at Bob's Home Service Inc. in Wright City. The facility is the only landfill in Missouri licensed to accept hazardous waste.

Because the trucks arrived after the dump had closed, some residents were startled by the late arrival.

"It was like a midnight dumping," said Sharon Rogers, a local activist who tried to prevent the dumping of contaminated flood debris from Times Beach, Mo., at the same landfill about two months ago. She said the trucks continued dumping until early Saturday morning.

Think SAFETY

FORM NO. 2620 (7-79)

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Attachment 8a

Chairman Dennis J. Spaniol
Energy and Natural Resources Committee
State House Capitol
Topeka, Kansas 66612

House Bill 2363

In the spring of 1985, I became seriously ill with a condition diagnosed as Sinus Histiocytosis. The disease is characterized by huge swelling of the lymph nodes in the neck and a general break down of the immune system. The swelling is so dramatic as to cause compromised ability to breathe and swallow.

I have been hospitalized twenty times in the past four years, most recently, this past December.

I have been unable to work since April of 1985 because the impairment of the immune system causes me to be constantly at risk for infection. I am able to be on my feet because of drugs. I currently take fourteen perscription drugs including two injections. The side effects of the drugs are taking their toll on my body. In addition to the Sinus Histiocytosis, I am also hypertensious, over weight, and am developing osteoporosis and cataracts.

Close to $100,000.00 has been spent on my behalf.

Symptoms similiar to mine are observed in people exposed to toxic waste and industrial chemicals. Usually, removal from the source of exposure relieves the symptoms.

For five years, I lived near a municipal sanitary landfill. In spite of the "state of the art" and safety certification, the dust was a constant nuisance and rain brought odors.

My disease is described as being benign but many of my neighbors suffered and died from cancer. Unfortunately, the connection between landfills and disease is a recent realization. The EPA has said many times that all landfills leak. It makes no sense, knowing this, to allow the placement of landfills near any source of water that could contaminate drinking water.

Please protect us all from the ignorance and greed that cares little for the health of people who live near by. Since garbage is a business, we need <u>laws</u> to protect us.

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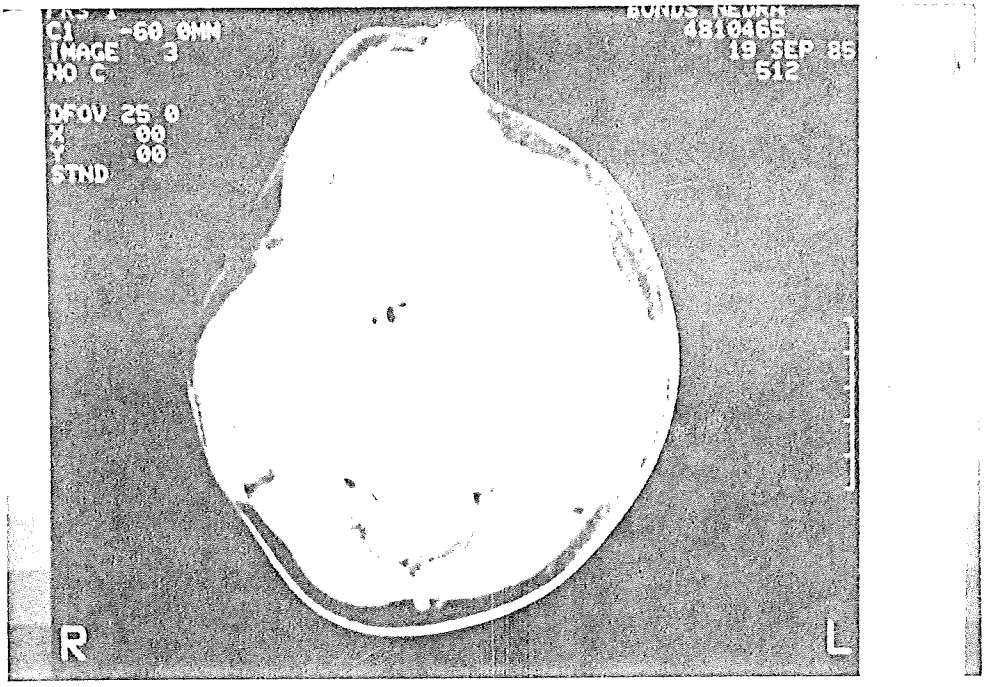
Attachment 9

Nedre Bonds
2243 Garfield
Kansas City, Ks.66104

S. 1, 1984



SINUS HISTIOCYTOSIS WITH MASSIVE LYMPHADENOPATHY: A PSEUDOLYMPHOMATOUS BENIGN DISORDER

Analysis of 34 Cases

JUAN ROSAI, MD,* AND RONALD F. DORFMAN, MBBCH†

FIG. 1—Massive bilateral cervical lymphadenopathy

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Attachment 9a

A. S. CALDWELL & ASSOCIATES
WATERFRONT DESIGN, UTILIZATION & DEVELOPMENT
8601 RIGGS • OVERLAND PARK, KANSAS 66212 • 913-381-4293

Representative Bill Wisdom
State Capitol Building
Topeka, Kansas 66612

March 1, 1989

Dear Representative Wisdom,

As a member of the Kansas Lower Republican Basin Advisory Committee, a member of the Kansas City Consensus Task Force on solid waste management, a former naval research meteorologist, a parent, grand parent, and avid aquatic recreationalist, I submit the following in support of House Bill 2363:

Water, adequate and economical, is one of the most precious resources available in the Midwest. Availability of good quality water is essential to every aspect of living - residential, commercial and industrial. Kansas has just approved funding of a State Water Plan which will be charged with assuring adequate high quality water state wide.

The state is also addressing the crucial solid waste management issue. Mr. Dennis Murphy of the Kansas Bureau of Waste Management on Feb. 28, 1989 at a Kansas City Consensus meeting stated that there are 125 landfills in Kansas and that this number should be drastically reduced to possibly 25 at the most. He corroborated testimony of other agencies such as E.P.A. that no landfill successfully contains its leachate, and that the state and the nation need to get away from the use of landfills. He further stated the national awareness and the will of the people provides the opportunity to seek alternate methods of waste management.

Behaviourial changes are and should be an integral part of the solid waste issue. What better place for these changes to be initiated than through those publicly elected officials to whom the electorate looks for leadership? Terms of office may be four or six years with the possibility of additional terms in office, but the issue of landfills located anywhere that they may impact adversely on water resources will affect generations yet unborn.

Waterfronts throughout the world are considered the most desirable real state available - if not for commercial use as deep water ports - as high density residential and commercial

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developments. Why then should we relegate such prime land to an ignominious dump and remove it forever from future tax revenues?

I hope the leadership of Kansas will see the wisdom (no pun intended) in house bill 2363 - and that water quality and waste management in Kansas will enjoy a productive marriage.

Sincerely,

Alan S Caldwell

Alan S. Caldwell

G. Gordon Thomas
10516 Mohawk Lane
Leawood, Kansas 66206

Representative Bill Wisdom
State Capitol Building
Topeka, Kansas 66612

March 1, 1989

Dear Representative Wisdom,

As a Mayoral candidate for the city of Leawood, Kansas, I congratulate you on the authorship of House Bill 2363 and have contacted Representative Dennis J. Spaniol's office to speak on Thursday afternoon in support of the same.

An adequate good water supply here on the eastern side of the state has been a significant factor in development and the subsequent tax revenues derived by the state. Protecting the quality of our water and adequate distribution will always be high on my agenda. House Bill 2363 is good for all of Kansas and I hope the elected leadership of Kansas will overwhelmingly support it.

Best regards,

G. Gordon Thomas

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TESTIMONY IN SUPPORT OF HOUSE BILL 2363

March 2, 1989

My name is Ervin Sims, Jr. I am the Manager of Water Operations for the Board of Public Utilities in Kansas City, Kansas. I am responsible for everything from the river supply to the residential tap. All water treatment and processing, transmission and distribution, fall within that responsibility. The mission of the Board of Public Utilities' Water Operations Division is to have available upon demand to all of its customers, good quality water and to provide that water in the most efficient manner possible. Potable water from the Board of Public Utilities is provided to the entire area of Kansas City, Kansas and portions of adjoining suburban Wyandotte County and Johnson County. Providing water upon demand is accomplished through the interrelated functioning of Water Processing and Water Distribution.

I am here today as a representative of the Board of Public Utilities to provide testimony in support of House Bill 2363. It is our understanding that House Bill 2363 would prohibit placement of landfills within one mile of a navigable body of water, or within one mile of an intake point for any public water supply system.

The Board of Public Utilities presently faces the siting of the Browning-Ferris landfill which is located at approximately 27th and Sewell in Kansas City, Kansas and is less than one mile from our intake. The Board of Public Utilities has formally gone on the record in opposition to this landfill by unanimous resolution, as follows:

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"WHEREAS, the Board of Public Utilities, an administrative agency of the City of Kansas City, Kansas, operates a municipal water production and distribution system which is owned by the City of Kansas City, Kansas, but managed, operated, maintained and controlled by the Board pursuant to the provision of Charter Ordinance No. 88 of the City of Kansas City, Kansas, and K.S.A. 1981 Supp. 13-1220 et seq.; and

WHEREAS, the governing body of the City of Kansas City, Kansas has approved the Special Use Permit to Browning Ferris Industries of Kansas City, Kansas, Inc. for a landfill site near 27th and Sewell; and

WHEREAS, the BPU stands in opposition to this landfill site, which is less than one mile upstream of the BPU water intake facility on the Missouri River, and which poses a potential danger to the water supply of the citizens of Kansas City, Kansas; and,

WHEREAS, the BPU has requested that an alternate site for this landfill, away from the BPU intake facilities, would be more suitable and acceptable.

THEREFORE, BE IT RESOLVED THAT:

1. The BPU continues to request that an alternate site for the landfill, away from the BPU intake facilities, be decided upon.

2. The BPU recognizes, however, that the City Governing Body can exercise its sovereign will in matters of rezoning and permitting.

3. The BPU, in the public interest, requests that the City guarantee to the citizens of Kansas City, Kansas, that no toxic material will ever be placed in this landfill site, nor will it ever contaminate the underlying ground water, nor will it ever contaminate the Missouri River, nor will it ever contaminate the water supply of the Board of Public Utilities.

4. The BPU, in the public interest, requests that all necessary monitoring and inspection procedures be in place throughout the life of the

landfill and remain in place as long as any possible threat of contamination of any type from the landfill is remotely conceivable.

5. The BPU, in the public interest, requests that a performance bond be required of Browning Ferris Industries of Kansas City, Kansas, Inc., the operator of this landfill, which specifically addresses contamination of ground or surface water, and the cost for clean-up of all contaminated facilities including but not limited to the BPU processing plant, pumping system, transmission and distribution lines and customer service lines.

BE IT RESOLVED this 2nd day of February, 1983.

Signed by:

Charles J. Otten, President

Harold D. Foster, Vice-President

Ana Riojas, Secretary

Anthony J. Mikesic, Jr., Member

Paul R. Gibson, Member

Clarence R. DeGraeve, Member"

Copies of my testimony are available with Resolution 4825 as attachment. This Resolution and the accompanying concerns would not have been necessary if HB 2363 were in place.

It is clear that the state-of-the-art in landfill design will not assure containment of leachate or other contaminants. I want to reiterate that there are no guarantees that landfills will not leak. As a matter of fact, it is considered part of the common body of knowledge among designers, regulators and operators of landfills, and water professionals, that sooner or later any and all landfills will leak.

Also, with all of the concern about protecting our drinking water, that is, the Safe Drinking Water Act Regulations (SDWA) at the federal

level, which will lower the Maximum Containment Levels (MCL's) of certain chemicals, the siting of landfills remote from drinking water supplies becomes more critical. Presently around six hundred potentially threatening chemicals have been identified by the Environmental Protection Agency. MCL's are being set or lowered in upon more and more chemicals each year. The scenario of leaking landfills and reduced thresholds of contaminants stresses the need and urges the support of House Bill 2363.

While House Bill 2363 may not help in the relocation of the Browning-Ferris landfill, it is certainly a solid step in the right direction towards providing some protection to the consumers of potable water throughout the state of Kansas. The BPU's concerns about the potential threat of the Browning-Ferris landfill to the BPU's water supply, and my support of this House Bill, is echoed by the major water purveyors of the metropolitan Kansas City area, including Kansas City, Missouri Water and Johnson County Water District No. 1.

RESOLUTION NO. 4825

WHEREAS, the Board of Public Utilities, an administrative agency of the City of Kansas City, Kansas, operates a municipal water production and distribution system which is owned by the City of Kansas City, Kansas, but managed, operated, maintained and controlled by the Board pursuant to the provision of Charter Ordinance No. 88 of the City of Kansas City, Kansas, and K.S.A. 1981 Supp. 13-1220 et seq.; and

WHEREAS, the governing body of the City of Kansas City, Kansas, has approved the Special Use Permit to Browning Ferris Industries of Kansas City, Kansas, Inc. for a landfill site near 27th and Sewell; and

WHEREAS, the BPU stands in opposition to this landfill site, which is less than one mile upstream of the BPU water intake facility on the Missouri River, and which poses a potential danger to the water supply of the citizens of Kansas City, Kansas; and,

WHEREAS, the BPU has requested that an alternate site for this landfill, away from the BPU intake facilities, would be more suitable and acceptable.

THEREFORE, BE IT RESOLVED THAT:

1. The BPU continues to request that an alternate site for the landfill, away from the BPU intake facilities, be decided upon.

2. The BPU recognizes, however, that the City Governing Body can exercise its sovereign will in matters of rezoning and permitting.

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3. The BPU, in the public interest, requests that the City guarantee to the citizens of Kansas City, Kansas, that no toxic material will ever be placed in this landfill site, nor will it ever contaminate the underlying ground water, nor will it ever contaminate the Missouri River, nor will it ever contaminate the water supply of the Board of Public Utilities.

4. The BPU, in the public interest, requests that all necessary monitoring and inspection procedures be in place throughout the life of the landfill and remain in place as long as any possible threat of contamination of any type from the landfill is remotely conceivable.

5. The BPU, in the public interest, requests that a performance bond be required of Browning Ferris Industries of Kansas City, Kansas, Inc., the operator of this landfill, which specifically addresses contamination of ground or surface water, and the cost for clean-up of all contaminated facilities including but not limited to the BPU processing plant, pumping system, transmission and distribution lines and customer service lines.

BE IT RESOLVED this 2nd day of February, 1983.

Signed by:

President

Member

Vice President

Member

Secretary

Member

SIERRA CLUB

Kansas Chapter

HB 2363: Location of Landfills

Testimony Before House Committee on Energy and Natural Resources

March 2, 1989

I am Margaret Ahrens, representing the 2200 members of the Kansas Chapter of the Sierra Club. I am here as a proponent of HB 2363.

There are three things we are not now controlling in Kansas: the dumping of certain hazardous substances into landfills, the leaching of those landfills into groundwater and the runoff from landfills into surface waters. This committee expressed its concern for the dumping of hazardous waste with its passage of SB 6. The careful and appropriate siting of a landfill in relation to prescious water supplies is a matter for state-wide concern as well.

The people in the Riley County area are beginning to understand how expensive the misplacement of a landfill can be. We do not have a history of monitoring landfills to tell us if we are in similar trouble in other parts of the state.

This bill attempts to limit the siting of landfills in relation to certain drinking water supplies. We support this concept because there are no state-wide programs prohibiting the disposal of hazardous materials at landfills. There are no known methods of preventing leaching into surface water. Plans to protect groundwater have not stood the test of time.

We would support more inclusive language in this bill so that the water supplies of all Kansans are protected from leaching landfills. Landfill siting decisions should be made based on the protection of water flowing both above AND underground.

We recommend the addition of language at the end of (i) (1) that would require the collection of hydro-geological data indicating the potential for contamination from landfill leachate or runoff at all sites proposed for landfilling or license renewal in Kansas. Beside the elimination of hazardous materials from the waste stream, that information might be the only insurance policy on the market to protect against the catastrophies of endangered health and contaminated water caused by so called "sanitary landfills".

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SIERRA CLUB

Kansas Chapter
1421 S. 41st
Kansas City, KS 66106

Stanley Grant, Secretary
Department of Health and Environment
Forbes Field, Topeka 66620

RE: Proposed Quindaro Landfill
Kansas City, Kansas

Dear Secretary Grant:

We appreciate the difficulty of siting a landfill in an urbanized area. Our members and the general public rely on you and your staff to make landfill permitting decisions that maintain the highest standards for safe drinking water. We do not feel that the permit for the proposed Quindaro landfill meets those standards.

The Quindaro site is in a floodplain and less than a mile from the Missouri River. Siting this landfill in a floodplain guarantees that leachate willenter the river, at a point within a mile or two of drinking water intake valves for Kansas and for Kansas City, Missouri. Since alternate sites are available, this site is unacceptable from a health standpoint.

Although a liner is required at this site, no liner system has been designed that captures every drop of leachate. A leachate monitoring system can only warn of a developing or an existing problem; it cannot prevent leachate from entering the river or groundwater.

Chuck Linn appeared on the program "Kansas City Illustrated" in mid-October and said that since nine other landfills are on the banks of the Missouri River farther upstream, the presence of absence of the Quindaro Landfill is not significant. We find such a casual attitude disturbing. Adding more pollutants to an already polluted river compounds health risks. The theory that dilution solves all pollution problems has been disproven, and Mr. Linn ought to be aware of that fact.

If KDHE could guarantee that no hazardous substances would enter the Quindaro Landfill, our level of concern would be reduced. Kansas regulations, which are considerably stricter than federal regulations, allow Kansas generators of up to 25 kg/month of hazardous wastes to send those wastes to sanitary landfills. Under Missouri regulations, Missouri generators of up to 100 kg/month of hazardous wastes are allowed to send those wastes to sanitary landfills. We understand that as much as half of the wastes generated on the Missouri side of the Kansas City metropolitan area end up in Kansas landfills. Due to the interstate commerce clause of the Constitution of the United States, Kansas cannot stop Missouri generators from sending four times as much hazardous waste per month into Kansas landfills as Kansas generators. Obviously, some hazardous wastes would enter the proposed Quindaro Landfill from regulated generators. Other hazardous wastes would enter this landfill from unregulated generators, such as households. Cadmium from used batteries, lead from old paint and a variety of other hazardous substances

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Attachment 13a

would undoubtedly be deposited at the Quindaro Landfill and would eventually leak into the drinking water supply for over one million people.

Even if Kansas regulations and Missouri regulations prohibited landfilling of any hazardous substances at sanitary landfills, KDHE lacks the enforcement capability to ensure compliance. In fact, Kansas relies to a great extent on affidavits of landfill operators as to the nature of wastes brought to a landfill. The landfill operator's information is only as good as the word of the waste generator. To our knowledge KDHE does not do any random or scheduled monitoring of wastes deposited at sanitary landfills to verify that state regulations are being met. We urge the legislature to increase funding for enforcement staff for solid and hazardous waste requirements.

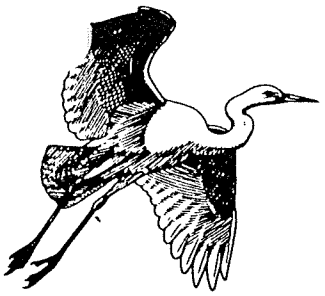
For purposes of evaluating the Quindaro Landfill permit, we must acknowledge the funding, regulatory and practical problems that now exist in Kansas and in Missouri regarding hazardous wastes. We urge Kansas City, Kansas and the State of Kansas to select a site that is not in a floodplain and not on the banks of the Missouri River instead of the proposed Quindaro Landfill site, to make the best use of existing knowledge and to fulfill the state's obligation to protect the health and welfare of its own citizens.

Very truly yours,

Dan Fuller

Dan Fuller
Chairman, Kanza Group

cc: [redacted]
House Appropriations Committee
Senate Ways and Means Committee
House Committee on Energy and Natural Resources
Senate Committee on Energy and natural Resources
Governor Mike Hayden



Kansas Audubon Council

March 5, 1989
To: House Energy and Natural Resources Committee:
From: Joyce Wolf
Re: Follow-up of verbal testimony on HB 2363

As promised during my verbal testimony on behalf of the Kansas Audubon Council, I am submitting the written version of my comments before the committee. Realizing the large volume of materials submitted for your consideration, I will try to be as brief as possible.

If the intent of the bill is to make the requirements for siting a landfill in Kansas more stringent, we support its intent. We do not believe, however, that the criteria in the bill fully address the problem of potential contamination of surface and ground waters by landfill leachates. For example, the criteria that this bill adds would not have prevented the Riley County contamination situation because a navigable stream (as defined in Kansas) is not involved there.

For that reason we would prefer that additional precautions be required in the siting of new landfills, including but not limited to:

1) a geohydrologic study which would include:

   a) determination of the subsurface geology of the surrounding area at a proposed landfill site
   b) determination of the direction and speed of movement of the ground water in the area of the proposed site

2) for those areas served by the new facility, require a system of periodic collection of small quantities of hazardous wastes to be implemented

3) include protection of ground water wells for public water supply in the language that refers to distance from point of intake to the proposed landfill site.

We believe that these should be the minimum requirements added to those already enumerated in the bill. In the next several years several new landfills will probably be needed to meet Kansas' needs, we believe our recommendation is a good way to phase in the statewide collection and removal of household hazardous wastes from the ordinary waste stream, and would go a long way to ensuring that the new facilities would be less likely to leach toxic materials into the environment.

We appreciate your consideration of our comments. If you have questions or comments that you would like to share with me, I can be reached at 1-749-3203.

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Attachment 14

STATE OF KANSAS

DEPARTMENT OF HEALTH AND ENVIRONMENT
Forbes Field
Topeka, Kansas 66620-0001
Phone (913) 296-1500

Mike Hayden, *Governor*

Stanley C. Grant, Ph.D., *Secretary*
Gary K. Hulett, Ph.D., *Under Secretary*

Testimony Presented to
House Energy and Natural Resources Committee
by
Kansas Department of Health and Environment

House Bill No. 2363

Background

In 1984 the Department of Health and Environment issued a solid waste disposal area permit to Browning Ferris Industries (BFI) to construct a sanitary landfill located near the Missouri River and upstream from the Kansas City, Kansas water intake. Prior to the department's issuance of the permit BFI received a special land use permit from the city of Kansas City, Kansas for the facility. The department spent nearly two years reviewing the proposal and receiving comments from the public prior to issuing the permit, but local opposition to the permit continues to surface. Despite an approved design which incorporates stringent criteria to prevent groundwater or surface water contamination, the opponents of the Quindaro landfill project still have serious concerns regarding its proximity to the Missouri River and the water intake for the Kansas City Board of Public Utilities. Construction on the facility has not begun, even though the permit has been in force over four years.

Provisions of HB 2363

The bill would preclude the department from issuing any new permits, other than renewals of existing permits for facilities already in operation, to solid waste processing or disposal facilities located within one mile of a "navigable stream" or "intake point for any public water supply system." It would also void any permit issued to such facilities if they were not yet in operation on the effective date of the act.

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The terms "navigable stream" and "intake point for any public water supply system" are not defined in the bill. If "navigable stream" is used as elsewhere in state statutes it is our understanding that it would apply only to the Missouri River, Kansas River, and Arkansas River. If it is used in the context of the federal term "navigable waters" it would apply to virtually every stream and tributary in the State of Kansas and the impacts of the bill would be a significant reduction in the prospective locations for solid waste facilities. This would likely work a considerable hardship on local units of government who already face substantial challenges in meeting the federal criteria for municipal solid waste landfills that are to be promulgated later this year. Also the potential impacts of the bill are very dependent upon the definition of intake point--if it applies only to surface water intakes for public water supplies it will have considerably less impact than if it also applies to public water supply wells.

Potential Impacts

Passage of this bill would negate several years of effort to provide adequate, safe disposal capacity for the city of Kansas City, Kansas and the surrounding metropolitan area. It is unlikely that any suitable land area for this purpose can be found in Wyandotte County outside the areas prohibited by HB 2363 because of landform and the land use patterns of the county. However, we recognize that the voidance of the Quindaro permit would alleviate the concerns of citizens who are opposed to its construction and operation.

The Bureau of Waste Management is currently working with the Lone Star Cement Company to perfect an application for a sanitary landfill at the company's Bonner Springs, Kansas plant. The project is of particular interest becaused the proposed site has excellent geology and it offers some attractive possibilites for beneficial use of processed solid waste as supplemental fuel in the cement kilns. HB 2363 would preclude this project from further consideration.

As currently written the bill would appear to prohibit the department from issuing permits for expansions of presently permitted operations into areas which are currently unpermitted. Major sites which would be affected by such an expansion restriction are: the Brooks Landfill, Wichita; the N.R. Hamm Landfill, Douglas/Jefferson Counties; Johnson County Landfill (Deffenbaugh Disposal), Johnson County. These three sites presently accept two thirds of all the solid waste being disposed in sanitary landfills in Kansas. Other sites whose potential expansions would be prohibited are the ash disposal sites for the Lawrence and Tecumseh Power Stations and a host of smaller

construction and demolition landfills. In addition the bill would affect the siting of solid waste transfer stations, recycling facilities, and incinerators. This could have an adverse impact upon the City of Leavenworth which is currently involved in the siting of a transfer station. These impacts would result if the term "navigable stream" means only the Missouri, Kansas, and Arkansas Rivers. At present we have not been able to assess the impacts if a broader definition is used.

Passage of this bill would substantially increase the Bureau of Waste Management's workload. A primary task of the solid waste section is to monitor treatment and disposal site capacity and to work with local units of government to provide the needed capacity for their jurisdictions. Staff who would have been available for other tasks will be needed for reviewing new waste management facility applications in the Kansas City metropolitan area and other areas where existing applications or permits will be voided and expansions of existing facilites will be prohibited.

The benefits of the bill will arise from the reduced potential for adverse impacts upon navigable streams or public water intakes in the event that an otherwise-permitted solid waste management facility were to be operated in such a manner that would allow the release of significant quantities of pollutants to occur.

The department's need for additional engineering assistance to accomodate the increased workload resulting from implementation of HB 2363 would carry a fiscal impact of $46,610. This would provide the salary and operating expenses for one additional environmental engineer in the solid waste section. Again, this impact assessment is premised upon the narrower definitions of the two terms--if broader definitions are utilized, the impacts would be greater.

Recommendations

In order to accurately ascertain the impacts of HB 2363 it is critical to have the terms "navigable stream" and "intake point for any public water supply system" precisely defined. We would also note for your consideration that in the national wellhead protection program the area of review around public water supply wells is one-quarter of a mile.

Although the department does not believe it is technically necessary to prohibit all solid waste storage, treatment or processing facilities or disposal areas within one mile of navigable streams or public water intake points, if as a matter of public policy the Legislature wishes to make such a restriction a criteria for the department's review of solid waste facility permit applications, we can accomodate such a requirement. We appreciate and share the concerns of those who wish to ensure that the

operation of facilities which pose a potential risk to water supplies are properly constrained. In fact, if such a restriction is imposed statewide on the siting of solid waste management facilities, the Legislature may wish also to preclude other types of potential pollution sources from being sited within the same proscribed distance from navigable streams or intakes of public water supplies. Such sources might include oil and gas exploration activities, hazardous waste management facilities, refineries and other industrial activities requiring a wastewater discharge permit, feedlots, storage tanks for petroleum and other hazardous substances, and sewage treatment plants. All of these are activities that, like the operation of solid waste management facilities, have the potential to cause serious impacts upon public water supplies and navigable streams if they are not properly designed, constructed, and operated.

While the department does not advocate passage of HB 2363, we do not oppose it. We believe it would impose constraints upon the siting of many types of solid waste facilities that pose very little risk of environmental harm to streams or water intakes and which represent much less risk than other activities which are currently sited within the same areas. However, if the legislature wishes to impose the criteria of HB 2363 into the siting of solid waste management facilities, we will work with local units of government to identify locations within the constraints of this bill which will allow them to develop the necessary treatment and disposal capacity for effective solid waste management in Kansas.

Testimony presented by: Dennis Murphey, Director
Bureau of Waste Management
Department of Health and Environment
March 2, 1989

S T A T E M E N T

HOUSE ENERGY AND NATURAL RESOURCES COMMITTEE
HOUSE BILL NO. 2363

Ladies and Gentlemen:

My name is John J. Bukaty, Sr. I am appearing here before your Committee on behalf of Browning-Ferris Industries of Kansas City, Inc., in opposition to the above captioned proposed legislation.

I first want to thank you members of this Committee for the opportunity to present our position. I believe it is in order, in the interest of brevity, to give a little history of our involvement and interest in this legislation.

BFI owns and/or leases solid waste sanitary landfills throughout the United States. In 1982, the City of Kansas City Kansas was mandated by the Kansas Department of Health and Environment that the City arrange for a sanitary solid waste landfill inasmuch as there were no landfills in the Kansas City Kansas area. After an extensive search, a site was selected on property largely owned by the A.M.E. Church located in the northeast portion of Kansas City, Kansas, in what has been described as the Quindaro section. Lease arrangements, after an exhaustive study, were entered into for the use of said property, as well as some adjoining property owned by the City of Kansas City Kansas, for the establishment of a solid sanitary waste facility.

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Subsequent thereto, a permit was issued by the City of Kansas City Kansas, to Browning-Ferris Industries of Kansas City, Inc., for a sanitary solid waste landfill. Immediately thereafter, an application was made to the State of Kansas for the necessary permits which permits were issued, and these permits are currently in force and effect. Exhaustive studies were conducted by the engineers and geologists on behalf of Browning-Ferris which were, among other things, affected by a lawsuit against the City of Kansas City Kansas wherein the Court found that the issuance of the permit to Browning-Ferris was valid. That decision was subsequently upheld by the Supreme Court of Kansas.

There have been many objections leveled against this proposed operation before the various departments of the state, county, city and federal bodies, resulting in a situation where operation of the sanitary landfill will commence operation by the first day of June, 1989.

Our engineers and geologists, after exhaustive measures, have assured us and the City of Kansas City Kansas and its citizenry that the operation of a landfill at this site is safe beyond any doubt. It might be well to point out at this juncture that there exists in the State of Kansas several areas where solid waste landfills are in operation close to navigable streams. In fact, in the Kansas City area, particularly in Johnson County, there is a solid waste landfill in operation and

has been in operation for some 30 years, and it is immediately adjoining the Kansas River, separated only by a railroad right-of-way. There has never been any complaint of any possible pollution to the water supply serving, for the most part, a portion of the area of Johnson County, Kansas.

After the issuance of a permit for the operation of the sanitary solid waste landfill by the City of Kansas City Kansas and the permit by the Kansas State Department of Health, an enormous amount of effort and finances have been expended to insure a legal landfill to take care of the needs of the City and its industrial endeavors.

It is for these reasons that we respectfully oppose the passage of the above entitled house bill.

Again, thank you ladies and gentlemen for your interest, attention and continued cooperation in our endeavor.

JOHN J. BUKATY, SR.
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Testimony before House Energy and Natural Resources Committee

By: Dr. J. D. Campbell, P.E.
Woodward-Clyde Consultants
Overland Park, Kansas

Subject: House Bill 2363/Amendments to KSA653407
Proposed Municipal Solid Waste Landfill
Siting Criteria Related to Distances
from Navigable Streams and Intakes
to Public Water Supplies

Subtitle D of the Resource Conservation and Recovery Act (RCRA) establishes the framework for Federal, State and local government cooperation in controlling the management of non-hazardous solid waste. The overall goals of this framework is to provide minimum standards for municipal solid waste landfills (MSWLFs) that will be protective of human health and the environment.

There have been significant improvements in recent years concerning our nations management of solid waste. As the nation moves forward in developing specific siting standards, operational, design, and monitoring requirements for MSWLFs, certain lessons can be learned from past waste disposal practices. Sources of information available from EPA include:

- o Analysis of solid waste characteristics.
- o Review of waste disposal practices (16,500 landfills, 191,500 surface impoundments and 19,000 land application units).
- o Assessment of impacts from waste disposal practices.
  - 500 MSWLFs impact a state ground water protection standard
  - 845 MSWLFs impact air quality (odor)
  - 660 MSWLFs impact surface water quality
- o Risk assessment based on MSWLF survey.
  - fewer than 1 percent of MSWLFs pose a risk greater than 1 x 10(-4)
  - approximately 6 percent pose a risk in the 1 x 10(-5) to 1 x 10(-4) range
  - approximately 17 percent of MSWLFs pose risks greater than 1 x 10(-6)

Based on review of current waste disposal practices, rules were proposed by EPA in 1988 concerning location restrictions, operating criteria, design criteria, and ground water monitoring and corrective action requirements for MSWLFs (copy of proposed rules attached)

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The location restrictions for MSWLFs proposed by EPA include:

- o Airport safety
- o Floodplains
- o Wetlands
- o Fault Areas
- o Seismic Impact Zones
- o Unstable Areas

The majority of the location restrictions are related to the geology and hydrogeology of a site. Geologic factors are the principal siting criteria for MSWLFs because the nature and extent of the geologic materials underlying a site will influence landfill performance and strongly influence the fate of any leachate that is generated. States adjacent to Kansas with large metropolitan areas adjacent to major rivers or streams have adoped similar siting restrictions for MSWLFs. In none of the state siting regulations for landfills that were reviewed in preparing for this testimony, were location restrictions identified that included reference to a distance to a navigable stream.

Operating Criteria for MSWLFs proposed by EPA include:

- o Cover material requirements
- o Disease vector control
- o Explosive gases control
- o Air criteria
- o Access requirements
- o Run-on/run-off control
- o Surface water requirements
- o Liquid restrictions
- o Record keeping
- o Closure and post-closure care

Design Criteria for MSWLFs proposed by EPA include:

- Establishment of design goals that will achieve a ground water carcinogenic risk level within the 1×10^{-4} to 1×10^{-7} range.
- This goal must be met in the aquifer at the waste management unit boundary, or an alternate boundary specified by the state.
- In establishing the design goal, the state is to consider:
  - hydrogeologic characteristics of the facility and surrounding land
  - climatic factors
  - volume and physical characteristics of leachate
  - proximity of ground water users
  - quality of ground water

Ground Water Monitoring and Corrective Action for MSWLFs proposed by EPA:

- Ground water monitoring systems installed at the waste management unit boundary
- Establish ground water trigger levels that are protective of human health and environment
- Assessment of corrective measures (if required)
- Selection of remedy
- Implementation of corrective action

In summary, we ask the committee to consider whether the proposed regulation will improve on the siting restrictions, design or operating requirements, and ultimate safety of future landfills. We believe it does not.

Federal Register

Tuesday
August 30, 1988

Part III

Environmental Protection Agency

40 CFR Parts 257 and 258
Solid Waste Disposal Facility Criteria; Proposed Rule

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7. A new Part 258 is added as set forth below:

PART 258—CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS

Subpart A—General

Subpart B—Location Restrictions

Subpart C—Operating Criteria

Subpart D—Design Criteria

Subpart E—Ground-Water Monitoring and Corrective Action

Authority: 42 U.S.C. 6907(a)(3), 6944(a) and 6949(c); 33 U.S.C. 1345 (d) and (e).

Subpart A—General

§ 258.1 Purpose, scope, and applicability.

(a) The purpose of this part is to establish minimum national criteria under the Resource Conservation and Recovery Act (RCRA or the Act), as amended, for municipal solid waste landfills and under the Clean Water Act, as amended, for municipal solid waste landfills that are used to dispose of sludge. These minimum national criteria ensure the protection of human health and the environment.

(b) These criteria apply to owners and operators of new and existing municipal solid waste landfills, except as otherwise specifically provided in this part; all other solid waste disposal facilities and practices that are not regulated under Subtitle C of RCRA are subject to the criteria contained in Part 257.

(c) These criteria do not apply to closed units (as defined in this section) of municipal solid waste landfills that close prior to the effective date of this part.

(d) Municipal solid waste landfills failing to satisfy these criteria are considered open dumps for purposes of State solid waste management planning under RCRA.

(e) Municipal solid waste landfills failing to satisfy these criteria constitute open dumps, which are prohibited under section 4005 of RCRA.

(f) Municipal solid waste landfills containing sewage sludge and failing to satisfy these criteria violate sections 309 and 405(e) of the Clean Water Act.

(g) The effective date of this part is [*insert date 18 months after the promulgation date*], unless otherwise specified.

§ 258.2 Definitions.

Unless otherwise noted, all terms contained in this part are defined by their plain meaning. This section contains definitions for terms that appear throughout this part; additional definitions appear in the specific sections to which they apply.

"Active life" means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with § 258.30 of this part.

"Active portion" means that part of a facility or unit that has received or is receiving wastes and that has not been closed in accordance with § 258.30 of this part.

"Aquifer" means a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of ground water to wells or springs.

"Closed unit" means any solid waste disposal unit that no longer receives solid waste as of the effective date of this part and has received a final layer of cover material.

"Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

"Existing unit" means any solid waste disposal unit that is receiving solid waste as of the effective date of this part and has not received a final layer of cover material.

"Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

"Ground-water" means water below the land surface in a zone of saturation.

"Household waste" means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

"Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

"Landfill" means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under § 257.2.

"Lateral expansion" means a horizontal expansion of the waste boundaries of an existing landfill unit.

"Leachate" means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

"Municipal solid waste landfill" means any landfill or landfill unit that receives household waste. This landfill also may receive other types of RCRA Subtitle D wastes, such as commercial

waste, nonhazardous sludge, and industrial solid waste. Such a landfill may be publicly or privately owned.

"New unit" means any solid waste disposal unit that has not previously received solid waste prior to the effective date of this part. A new unit also means lateral expansions as defined in this section.

"Open burning" means the combustion of solid waste without:

(1) Control of combustion air to maintain adequate temperature for efficient combustion,

(2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(3) Control of the emission of the combustion products.

"Operator" means the person responsible for the overall operation of a facility or part of a facility.

"Owner" means the person who owns a facility or part of a facility.

"Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

"Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

"Saturated zone" means that part of the earth's crust in which all voids are filled with water.

"Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

"Solid waste" means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permits under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

"Solid waste disposal unit" means a discrete area of land used for the disposal of solid wastes.

"State" means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Marianas Islands.

"Waste management unit boundary" means a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

§ 258.3 Consideration of other Federal laws.

The owner or operator of a municipal solid waste landfill unit must comply with any other applicable Federal rules, laws, regulations, or other requirements.

§§ 258.4–258.9 [Reserved].

Subpart B—Location Restrictions

§ 258.10 Airport safety.

A municipal solid waste landfill unit that may attract birds and is located within 10,000 feet (3,048 meters) of any airport runway used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway used by only piston-type aircraft shall not pose a bird hazard to aircraft.

§ 258.11 Floodplains.

(a) A municipal solid waste landfill unit located in the 100-year floodplain shall not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

(b) For purposes of this section:

(1) "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(2) "100-year flood" means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(3) "Washout" means the carrying away of solid waste by waters of the base flood.

§ 258.12 Wetlands.

(a) New municipal solid waste landfill units shall not be located in wetlands, unless the owner or operator can make the following demonstrations to the State:

(1) There is no practicable alternative that would have less adverse impact on the wetlands and would have no other significant adverse environmental consequences;

(2) The landfill will not:

(i) Cause or contribute to violations of any applicable State water quality standard,

(ii) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act,

(iii) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973, and

(iv) Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary;

(3) The landfill will not cause or contribute to significant degradation of wetlands;

(4) Appropriate and practicable steps have been taken to minimize potential adverse impacts of the landfill on the wetlands; and

(5) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

(b) As used in this section, "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include, but are not limited to, swamps, marshes, bogs, and similar areas.

§ 258.13 Fault areas.

(a) New units of a municipal solid waste landfill shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time.

(b) For the purposes of this section:

(1) "Fault" means a fracture along which strata on one side have been displaced with respect to that on the other side.

(2) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(3) "Holocene" means the most recent epoch of the Quarternary period, extending from the end of the Pleistocene to the present.

§ 258.14 Seismic impact zones.

(a) At a new municipal solid waste landfill unit located in a "seismic impact zone," all containment structures, including liners, leachate collection systems, and surface water control systems, must be designed to resist the maximum horizontal acceleration in lithified material for the site.

(b) As used in paragraph (a) of this section, "seismic impact zone" means an area with a 10 percent or greater probability that the maximum horizontal acceleration in hard rock, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 250 years.

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(c) As used in paragraph (a) of this section, the "maximum horizontal acceleration in lithified material" means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

§ 258.15 Unstable areas.

(a) The owner or operator of a municipal solid waste landfill unit located in an unstable area must demonstrate to the State that engineering measures have been incorporated into the unit's design to ensure the stability of the structural components of the unit. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

(1) On-site or local soil conditions that may result in significant differential settling;

(2) On-site or local geologic or geomorphologic features; and

(3) On-site or local human-made features or events (both surface and subsurface).

(b) As used in this section, "structural components" means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component necessary for protection of human health and the environment.

(c) Existing units of a municipal solid waste landfill located in unstable areas that cannot make the demonstration specified in paragraph (a) of this section must close within 5 years of the effective date of this part in accordance with § 258.30 of this part and conduct post-closure activities in accordance with § 258.31 of this part.

(d) The deadline for a closure required by paragraph (c) of this section may be extended by the State after considering, at a minimum, the following factors:

(1) Availability of alternative disposal capacity; and

(2) Potential risk to human health and the environment.

§§ 258.16–258.19 [Reserved].

Subpart C—Operating Criteria

§ 258.20 Procedures for excluding the receipt of hazardous waste.

(a) The owner or operator of a municipal solid waste landfill unit must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes as defined in Part 261 of this title and polychlorinated biphenyls (PCB) wastes as defined in Part 761 of this title. This program must include at a minimum:

(1) Random inspections of incoming loads;

(2) Inspection of suspicious loads;

(3) Records of any inspections;

(4) Training of facility personnel to recognize regulated hazardous waste; and

(5) Procedures for notifying the proper authorities if a regulated hazardous waste is discovered at the facility.

(b) As used in this section, "regulated hazardous waste" means a solid waste that is a hazardous waste, as defined in 40 CFR 261.3, that is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b) or was not generated by a conditionally exempt small quantity generator as defined in § 261.5 of this title.

§ 258.21 Cover material requirements.

(a) The owner or operator of a municipal solid waste landfill unit must cover disposed solid waste with suitable materials at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

(b) The State may grant a temporary waiver from the requirement of paragraph (a) of this section if the State determines that there are extreme seasonal climatic conditions that make meeting such requirements impractical.

§ 258.22 Disease vector control.

(a) The owner or operator of a municipal solid waste landfill unit must prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment.

(b) For purposes of this section, "disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

§ 258.23 Explosive gases control.

(a) The owner or operator of a municipal solid waste landfill unit shall ensure that:

(1) The concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components); and

(2) The concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary.

(b) The owner or operator of a municipal solid waste landfill unit must implement a routine methane monitoring program to ensure that the standards of paragraph (a) of this section are met.

(1) The type and frequency of monitoring must be determined based on the following factors:

(i) Soil conditions;

(ii) The hydrogeologic conditions surrounding the disposal site;

(iii) The hydraulic conditions surrounding the disposal site; and

(iv) The location of facility structures and property boundaries.

(2) The minimum frequency of monitoring shall be quarterly.

(c) If methane gas levels exceeding the limits specified in paragraph (a) of this section are detected, the owner or operator must:

(1) Take all necessary steps to ensure immediate protection of human health;

(2) Immediately notify the State of the methane gas levels detected and the immediate steps taken to protect human health; and

(3) Within 14 days, submit to the State for approval a remediation plan for the methane gas releases. The plan shall describe the nature and extent of the problem and the proposed remedy. The plan shall be implemented upon approval by the State.

(d) As used in this section, "lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and atmospheric pressure.

§ 258.24 Air criteria.

(a) A municipal solid waste landfill shall not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to section 110 of the Clean Air Act, as amended.

(b) Open burning of solid waste, except for the infrequent burning of agricultural wastes, silvicultural wastes, land-clearing debris, diseased trees, debris from emergency clean-up operations, or ordnance, is prohibited at municipal solid waste landfill units.

§ 258.25 Access requirement.

The owner or operator of a municipal solid waste landfill unit must control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes to protect human health and the environment using artificial barriers, natural barriers, or both, as appropriate.

§ 258.26 Run-on/run-off control systems.

(a) The owner or operator of a municipal solid waste landfill unit must design, construct, and maintain:

(1) A run-on control system to prevent flow onto the active portion of the landfill during the peak discharge form a 25-year storm;

(2) A run-off control system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(b) Run-off from the active portion of the landfill unit must be handled in accordance with § 258.27(a) of this Part.

§ 258.27 Surface water requirements.

A municipal solid waste landfill unit shall not:

(a) Cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to section 402.

(b) Cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or State-wide water quality management plan that has been approved under section 208 or 319 of the Clean Water Act, as amended.

§ 258.28 Liquids restrictions.

(a) Bulk or noncontainerized liquid waste may not be placed in a municipal solid waste landfill unit unless:

(1) The waste is household waste other than septic waste; or

(2) The waste is leachate or gas condensate derived from the municipal solid waste landfill unit and the landfill unit is equipped with a composite liner and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner.

(b) Containers holding liquid waste may not be placed in a municipal solid waste landfill unit unless:

(1) The container is a small container similar in size to that normally found in household waste;

(2) The container is designed to hold liquids for use other than storage, such as a battery or capacitor; or

(3) The waste is household waste.

(c) As used in this section:

(1) "Composite liner" means a system consisting of two components; the upper component must consist of a flexible membrane liner (FML), the lower component must consist of at least a three-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. The FML component must be installed in direct and uniform contact with the compacted soil component so as to minimize the migration of leachate through the FML if a break should occur.

(2) "Liquid waste" means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846 [1]).

(3) "Leachate recirculation" means the recycling or reintroduction of leachate into or on a municipal solid waste landfill unit.

(4) "Gas condensate" means the liquid generated as a result of the gas collection and recovery process at the municipal solid waste landfill unit.

§ 258.29 Recordkeeping requirements.

The following information must be recorded, as it becomes available, and retained by the owner or operator of each municipal solid waste landfill unit:

(a) Any monitoring, testing, or analytical data required by Subpart E;

(b) Gas monitoring results from monitoring required by § 258.23 of this part;

(c) Inspection records, training procedures, and notification procedures required in § 258.20 of this part; and

(d) Closure and post-closure care plans as required by § 258.30(b) and § 258.31(c) of this part.

§ 258.30 Closure criteria.

(a) The owner or operator of a municipal solid waste landfill must close each landfill unit in a manner that minimizes the need for further maintenance and minimizes the post-closure formation and release of leachate and explosive gases to air, ground water, or surface water to the extent necessary to protect human health and the environment.

(b) The owner or operator must prepare a written plan that describes the steps necessary to close all units of the muncipal solid waste landfill at any point during its active life in accordance with the closure performance standard in § 258.30(a). The closure plan, at a minimum, must include the following information:

(1) An overall description of the methods, procedures, and processes that will be used to close each unit of a municipal solid waste landfill in accordance with the closure performance standard in § 258.30(a), including procedures for decontaminating the landfill;

(2) An estimate of the maximum extent of operation that will be open at any time during the active life of the landfill;

(3) An estimate of the maximum inventory of wastes ever on-site over the active life of the landfill;

(4) A description of the final cover, designed in accordance with §§ 258.40(b) and 258.40(c), and;

(5) A schedule for completing all activities necessary to satisfy the closure performance standard.

(c) The closure plan must be prepared as of the effective date of this part, or by the initial receipt of solid waste, whichever is later, and must be approved by the State. Any subsequent modification to the closure plan also must be approved by the State. A copy of the most recent approved closure plan must be kept at the facility or at an alternate location designated by the owner or operator until closure of the municipal solid waste landfill has been certified in accordance with § 258.30(e) and the owner or operator has been released from financial assurance requirements for closure under § 258.32(f).

(d) The owner or operator must begin closure activities of each landfill unit, in accordance with the approved closure plan, no later than 30 days following the final receipt of wastes at that landfill unit. Extensions of the deadline for beginning closure may be granted at the discretion of the State if the owner or operator of a municipal solid waste landfill demonstrates that the landfill will not pose a threat to human health and the environment.

(e) Following closure of each municipal solid waste landfill unit, the owner or operator must submit to the State a certification that objectively verifies that closure has been completed in accordance with the approved closure plan, based on a review of the landfill unit by a qualified party.

§ 258.31 Post-closure care requirements.

(a) Following closure of each municipal solid waste landfill unit, the owner or operator must conduct two phases of post-closure care. The first phase must be for a minimum of 30 years and consist of at least the following:

(1) Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(2) Maintaining and operating the leachate collection system in accordance with the requirements in

[1] Copies may be obtained from: Solid Waste Information, U.S. Environmental Protection Agency, 26 West St. Clair St., Cincinnati, Ohio 45268.

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§ 258.40(a)–(b), if applicable, until leachate no longer is generated;

(3) Monitoring the ground-water in accordance with the requirements of § 258.50 and maintaining the ground-water monitoring system; and,

(4) Maintaining and operating the gas monitoring system in accordance with the requirements of § 258.23.

(b) Following the period described in § 258.31(a), the owner or operator must conduct a second phase of post-closure care at each municipal solid waste landfill unit that consists of, at a minimum, ground-water monitoring and gas monitoring. The length of this period is determined by the State and must be sufficient to protect human health and the environment.

(c) The owner or operator of a municipal solid waste landfill must prepare a written post-closure plan that describes monitoring and routine maintenance activities that will be carried out during each phase of the post-closure care period in accordance with the requirements of § 258.31(a) and (b). The post-closure plan must include, at a minimum, the following information:

(1) A description of the monitoring and maintenance activities required in § 258.31 (a) and (b) for each unit, and the frequency at which these activities will be performed;

(2) Name, address, and telephone number of the person or office to contact about the facility during both phases of the post-closure period; and

(3) A description of the planned uses of the property during both phases of the post-closure care period. Post-closure use of the property must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the monitoring systems, unless, upon the demonstration by the owner or operator, the State determines that the activities will not increase the potential threat to human health or the environment or the disturbance is necessary to reduce a threat to human health or the environment. The owner or operator must obtain approval from the State in order to remove any wastes or waste residues, the liner, or contaminated soils from the land.

(d) The post-closure plan must be prepared as of the effective date of the rule, or by the initial receipt of solid waste, whichever is later, and must be approved by the State. Any subsequent modification to the post-closure plan must also be approved by the State. A copy of the most recent approved post-closure plan must be kept at the facility or at an alternate location designated by the owner or operator until completion of the post-closure care period has been certified in accordance with § 258.31(f) and the owner or operator has been released from financial assurance for post-closure care under § 258.32(g).

(e) Following closure of the entire municipal solid waste landfill, the owner or operator must record a notation on the deed to the landfill property, or some other instrument that is normally examined during title search. The owner or operator may request permission from the State to remove the notation from the deed if all wastes are removed from the facility in accordance with paragraph (c)(3) of this section. The notation on the deed must in perpetuity notify any potential purchaser of the property that:

(1) The land has been used as a municipal solid waste landfill; and

(2) Its use is restricted under paragraph (c)(3) of this section.

(f) Following completion of the two-phase post-closure care period for each unit, the owner or operator of an MSWLF must submit to the State a certification that objectively verifies that both phases of post-closure care have been completed in accordance with the approved post-closure plan, based on a review of the landfill unit by a qualified party.

§ 258.32 Financial assurance criteria.

(a) The requirements of this section apply to the owner and operator of each municpal solid waste landfill, except an owner or operator who is a State or Federal government entity whose debts and liabilities are the debts and liabilities of a State or the United States.

(b) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the municipal solid waste landfill in accordance with the closure plan developed to satisfy the closure requirements in § 258.30 of this part.

(1) The estimate must equal the cost of closing the landfill at the point in the municipal solid waste landfill's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 258.30(b) of this part).

(2) During the active life of the municipal solid waste landfill, the owner or operator must annually adjust the closure cost estimate for inflation.

(3) The owner or operator must increase the closure cost estimate and the amount of financial assurance provided under paragraph (f) of this section if changes to the closure plan or landfill conditions increase the maximum cost of closure at any time over the active life of the municipal solid waste landfill.

(4) The owner or operator may request a reduction in the closure cost estimate and the amount of financial assurance provided under paragraph (f) of this section if he can demonstrate that the cost estimate exceeds the maximum cost of closure at any time over the life of the landfill.

(5) The owner or operator must keep a copy of the latest closure cost estimate at the landfill until the owner or operator has been notified by the State that he has been released from closure financial assurance requirements under paragraph (f) of this section.

(c) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct each phase of post-closure monitoring and maintenance of the municipal solid waste landfill in accordance with the post-closure plan developed to satisfy the post-closure requirements in § 258.31 (a) and (b) of this part. The post-closure cost estimate for each phase of post-closure care used to demonstrate financial assurance in paragraph (g) of this section is calculated by multiplying the annual cost estimate for each phase of post-closure care by the number of years of post-closure care required in that phase.

(1) The cost estimate for each phase of post-closure care must be based on the most expensive costs of post-closure care during that phase.

(2) During the active life of the municipal solid waste landfill, the owner or operator must annually adjust the post-closure cost estimate for inflation.

(3) The owner or operator must increase the amount of the post-closure care cost estimate and the amount of financial assurance provided under paragraph (g) of this section if changes in the post-closure plan or landfill conditions increase the maximum costs of post-closure care.

(4) The owner or operator may request a reduction in the post-closure cost estimate and the amount of financial assurance provided under paragraph (g) of this section if he can demonstrate that the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period.

(5) The owner or operator must keep a copy of the latest post-closure care cost estimate at the landfill until he has been notified by the State that he has been released from post-closure financial assurance requirements for the entire landfill under paragraph (g) of this section.

(d) An owner or operator of a municipal solid waste landfill required to undertake a corrective action program under § 258.58 of this part must

have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under § 258.58 of this part. The corrective action cost estimate is calculated by multiplying the annual costs of corrective action by the number of years of the corrective action program.

(1) The owner or operator must annually adjust the estimate for inflation until the corrective action program is completed.

(2) The owner or operator must increase the amount of the corrective action cost estimate and the amount of financial assurance provided under paragraph (h) of this section if the annual corrective action costs, in current dollars, for the remaining period over which corrective action will be conducted exceed the cost estimate.

(3) The owner or operator may request a reduction in the amount of the corrective action cost estimate and the amount of financial assurance provided under paragraph (h) of this section if he demonstrates that the cost estimate exceeds the maximum remaining costs of corrective action.

(4) The owner or operator must keep a copy of the latest estimate of the costs of performing corrective action at the landfill until he has been notified by the State that he has been released from corrective action financial assurance requirements under paragraph (h) of this section.

(e) The mechanisms used to demonstrate financial assurance under this section must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available in a timely manner whenever they are needed. Financial assurance requirements must satisfy the following criteria:

(1) The financial assurance mechanisms must ensure that the amount of funds ensured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed;

(2) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed;

(3) The financial assurance mechanisms must guarantee the availability of the required amount of coverage from the effective date of these requirements or prior to the initial receipt of solid waste, whichever is later, until the owner or operator establishes an alternative financial assurance mechanism or is released from the financial assurance requirements under paragraphs (f), (g), and (h) of this section;

(4) The financial assurance mechanisms that may be used to satisfy the requirements in paragraphs (f), (g), and (h) of this section must provide flexibility to the owner or operator; and

(5) The financial assurance mechanisms must be legally valid and binding and enforceable under State and Federal law.

(f) The owner or operator of each municipal solid waste landfill must establish, in a manner in accordance with paragraph (e) of this section, financial assurance for closure of the landfill, in an amount equal to the most recent closure cost estimate prepared in accordance with paragraph (b) of this section. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements in accordance with this paragraph. The owner or operator may be released from financial assurance requirements for closure after the State has received certification that closure has been completed in accordance with the approved closure plan, as required under § 258.30(e) of this part. Following receipt of the closure certification, the State will:

(1) Notify the owner or operator in writing that he/she is no longer required to maintain financial assurance for closure, or;

(2) Provide the owner or operator with a detailed written statement of any reason to believe that closure has not been conducted in accordance with the approved closure plan.

(g) The owner or operator of each municipal solid waste landfill must establish, in a manner in accordance with paragraph (e) of this section, financial assurance for the costs of each phase of post-closure care as required under § 258.31 (a) and (b) of this part, in an amount equal to the sum of the most recent cost estimates for each phase of post-closure care, prepared in accordance with paragraph (c) of this section. The owner or operator must provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care under paragraph § 258.31(g) of this section. The owner or operator may be released from financial assurance requirements for post-closure care requirements after the State has received a certification that the two-phase post-closure care period has been completed in in accordance with the approved plan, as required under § 258.31(f) of this part. Following receipt of the post-closure care certification, the State will:

(1) Notify the owner or operator in writing that he is no longer required to maintain financial assurance for post-closure care, or;

(2) Provide the owner or operator with a detailed written statement of any reason to believe that post-closure care has not been conducted in accordance with the approved post-closure plan.

(h) The owner or operator of each municipal solid waste landfill required to undertake a corrective action program under § 258.58 of this part must establish, in a manner in accordance with paragraph (e) of this section, financial assurance for the most recent corrective action program, in an amount equal to the corrective action cost estimate prepared in accordance with paragraph (d) of this section. The owner or operator must provide continuous coverage for corrective action until released from financial assurance requirements for corrective action in accordance with this paragraph. The owner or operator may be released from financial assurance requirements for corrective action after the State has received certification that the corrective action remedy has been completed in accordance with the approved corrective plan, as required by § 258.58(e) of this part. Following receipt of the corrective action certification, the State will:

(1) Notify the owner or operator in writing that he is no longer required to maintain financial assurance for corrective action, or;

(2) Provide the owner or operator with a detailed written statement of any reason to believe that corrective action has not been completed in accordance with the approved corrective action plan.

§§ 258.33–258.39 [Reserved].

Subpart D—Design Criteria

§ 258.40 Design Criteria.

(a) New municipal solid waste landfill units must be designed with liners, leachate collection systems, and final cover systems, as necessary, to ensure that the design goal established under paragraph (b) of this section is met in the aquifer at the waste management unit boundary, or an alternative boundary, as specified by the State under paragraph (d) of this section.

(b) The State must establish a design goal for new MSWLF units. This design shall, at a minimum, achieve a ground-water carcinogenic risk level with an excess lifetime cancer risk level (due to continuous lifetime exposure) within the 1×10^{-4} to 1×10^{-7} range.

[Note to § 258.40(b): EPA is considering alternatives to the 1×10^{-4} to 1×10^{-6} risk range. The Agency specifically requests comment on a fixed risk level of 1×10^{-5} or an upper bound risk level of 1×10^{-4} (with the States having discretion to be more stringent) as alternatives to the proposed risk range. A fixed risk level of 1×10^{-5} would provide a uniform level of protection across all States. On the other hand, setting an upper bound risk level of 1×10^{-4} would allow States greater flexibility in establishing more stringent risk levels based on site specific conditions].

(c) When establishing the design necessary to comply with paragraph (a) of this section, the State shall consider at least the following factors:

(1) The hydrogeologic characteristics of the facility and surrounding land;

(2) The climatic factors of the area;

(3) The volume and physical characteristics of the leachate;

(4) Proximity of gound-water users; and

(5) Quality of ground water.

(d) A State may establish an alternative boundary to be used in lieu of the waste management unit boundary. The alternative boundary shall not exceed 150 meters from the waste management unit boundary and shall be located on land owned by the owner or operator of the MSWLF. The establishment of the alternative boundary shall be based on analysis and consideration of at least the following factors:

(1) The hydrogeologic characteristics of the facility and surrounding land;

(2) The volume and physical and chemical characteristics of the leachate;

(3) The quantity, quality, and direction of flow of ground water;

(4) The proximity and withdrawal rate of the ground-water users;

(5) The availability of alternative drinking water supplies;

(6) The existing quality of the ground water, including other sources of contamination and their cumulative impacts on the ground water;

(7) Public health, safety, and welfare effects; and

(8) Practicable capability of the owner or operator.

(e) Existing municipal solid waste landfill units must be equipped at closure with a final cover system that is designed to prevent infiltration of liquid through the cover and into the waste.

§§ 258.41–258.49 [Reserved]

Subpart E—Ground-Water Monitoring and Corrective Action

§ 258.50 Applicability.

(a) The requirements in this Part apply to municipal solid waste landfill units, except as provided in paragraph (b) of this section.

(b) Ground-water monitoring requirements under § 258.51 through § 258.55 of this Part will be suspended for an MSWLF unit if the owner or operator can demonstrate to the State that there is no potential for migration of hazardous constituents from that unit to the uppermost aquifer during the active life, including the closure period, of the unit and during post-closure care. This demonstration must be certified by a qualified geologist or geotechnical engineer, and must incorporate reliable site-specific data. If detailed hydrogeologic data are unavailable, the owner or operator must provide an adequate margin of safety in the prediction of potential migration of hazardous constituents by basing such predictions on assumptions that maximize the rate of hazardous consitutent migration.

(c) Within 6 months of the effective date of the rule, the State must specify a schedule for the owners or operators of MSWLF units to comply with the ground-water monitoring requirements specified in §§ 258.51–258.55. This schedule must be specified to ensure that 25 percent of MSWLF units are in compliance within 2 years of the effective date of this rule; 50 percent (50%) of landfill units are in compliance within 3 years of the effective date of this rule; 75 percent of the landfill units are in compliance within 4 years of the effective date of this rule; and all landfill units are in compliance within 5 years of the effective date of this rule. In setting the compliance schedule, the State must consider potential risks posed by the MSWLF unit to human health and the environment. The following factors should be considered in determining potential risk:

(1) Proximity of human and environmental receptors;

(2) Design of the landfill unit;

(3) Age of the landfill unit; and

(4) Resource value of the underlying aquifer, including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users; and

(iii) Ground-water quality and quantity.

(d) If the State does not set a schedule for compliance as specified in paragraph (c) of this Section, the following compliance schedule shall apply:

(1) Existing landfill units less than 1 mile from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§ 258.51–258.55 within 3 years of the effective date of this rule;

(2) Existing landfill units greater than 1 mile but less than 2 miles from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§ 258.51–258.55 within 4 years of the effective date of this rule;

(3) Existing landfill units greater than 2 miles from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§ 258.51–258.55 within 5 years of the effective date of this rule; and

(4) A new landfill unit must be in compliance with the ground-water monitoring requirements specified in §§ 258.51–258.55 before waste can be placed in the unit.

(e) Once established at a unit, ground-water monitoring shall be conducted throughout the active life and post-closure care of that municipal solid waste landfill unit as specified in § 258.31.

§ 258.51 Ground-water monitoring systems.

(a) A ground-water monitoring well system approved by the State must be installed at the closest pacticable distance from the waste management unit boundary or the alternative boundary specified by the State under § 258.40. Where subsurface conditions cause hazardous constituents to migrate horizontally past the boundary specified under this paragraph before descending to the uppermost aquifer, the State can designate another appropriate downgradient location for the ground-water monitoring wells.

(b) A ground-water monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths, to yield ground-water samples from the uppermost aquifer that:

(1) Represent the quality of background ground water that has not been affected by leakage from a landfill unit; and

(2) Represent the quality of ground water passing the locations specified under paragraph (a) of this section.

(c) If approved by the State, separate ground-water monitoring systems are not required for each landfill unit when the facility has several landfill units, provided the multi-unit ground-water monitoring system will be as protective of human health and the environment as individual monitoring systems for each unit.

(d) Monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This

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casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.

(1) The design, installation, development, and decommission of any monitoring wells, piezometers and other measurement, sampling, and analytical devices must be documented in the operating record; and

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

(e) The number, spacing, and depths of monitoring systems shall be proposed by the owner or operator and approved by the State based upon site-specific technical information that must be developed by the owner or operator and must include thorough characterization of:

(1) Aquifer thickness, flow rate, and flow direction; and

(2) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, including, but not limited to: thicknesses, stratigraphy, lithology, hydraulic conductivities, and porosities.

§ 258.52 Determination of ground-water trigger level.

(a) The State must establish, before a Phase I monitoring program is initiated, ground-water trigger levels that are protective of human health and the environment for all Appendix II constituents.

(b) The levels are to be specified by the State as:

(1) Maximum Contaminant Level (MCL) promulgated under § 1412 of the Safe Drinking Water Act (codified) under 40 CFR Part 141, Subpart B; or

(2) For constituents for which MCLs have not been promulgated, an appropriate health-based level established by the State that satisfies the following criteria:

(i) The level is derived in a manner consistent with Agency guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028);

(ii) Is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR Part 792) or equivalent;

(iii) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) within the 1×10^{-4} to 1×10^{-7} range; and

(iv) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime.

[Note to § 258.52(b)(2)(iii): EPA is considering alternatives to the 1×10^{-4} to 1×10^{-7} risk range. The Agency specifically requests comment on a fixed risk level of 1×10^{-5} or an upper bound risk level of 1×10^{-4} (with the States having discretion to be more stringent) as alternatives to the proposed risk range. A fixed risk level of 1×10^{-5} would provide a uniform level of protection across all States. On the other hand, setting an upper bound risk level of 1×10^{-4} would allow States greater flexibility in establishing more stringent risk levels based on site specific conditions].

(3) For constituents for which no health-based level is available that meets the criteria in § 258.52(a)(1) or (2) the State may establish a trigger level that shall be:

(i) An indicator for protection of human health and the environment, using the exposure assumptions specified under § 258.52(a)(2), or

(ii) The background concentration.

(4) For constituents for which the background level is higher than health-based levels established under § 258.52(b)(1)–(3), the trigger level shall be the background concentration.

§ 258.53 Ground-water sampling and analysis requirements.

(a) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of ground-water quality at the background and downgradient wells installed in compliance with § 258.51(b) of this part. At a minimum, the program must be documented in the operating record and must include procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures;

(4) Chain of custody control; and

(5) Quality assurance and quality control.

(b) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents and other monitoring parameters in ground-water samples.

(c) The sampling procedures and frequency must be protective of human health and the environment. The sampling requirement must ensure that the statistical procedure used to evaluate samples has an acceptably low probability of failing to identify contamination.

(d) Ground-water elevations must be measured in each well immediately prior to sampling.The owner or operator must determine the rate and direction of ground-water flow in the uppermost aquifer each time ground-water gradient changes as indicated by previous sampling period elevation mesurements.

(e) The owner or operator must establish background ground-water quality on a hydraulically upgradient well(s) for each of the monitoring parameters or constituents required in the particular ground/water monitoring program that applies to the municipal solid waste landfill unit, as determined under § 258.54(a), or § 258.55(a) of this part. The minimum number of samples used to establish background ground-water quality must be consistent with the appropriate statistical procedures determined pursuant to paragraph (h) of this section.

(f) Background ground-water quality at existing units may be based on sampling of wells that are not upgradient from the waste management area where:

(1) Hydrogeologic conditions do not allow the owner or operator to determine what wells are upgradient; and

(2) Sampling at other wells will provide an indication of background ground-water quality that is as representative or more representative than that provided by upgradient wells.

(g) The State may determine alternate background ground-water quality on a site-specific basis if true background ground-water quality cannot be detected on site. The alternate background ground-water quality should be based on monitoring data from the uppermost aquifer that is available to the State.

(h) Statistical procedures are as follows:

(1) Ground-water monitoring data for each phase of the monitoring programs of §§ 258.54, 258.55 and any other applicable section of this rule will be collected from background wells (except as allowed in § 258.53(g)), and at monitoring wells as specified pursuant to § 258.53(a). Based on the site-specific conditions identified in § 258.54(c), the owner or operator must select the appropriate statistical procedure to determine if a statistically significant increase over background value for each parameter or constituent has occurred.

(2) The owner or operator must employ one of the following statistical

procedures, in combination with the designated sampling requirement, to determine a statistically significant increase:

(i) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The procedure must include estimation and testing of the contrasts between each downgradient well's mean and the background mean level for each constituent;

(ii) An analysis of variance based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The procedure must include estimation and testing of the contrasts between each downgradient well's mean and the background mean level for each constituent;

(iii) Tolerance or prediction interval procedure in which a tolerance interval for each constituent is established from the distribution of the background data, and the level of each constituent in each downgradient well is compared to the upper tolerance or prediction limit;

(iv) A control chart approach that gives control limits for each constituent; and

(v) Another statistical test procedure that is protective of human health and the environment and meets the ground-water protection standard of § 258.52(b).

(3) The State may establish an alternative sampling procedure and statistical test for any of the constituents listed in Appendix II or parameters listed in § 258.54(b), as required to protect human health and the environment. Factors to consider for establishing this alternative statistical procedure include:

(i) If the distributions for different constituents differ, more than one procedure may be needed. The owner or operator must show that the normal distribution is not appropriate if using a nonparametric or other methodology not requiring an assumption of normality. For any statistic not based on a normal distribution, a goodness of fit test shall be conducted to demonstrate that the normal distribution is not appropriate. Other tests shall be conducted to demonstrate that the assumptions of the statistic or distribution are not grossly isolated;

(ii) Each parameter or constituent is to be tested for separately. Each time that a test is done, the test for individual constituents shall be done at a type I error level or less than 0.01. A multiple comparison procedure may be used at a type I experiment-wide error rate no less than 0.05. The owner or operator must evaluate the ability of the method to detect contamination that is actually present and may be required to increase the sample size to achieve an acceptable error level.

(iii) The monitoring well system should be consistent with § 258.51. The owner or operator must ensure that the number, location, and depth of monitoring wells will detect hazardous constituents that migrate from the municipal solid waste landfill unit;

(iv) The statistical procedure should be appropriate for the behavior of the parameters or constituents involved. It should include methods for handling data below the limit of detection. The owner or operator should evaluate different ways of dealing with values below the limit of detection and choose the one that is most protective of human health and the environment. In cases where there is a high proportion of values below limits of detection, the owner or operator may demonstrate that an alternative procedure is more appropriate; and

(v) The statistical procedure used should account for seasonal and spatial variability and temporal correlation.

(4) If contamination is detected by any of the statistical tests, and the State or the owner or operator suspects that detection is an artifact caused by some feature of the data other than contamination, the State may specify that statistical tests of trend, seasonal variation, autocorrelation, or other interfering aspects of the data be done to establish whether the significant result is indicative of detection of contamination or resulted from natural variation.

(i) The owner or operator must determine whether or not there is a statistically significant increase (or decrease, in the case of Phase I) over background values for each parameter or constituent required in the particular ground-water monitoring program that applies to the landfill unit, as determined under §§ 258.54(a) or 258.55(a) of this part. The owner or operator must make these statistical determinations each time he assesses ground-water quality at the boundary designated under § 258.40 of this part.

(A) In determining whether a statistically significant increase or decrease has occurred, the owner or operator must compare the ground-water quality of each parameter or constituent at each monitoring well designated pursuant to § 258.51 to the background value of that parameter or constituent, according to the statistical procedures specified under paragraph (h) of this section.

(B) Within a reasonable time period after completing sampling (as determined by the State), the owner or operator must determine whether there has been a statistically significant increase or decrease over background at each monitoring well.

§ 258.54 Phase I monitoring program.

(a) Phase I monitoring is required at municipal solid waste landfill units except as otherwise provided in §§ 258.55 and 258.58 of this Part.

(b) At a minimum, a Phase I monitoring program must include the following monitoring parameters or constituents:

(1) Ammonia (as N)
(2) Bicarbonate (HCO_3)
(3) Calcium
(4) Chloride
(5) Iron
(6) Magnesium
(7) Manganese, dissolved
(8) Nitrate (as N)
(9) Potassium
(10) Sodium
(11) Sulfate (SO_4)
(12) Chemical Oxygen Demand (COD)
(13) Total Dissolved Solids (TDS)
(14) Total Organic Carbon (TOC)
(15) pH
(16) Arsenic
(17) Barium
(18) Cadmium
(19) Chromin
(20) Cyanide
(21) Lead
(22) Mercury
(23) Selenium
(24) Silver
(25) The volatile organic compounds (VOCs) listed in Appendix I of this part.

(c) The State must determine an appropriate monitoring frequency on a site-specific basis by considering aquifer flow rate and resource value of the ground water. The minimum monitoring frequency for all parameters specified in paragraph (b) of this section is semiannual except during the post-closure care when minimum monitoring frequency shall be determined by the State on a site-specific basis.

(d) If the owner or operator determines, pursuant to § 258.53(h) of this part, that there is a statistically significant increase or decrease over background for two or more of parameters (1) to (15) specified in paragraph (b) of this section, at any monitoring well at the boundary specified under § 258.51(a), or a statistically significant increase over background for any one or more of parameters (16) to (24) specified in paragraph (b) of this section or the VOCs listed in Appendix I, at any

monitoring well at the boundary specified under § 258.51(a), (s)he:

(1) Must notify the State within 14 days of this finding. The notification must indicate what Phase I parameters have shown statistically significant changes from background levels;

(2) Must establish a Phase II monitoring program meeting the requirements of § 258.55 this part within a reasonable time period as determined by the State; and

(3) May demonstrate that a source other than a municipal solid waste landfill unit cause the contamination or that the contamination resulted from error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this paragraph in lieu of establishing a Phase II monitoring program, the owner or operator is not relieved of the requirement to establish a Phase II monitoring program within a reasonable time period unless the demonstration made under this paragraph successfully shows that a source other than the municipal solid waste landfill unit caused the change or that the change resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(i) Notify the State in writing within 7 days of determining statistically significant evidence of contamination that (s)he intends to make a demonstration under this paragraph;

(ii) Within 90 days, or an alternative time period approved by the State, submit to the State a report that demonstrates that a source other than a municipal solid waste landfill unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation; and

(iii) Continue to monitor in accordance with the Phase I monitoring program.

§ 258.55 Phase II monitoring program.

(a) Phase II monitoring is required whenever statistically significant increases or decreases over background have been detected for two or more of parameters (1) to (15) specified under § 258.54(b); or whenever statistically significant increases over background have been detected for one or more of parameters (16) to (24) specified under § 258.54(b), or the VOCs listed in Appendix I; or the State determines, pursuant to § 258.58, that a corrective action remedy has been completed.

(b) At a minimum, Phase II monitoring program must include the constituents in Appendix II of this part.

(c) Within 90 days of triggering a Phase II monitoring program or an alternative time period approved by the State, the owner or operator must sample the ground water in all monitoring wells identified pursuant to § 258.51 of this part and analyze those samples for all constituents identified in Appendix II of this part.

(d) If Appendix II constituents are not detected in response to paragraph (c), the State shall specify an appropriate frequency for repeated sampling and analysis for Appedix II constituents during the active life, closure, and post-closure care of the unit. The following factors should be considered by the State when setting an appropriate frequency for a full Appendix II analysis:

(1) Lithology of the aquifer and unsaturated zone;

(2) Hydraulic conductivity of the aquifer and unsaturated zone;

(3) Aquifer flow velocities;

(4) Minimum distance between upgradient edge of unit and downgradient monitoring well screen (minimum distance of travel); and

(5) Nature of any constituents detected in response to this section.

(e) If, after conducting Phase II monitoring or an appropriate time period approved by the State, the owner or operator determines that there has not been a statistically significant increase over background of parameters or constituent specified pursuant to § 258.55(b) of this part at any monitoring well at the boundary specified under § 258.51(a), that unit may return to Phase I monitoring. The following factors should be considered by the State when determining an appropriate time period for sampling before allowing a unit to return to Phase I monitoring:

(1) Lithology of the aquifer and unsaturated zone;

(2) Hydraulic conductivity of the aquifer and unsaturated zone;

(3) Aquifer flow velocities; and

(4) Maximum distance between upgradient edge of unit and downgradient monitoring well screen (potential maximum distance of travel).

(f) If any Appendix II constituents are detected at statistically significant levels above background response to (c) or (d) of this section, the owner or operator must:

(1) Notify the State in writing within 14 days, or an alternative time period approved by the State, which Appendix II constituents have been detected at statistically significant levels above background; and

(2) Within 90 days, and on a quarterly basis thereafter during the active life and closure of the unit, resample all wells and conduct analyses for those constituents in Appendix II of this part that are determined to be present at levels above background concentrations at the boundary specified under § 258.51(a) of this part.

(3) The State shall determine an appropriate minimum monitoring frequency for these Appendix II constituents during the post-closure period. The following factors should be considered by the State when setting a minimum monitoring frequency:

(i) Lithology of the aquifer and unsaturated zone;

(ii) Hydraulic conductivity of aquifer and unsaturated zone;

(iii) Aquifer flow velocities;

(iv) Minimum distance between upgradient edge of unit and downgradient monitoring well screen (minimum distance of travel); and

(v) Nature of the constituents detected in response to this section.

(g) If any Appendix II parameters or constituents are identified under paragraph (d) of this section that had not been identified previously under (c) or (f)(2) of this section, the owner or operator must, within 14 days, submit to the State a report on the concentration of any Appendix II constituents detected at statistically significant levels above background concentrations.

(h) If any Appendix II constituent is detected at statistically significant levels above the ground-water trigger level established under § 258.52 of this section, the owner or operator:

(1) Must notify the State of this finding in writing within 14 days. The notification must indicate what Phase II parameters or constituents have exceeded the ground-water trigger level;

(2) Must meet the requirements of § 258.56 of this part within a time period determined by the State; and

(3) Must continue to monitor in accordance with the Phase II monitoring program established under this section; or

(4) May demonstrate that a source other than a municipal solid waste landfill unit caused the contamination, or that the increase resulted from error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this paragraph in lieu of establishing a corrective action program, (s)he is not relieved of the requirement to establish a corrective action program within a reasonable time period unless the demonstration made under this paragraph successfully shows that a source other than the municipal solid waste landfill unit caused the increase, or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration

under this paragraph, the owner or operator must:

(i) Notify the State in writing within 7 days of determining statistically significant evidence of contamination that (s)he intends to make a demonstration under this paragraph;

(ii) Within 90 days, or an alternate time period approved by the State, submit to the State a report that demonstrates that a source other than a municipal solid waste landfill unit caused the contamination or that the increase resulted from error in sampling, analysis, or evaluation; and

(iii) Continue to monitor in accordance with the Phase II monitoring program.

§ 258.56 Assessment of corrective measures.

(a) An assessment must be conducted by the owner or operator when any of the constituents listed in Appendix II has been detected at a statistically significant level exceeding the ground-water trigger levels defined under § 258.52 of this part during the Phase II monitoring program.

(b) The owner or operator must continue to monitor in accordance with the Phase II monitoring program. The State may require the owner or operator to conduct additional monitoring in order to characterize the nature and extent of the plume.

(c) The State shall specify the scope of the assessment, which may include the following:

(1) Assessment of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under § 258.57;

(2) Evaluation of performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

(3) Assessment of the time required to begin and complete the remedy;

(4) Estimation of the costs of remedy implementation;

(5) Assessment of institutional requirements such as State or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s); and

(6) Evaluation of public acceptability.

(d) The State may require the owner or operator to evaluate as part of the corrective measure study one or more specific potential remedies. These remedies may include a specific technology or combination of technologies, that, in the State's judgment, achieve the standards for remedies specified in § 258.57.

(e) The owner or operator shall submit a report to the State on the remedies evaluated pursuant to paragraphs (a)–(d). The State shall then select a remedy based on the criteria described in § 258.57.

(f) If at any time during the assessment described under paragraphs (a)–(e) of this section the State determines that the facility poses a threat to human health or the environment, the State may require the owner or operator to implement measures defined under § 258.58(a)(3) and/or (a)(4) to protect human health and the environment.

§ 258.57 Selection of remedy and establishment of ground-water protection standard.

(a) Based on the results of the corrective measure study conducted under § 258.56, the State must select a remedy that, at a minimum, meets the standards listed in paragraph (b) below.

(b) Remedies must:

(1) Be protective of human health and the environment;

(2) Attain the ground-water protection standard as specified pursuant to paragraphs (e) and (f) of this section;

(3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of Appendix II constituents into the environment that may pose a threat to human health or the environment; and

(4) Comply with standards for management of wastes as specified in § 258.58(d).

(c) In selecting a remedy that meets the standards of § 258.57(b), the State, as appropriate, shall consider the following evaluation factors:

(1) Any potential remedy(s) shall be assessed for the long- and short-term effectiveness and protectiveness it affords, along with the degree of certainty that the remedy will provide successful. Factors to be considered include:

(i) Magnitude of reduction of existing risks;

(ii) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;

(iii) The type and degree of long-term management required, including monitoring, operation, and maintenance;

(iv) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment;

(v) Time until full protection is achieved;

(vi) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;

(vii) Long-term reliability of the engineering and institutional controls; and

(viii) Potential need for replacement of the remedy.

(2) Effectiveness of the remedy in controlling the source to reduce further releases. The following factors should be considered:

(i) The extent to which containment practices will reduce further releases;

(ii) The extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy(s) shall be assessed by considering the following types of factors:

(i) Degree of difficulty associated with constructing the technology;

(ii) Expected operational reliability of the technologies;

(iii) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(iv) Availability of necessary equipment and specialists; and

(v) Available capacity and location of needed treatment, storage, and disposal services.

(4) Practicable capability of the owner or operator including a consideration of the technical and economic capability.

(5) The degree to which community concerns are addressed by a potential remedy(s) shall be assessed.

(d) The State shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. The State will consider the following factors in determining the schedule of remedial activities;

(1) Extent and nature of contamination;

(2) Practical capabilities of remedial technologies in achieving compliance with ground-water protection standards established under § 258.57(e) and other objectives of the remedy;

(3) Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;

(4) Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of

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effectiveness, reliability, safety, or ability to achieve remedial objectives;

(5) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy; and

(6) Resource value of the aquifer including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users;

(iii) Ground-water quantity and quality;

(iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituent;

(v) The hydrogeologic characteristic of the facility and surrounding land;

(vi) Ground-water removal and treatment costs; and

(vii) The cost and availability of alternative water supplies.

(7) Practicable capability of the owner or operator.

(8) Other relevant factors.

(e) The State shall specify concentration levels for each Appendix II constituent detected in the ground water above trigger levels that the remedy must achieve. Such ground-water protection standards (GWPSs) will be established by the State as follows:

(1) The standard(s) shall be concentration levels in the ground water that protect human health and the environment;

(2) Unless another level is deemed necessary to protect environmental receptors, standards shall be established as follows:

(i) For known or suspected carcinogens, standards shall be established at concentration levels that represent an excess upper bound lifetime risk to an individual of between 1×10^{-4} and 1×10^{-7}, and

(ii) For systemic toxicants, standards shall represent concentration levels to which the human population (including sensitive subgroups) could be exposed on a daily basis without appreciable risk of deleterious effect during a lifetime.

[Note to § 258.57(e)(2)(i): EPA is considering alternatives to the 1×10^{-4} to 1×10^{-7} risk range. The Agency specifically requests comment on a fixed risk level of 1×10^{-5} or an upper bound risk level of 1×10^{-4} (with the States having discretion to be more stringent) as alternatives to the proposed risk range. A fixed risk level of 1×10^{-5} would provide a uniform level of protection across all States. On the other hand, setting an upper bound risk level of 1×10^{-4} would allow States greater flexibility in establishing more stringent risk levels based on site specific conditions.]

(3) In establishing ground-water protection standards that meet the requirements of § 258.57(e) (i) and (ii), above, the State may consider the following:

(i) Multiple contaminants in the ground water;

(ii) Exposure threats to sensitive environmental receptors;

(iii) Other site-specific exposure or potential exposure to ground water; and

(iv) The reliability, effectiveness, practicability, or other relevant factors of the remedy.

(4) For ground water that is a current or potential source of drinking water, the State shall consider maximum contaminant levels promulgated under the Safe Drinking Water Act in establishing ground-water protection standards; and

(5) If the owner or operator can demonstrate to the State that an Appendix II constituent already is present in the ground water at a background level, then the GWPS will not be set below background levels unless the State determines that:

(i) Cleanup to levels below background levels is necessary to protect human health and the environment; and

(ii) Such cleanup is in connection with an area-wide remedial action under other authorities.

(f) The State may determine that remediation of a release of an Appendix II constituent from a municipal solid waste landfill is not necessary if the owner or operator demonstrates to the State's satisfaction that:

(1) The ground water also is contaminated by substances that have originated from a source other than a municipal solid waste landfill unit and those substances are present in concentrations such that cleanup of the release from the municipal solid waste landfill unit would provide no significant reduction in risk to actual or potential receptors; or

(2) The constituent(s) is present in ground water that:

(i) Is not a current or potential source of drinking water; and

(ii) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that represents a statistically significant increase over background concentrations; or

(3) Remediation of the release(s) is technically impracticable or results in unacceptable cross-media impacts.

(g) A determination by the State pursuant to subparagraph (2) above shall not affect the authority of the State to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the ground water, to prevent exposure to the ground water, or to remediate the ground water to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

(h) The State shall specify in the remedy requirements for achieving compliance with the ground-water protection standards established under § 258.57(e) as follows:

(1) The ground-water protection standard shall be achieved at all points within the plume of contamination that lie beyond the ground-water monitoring well system established under § 258.51(a).

(2) The State shall specify in the remedy the length of time during which the owner or operator must, in order to achieve compliance with a ground-water protection standard, demonstrate that concentrations of Appendix II constituents have not exceeded the standard(s). Factors that may be considered by the State in determining these timing requirements include:

(i) Extent and concentration of the release(s);

(ii) Behavior characteristics of the hazardous constituents in the ground water;

(iii) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and

(iv) Characteristics of the ground water.

§ 258.58 Implementation of the corrective action program.

(a) If any constituent is detected at statistically significant levels above the ground-water protection standard established under § 258.57(e), the owner or operator must:

(1) Establish and implement a corrective action ground-water monitoring program that must:

(i) At a minimum, meet the requirements of a Phase II monitoring program under § 258.54;

(ii) Demonstrate the effectiveness of the corrective action remedy; and

(iii) Demonstrate compliance with ground-water protection standard pursuant to § 258.57(f).

(2) Implement the corrective action remedy selected under § 258.57;

(3) Notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination; and

(4) Take any interim measures deemed necessary by the State to ensure the protection of human health

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and the environment. Interim measures should, to the extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to § 258.57. The following factors may be considered by the State in determining whether interim measures are necessary:

(i) Time required to develop and implement a final remedy;
(ii) Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;
(iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;
(iv) Further degradation of the ground water that may occur if remedial action is not initiated expeditiously;
(v) Weather conditions that may cause hazardous constituents to migrate or be released;
(vi) Risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and
(vii) Other situations that may pose threats to human health and the environment.

(b) The State may determine, based on information developed by the owner or operator after implementation of the remedy has begun or other information, that compliance with a requirement(s) for the remedy selected under § 258.57 is not technically practicable. In making such determinations, the State shall consider:

(1) The owner or operator's efforts to achieve compliance with the requirement(s); and

(2) Whether other currently available or new and innovative methods or techniques could practicably achieve compliance with the requirements.

(c) If the State determines that compliance with a remedy requirement is not technically practicable, the State may require that the owner or operator:

(1) Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

(2) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures required to implement the remedy that are:

(i) Technically practicable; and

(ii) Consistent with the overall objective of the remedy.

(d) All solid wastes that are managed pursuant to a remedy required under § 258.57, or an interim measure required under § 258.58(a)(4), shall be managed in a manner:

(1) That is protective of human health and the environment; and

(2) That complies with applicable RCRA requirements.

(e) Remedies selected pursuant to § 258.57 shall be considered complete when the State determines that:

(1) Compliance with the ground-water protection standards established under § 258.57(e) have been achieved, according to the requirements of § 258.57(f); and

(2) All actions required to complete the remedy have been satisfied.

(f) Upon completion of the remedy, the owner or operator shall submit to the State a certification that the remedy has been completed in accordance with the requirements of § 258.58(e). The certification must be signed by the owner or operator and by an independent professional(s) skilled in the appropriate technical discipline(s).

(g) When, upon receipt of the certification, and in consideration of any other relevant information, the State determines that the corrective action remedy has been completed in accordance with the requirements under paragraph (e) of this section, the State shall release the permittee from the requirements for financial assurance for corrective action under § 258.32.

§ 258.59 [Reserved].

Appendix I—Volatile Organic Constituents for Ground-Water Monitoring

Acetone
Acrolein
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
cis-1,3-Dichloropropene
Trans-1.3-Dichloropropene
1,4-Difluorobenzene
Ethanol
Ethylbenzene
Ethyl methacrylate
4-Bromofluorobenzene
Bromoform
Bromomethane
2-Butanone (Methyl ethyl ketone)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
2-Chloroethyl vinyl ether
Chloroform
Chloromethane
Dibromomethane
1,4-Dichloro-2-butane
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
2-Hexanone
Iodomethane
Methylene chloride
4-Methyl-2-pentanone
1,1-Dichloroethene
trans-1,2-Dichloroethene
Styrene
1,1,2,2-Tetrachloroethane
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylene

Appendix II—Hazardous Constituents

Systematic name	CAS RN	Common name
Acenaphthylene	206-96-8	Acenaphthalene.
Acenaphthylene, 1,2-dihydro-	83-32-9	Acenaphthene.
Acetamide, N-(4-ethoxphenyl)-H	62-44-2	Phenacetin.
Acetamide, N-9H-fluoren-2-yl	53-96-3	2-Acetylaminofluorene.
Acetic acid ethenyl ester	108-05-4	Vinyl acetate.
Acetic acid (2,4-5-trichloro-phenoxy)-	93-76-5	2,4,5-T.
Acetic acid (2,4-dichloro-phenoxy)-	94-75-7	2,4-Dichlorophenoxy-acetic acid.
Acetronitrile	75-05-8	Acetonitrile.
Aluminum	7429-90-5	Aluminum (total).
Anthracene	120-12-7	Anthracene.
Antimony	7440-36-0	Antimony (total).
Aroclor 1016	12674-11-2	Aroclor 1016.
Aroclor 1221	11104-28-2	Aroclor 1221.
Aroclor 1232	11141-16-5	Aroclor 1232.
Aroclor 1242	53469-21-9	Aroclor 1242.
Aroclor 1248	12672-29-6	Aroclor 1248.
Aroclor 1254	11097-69-1	Aroclor 1254.

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Comments on House Bill No. 2363
Schlup, Becker and Brennan, P.A.
Engineers and Architects

The thrust of this proposed legislation is as follows:

1) Would prohibit construction of landfills within one mile of a navigable stream, or within one mile of a public water supply intake.

2) Would void special use permits for facilities already permitted but not yet in use if they violate the previously mentioned one-mile criteria.

Problems with the proposed legislation for all future landfill construction in the state of Kansas:

1) Navigable stream is undefined. Without precise definition, this term could be construed to mean even the smallest flowing creek. Since many landfills are built in canyons, ravines or valleys on land that is too steep for development, but ideal for landfill construction, this bill might preclude construction in these areas forcing landfills to be constructed on land that otherwise could be better used for development.

2) Location with respect to navigable streams or in relationship to water supply intakes is not the prime criteria that should determine landfill siting. More so, the ability of the design to minimize production of leechate and control the migration of any leechate into groundwater transport paths should be the considerations with respect to water supplies.

3) The one-mile criteria is arbitrary.

4) Solid waste facility siting by legislative fiat removes the issue from the purview of the technical community. The technical community is the body that has the expertise to adequately advise the legislature on these matters. The technical community in existing regulations has not proposed such a siting criteria.

5) Adjacent states do not have such restrictions in their siting criteria. If this legislation were passed, Kansas would have much more stringent criteria than any of the adjacent states.

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6) Draft Solid Waste Disposal Facility Criteria proposed by the Environmental Protection Agency do not include such siting criteria. The Federal Government has gone to great lengths to propose siting criteria restrictions that protect the public interest. Those restrictions are:

Sites in 100 year flood plain areas
Sites in the vicinity of airports
Sites in wetlands
Sites in fault areas
Sites in Seismic impact zones
Sites in unstable areas

Specific Issues Relating to the Wyandotte County Facility:

1) This bill is a simple methodology for halting the Quindaro project at the expense of creating an unwieldy and inappropriate solid waste facility siting regulation for the State of Kansas. A permit has been issued for the construction of the Quindaro facility after exhaustive scrutiny by numerous local state and federal agencies. The applicant has fulfilled all requirements for issuance.

2) The proposed design meets the requirements of even the proposed EPA requirements even though the regulations are only a draft at present.

3) The design for the Quindaro facility includes state-of-the-art measures to intercept groundwater, collect leechate, and control surface runoff. These measures will minimize and control leechate generation. Any leechate generated will be collected by the leechate collection system and discharged to the Kansas City, Kansas, Sewer System after analysis. These measures will protect the adjacent Missouri River and downstream water intakes.

COALITION FOR THE ENVIRONMENT

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2/28/89

Rep. Dennis J. Spaniol
Chairman-Energy & Natural
Resources Committee

Dear Representative Spaniol,

I regret that I am unable to attend the committee hearing concerning HB 2363. I have written a couple of articles about the proposed landfill in the area of KCK known as Quindaro. These articles lay out the Coalition for the Environment's position on this issue, therefore I am requesting that you accept them as testimony from the Coalition for the Environment and enter it into the record as such.

Thank you for your cooperation.

Sincerely,
Donald E Reck

Donald E. Reck
Program Director
(new address)
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#200
KCMO 64111
(816) 931-0040

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COALITION FOR THE ENVIRONMENT

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Background:
COALITION FOR THE ENVIRONMENT

The Coalition for the Environment is one of the oldest and largest statewide environmental organizations, having been organized in St. Louis in 1969. Today, the organization has chapters in Kansas City, Columbia and St. Louis, representing some 26,000+ members -- some of whom live in the adjacent states of Kansas and Illinois.

The Coalition actively works for a clean and healthful environment through the dedicated efforts of its many volunteers. The members are assisted by a professional staff in both St. Louis and Kansas City. In addition to its individual members, the Coalition also represents a dozen affiliate organizations, ranging from the Burroughs Audubon Society in Kansas City to the Citizens for Safe Waste Management in St. Louis. The organization publishes a quarterly newspaper, ALERT.

Recent Legislative Accomplishments

Working with other concerned groups and citizens, the Coalition has helped pass many important pieces of state environmental legislation, including: state cancer registry (1983), state superfund (1984), community right-to-know (1985), solid waste management and amnesty days for household hazardous wastes (1986), initial funding for the "KATY Trail" (1987), and restrictions on off-road vehicle use in streams (1988).

1989 Legislative Priorities

This year the Coalition is working on the following priorities in the State General Assembly: (1) legislation to promote recycling and source reduction and provide for a regional approach to solid waste planning; (2) legislation to eliminate certain forms of plastics from solid waste; (3) legislation to provide for a state water plan to protect both water quality and quantity; (4) legislation to improve monitoring of drinking water; and (5) better funding for environmental protection programs.

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Other Recent **Accomplishments**

On the non-legislative front, the Coalition has worked on a large number of state and local issues ranging from pollution problems to protection of public lands. Last year, the Coalition was a major player in both the initiative petition and the resulting successful vote to extend the special state parks and soil conservation sales tax. And, the Coalition helped lead the opposition to proposed lead mining in a sensitive area of the Mark Twain National Forest. With a federal/state energy grant, the organization actively promoted curbside recycling in several Missouri communities. In Columbia, the Coalition joined with other groups to retain the local "bottle bill" in a ballot threat. In Kansas City, the group has worked to save the historic Quindaro area from becoming the site of a landfill that might threaten area water supplies. In St. Louis County, recently, the Coalition helped to successfully defeat a proposed sales tax increase that would have funded disastrous development of the Missouri River floodplain.

Current and **Ongoing Efforts**

The Coalition has assumed a major role in the new Natural Streams Campaign that hopes to place a "natural streams act" on the November 1990 ballot through the initiative petition process. The group has formally appealed a Forest Service decision to allow increased mineral drilling near the Eleven Point River. Working with the congressional delegation, the Coalition hopes to gain the proper protection for the outstanding Greer Spring tract in southern Missouri.

The Coalition continues to work with citizens in St. Louis and St. Charles counties and the City of St. Louis to clean up radioactive contamination left over from the Manhattan Project of World War II. As shown in the disaster in Kansas City late in 1988, many communities in the state are at risk from the unknown presence of hazardous chemicals. The Coalition is working with local emergency planning committees to avoid such tragedies in the future. The Coalition continues to work with a variety of groups to promote greater use of recycling as a major component of solid waste management.

For More **Information**

Citizens are urged to get involved in helping protect their environment and are invited to join the Coalition for the Environment. Contact either office.

Quindaro Update

by Don Reck

(Browning-Ferris Industries has proposed siting a "sanitary" landfill in the area of Kansas City, KS known as Quindaro. The site would be directly on top of the ruins of a pre-Civil War town that was a station on the Underground Railroad for escaping slaves. Besides the historical significance of the area, the landfill would be situated approximately 400' from the Missouri River, at a spot that is directly upstream of the drinking water intakes for KCK and KCMO. See C/E's Alert, *Fall 1988 issue, "Historic Site Threatened With Landfill".)*

Quindaro

October was a busy month for the Quindaro landfill issue. On the 5th of the month the Audit & Operations Committee of the KCMO City Council received a report from Groundwater Management, Inc. concerning the effects the landfill could have on the drinking water supply for the city. In assessing the risk posed by the Quindaro landfill, the consultant's reports states, "It is the opinion of Groundwater Mgt. that due to the fact the Missouri River is a public water supply source with intakes one mile and four miles downstream, any amount of contamination leaving the site is a potential threat to public health". Based on this report, the Council adopted a resolution 12-0, urging the KCK Council to reconsider the landfill approach because of the pollution threat to the Missouri River. This resolution was to be presented to KCK at a scheduled hearing.

But testimony at this hearing was restricted to the historical aspects of the area. The reason for this was because earlier in the year the KCK Landmark Commission had voted to stop the landfill because of Quindaro's historical significance. BFI then appealed this to the Council. During the hearing, BFI's representative, John Peterson, did not dispute the importance of Quindaro. He stated that they had spent $500,000 on an archaeological dig of the ruins, taken pictures after the excavation and removed artifacts that were studied, recorded and stored. In Peterson's opinion these measures were adequate for historical preservation and the landfill should be allowed.

Approximately 350 opponents had gathered for the hearing with around 60 actually giving testimony. If those testifying deviated into environmental or health issues, they were interrupted and asked to sit down. Two people were actually escorted back to their chairs by the sergeant-at-arms. Emmanuel Cleaver, representing the KCMO City Council, was interrupted and was not allowed to present the resolution dealing with environmental concerns until after the Council had already made a decision. After 4 1/2 hours of testimony opposing the landfill, the Council finally voted to allow BFI to start operations if the State of Kansas had not appropriated money to acquire the land by 1 June 1989.

Since that hearing, the Kansas State Historical Society has recommended to the Kansas Legislature that the Quindaro area be proclaimed a historical site, with reservations. This means that, although they feel the area should be preserved, they don't have the money to acquire the land. The Legislature has not shown any great desire to appropriate the sum needed, which has been estimated at $2.6 to $3.1 million just for the land purchase. U.S. Representative Jan Meyers has offered a gleam of hope by introducing a resolution in Congress to earmark matching funds for the purchase of the land through the proposed American Heritage Trust Fund, which would help preserve historic sites and parks. The trust fund legislation has not been passed into law but it has about 250 co-sponsors, more than the votes needed for passage. If federal money becomes available for Quindaro, state or local governments still would need to come up with 50% of the funding for the preservation project.

This is where Coalition members can play an important role in stopping this environmentally unsound landfill and help preserve this historic site. Please contact your state and federal representatives. If you live in Kansas, ask their help in introducing and passing bills that will preserve this historic area and save our drinking water. If you are in Missouri, urge your representatives to pass a resolution to be presented to KCK voicing Missouri's concerns about drinking water contamination. Call KCK Mayor and City Council offices to protest their decision to allow the ruins to be sacrificed for corporate profits. Call the KCMO Mayor and City Council to thank them for their concern and willingness to act responsibly to help preserve our water supply.

If you would like more information or have any questions about this issue, please contact Don Reck at (816) 931-0040.

HEnergy and NR
Attachment 19b
3-2-89

Historic Site Threatened With Landfill

Quindaro Should Be Preserved — Not Polluted

By Don Reck

The area of Kansas City, Kansas (KCK) know as Quindaro was once a thriving pre-Civil War city that offered a safe haven to slaves who "stole" themselves from slavery. Now Browning-Ferris Industries (BFI) is proposing a "sanitary" landfill on top of the historical site.

Quindaro was built on land once owned by the Wyandotte Indians. The Wyandottes had come to the area after being forced from their homes in Ohio. President Polk had granted the land to them in 1841. The first anglo settlement in the area was the town of Wyandotte, created in 1843. But the heated emotional conflict over slavery was making it dangerous for abolitionist to live there. John and Lucy Armstrong, residents of Wyandotte and ardent abolitionists, built the first cabin in the Quindaro area just before the community of Wyandotte officially became a town.

It was named for a beautiful Wyandotte woman whose anglo name was Nancy Brown Guthrie. Quindaro was a point of safe entry for escaping slaves. However, most of them continued westward or north to Canada where it was more difficult for them to be hunted down and returned to bondage.

From 1857 to 1862 the town blossomed with homes, hotels, a brewery, newspaper, school and shops. Incorporated in 1859 as a third class city, it had two churches, a sawmill and gristmill. When the bitter dispute over Kansas' status as a free or slave state was finally resolved, with Kansas entering the Union as free, the national struggle with this issue broke into the Civil Was only two months later. When all able-bodied men enlisted in the Union Army, the women, children and disabled moved back into the larger, and now safer, Wyandotte community. Although the town's charter of incorporation was repealed in 1862, Quindaro continued to harbor fugitive slaves and the Union Calvary was stationed there for awhile.

After the War, ex-slaves moved into Quindaro in numbers that raised the population to pre-War levels. In a massive exodus several years later, tens of thousands of former slaves passed through this area, and many camped along the Quindaro hillsides. A school was established by Reverend Eben Blachly, a Presbyterian minister from Pennsylvania. The school received state support as a normal school for about five years. Before Reverend Blachly died, he deeded his property to the Trustees of the school, then known as Freedman's University. Financial problems led leaders of the African Methodist Episcopal (A.M.E.) Church to take out a mortgage to try to keep it going. Despite an endorsement by the Kansas Conference of A.M.E. Churches to establish a church-affiliated school on the campus, the Trustees gave up and planned to sell the 700 acres belonging to the school in 1880. This sale was prevented when Mahalia Endicott obtained documents disclosing Rev. Blachly's intent to have 133 acres "perpetually set aside for the school". The Trustees were persuaded to turn that part of the school's land over to the care of the A.M.E. Church Conference. The following year the school was renamed Western University and received a charter as a vocational/college prep institute. It drew students, educators and administrators into the Quindaro community.

The present situation in Quindaro is that the A.M.E. Church has leased the land to BFI allowing them to develop a "sanitary" landfill on top of the historical Quindaro ruins. BFI has obtained a lease of additional land form Kansas City, Kansas and a permit for the landfill. The Kansas department of Health and Environment (KDHE) has approved the dump even though the KDHE Secretary Stanley C. Grant admits that if the dump leaks it could contaminate the Missouri River, "the consequences could be serious". Even the EPA has admitted twice in the Federal Register that all landfills leak.

The type of landfill proposed by BFI is basically an indentation in the earth with a "baggie" in it. Even with "state of the art" technology (which simply means the best they can do right now) this type of landfill will deteriorate and cause serious contamination within 10 to 12 years. The Director of Missouri Department of Natural Resources, Dr. Frederick Brunner, has indicated that under ideal conditions the three foot clay liner used to contain the waste leachate would leak at approximately 1 1/4" per year. At this rate, the Missouri River, which is 400' from the proposed site, would start receiving contaminants in 28.8 years.

A misconception that many people have is that the EPA regulates the disposal of all hazardous waste that is generated. The fact is that to be considered a small generator of hazardous waste, a company has to produce not more than 220 lbs. of hazardous waste in a 90 day period. Anything less than that is not subject to regulation and can be disposed of in a municipal landfill such as the one proposed at Quindaro. Individuals at home can generate hazardous waste that is usually landfilled, such as half full paint cans, garden herbicides and pesticides, used batteries, partially full cleaning fluid containers and so on. All of these hazardous materials could potentially be thrown into the dump at Quindaro.

Given the fact that there is no such thing as a "secure" landfill and that they all eventually leak, these dangerous substances would contaminate the Missouri River and the groundwater. The proposed dump site is 16 blocks upstream for the Kansas City, Kansas water intake system and 2.1 miles above the water in-take for Kansas City, Missouri and surrounding communities. Should this contamination takes place, an alternative source of drinking water would have to be found for hundreds of thousands of people.

From the environmental view point, a landfill 400' from the Missouri River which is a major source of drinking water, not only for the KC area, but for hundreds of communities, is ludicrous. It is completely unsound environmentally. Couple that with the insult of placing a landfill on top of the ruins of a historically significant town and only one conclusion can de drawn; the BFI landfill at Quindaro should not be allowed to happen!! Instead, a historical monument and park should be put at Quindaro as a symbol of the never-ending quest for freedom.

For further information, or to get petitions to circulate or to maker a donation, contact: The Quindaro Township Preservation Society. P.O. Box 2603. Kansas City, KS 66110.

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