BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SILBRICO CORPORATION,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB 06- 11
	)	(Variance-Land)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
	)	
Respondent.	)	

NOTICE OF FILING

To: (See attached Service List.)

PLEASE TAKE NOTICE that on this 19th day of July 2005, there was filed with the Illinois Pollution Control Board, **Petitioner Silbrico Corporation's Petition for Variance,** which is attached and herewith served upon you.

SILBRICO CORPORATION

By: _____
Elizabeth S. Harvey
One of its attorneys

Elizabeth S. Harvey
Michael J. Maher
SWANSON, MARTIN & BELL, LLP
One IBM Plaza, Suite 3300
330 North Wabash Avenue
Chicago, Illinois 60611
Telephone: (312) 321-9100

CERTIFICATE OF SERVICE

I, the undersigned non-attorney, state that I served a copy of Petitioner Silbrico Corporation's Petition for Variance to counsel of record in the above-captioned matter via U.S. Mail at One IBM Plaza, Chicago, IL 60611 on or before 5:00 p.m. on July 19, 2005.

Jeanette M. Podlin

[x] Under penalties as provided by law pursuant to 735 ILCS 5/1-109, I certify that the statements set forth herein are true and correct.

2049-001

SERVICE LIST

Case No. PCB 06-
(Variance -- Land)

Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SILBRICO CORPORATION, Petitioner, v. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	PCB 06- 11 (Variance—land)

PETITION FOR VARIANCE

Petitioner SILBRICO CORPORATION ("Silbrico"), by its attorneys Swanson, Martin & Bell, LLP, hereby petitions the Illinois Pollution Control Board for a variance allowing Silbrico to dispose of nonhazardous, inert waste at a "construction and demolition debris" facility. Silbrico seeks this variance while it pursues its request for a site-specific rule. This petition for variance is submitted pursuant to Section 35(a) of the Environmental Protection Act (Act) (415 ILCS 5/35(a)) and Part 104 of the Board's procedural rules (35 Ill.Adm.Code Part 104).

Introduction

Silbrico was founded in 1946, and is located at 6300 River Road, Hodgkins, Cook County, Illinois. Silbrico manufactures several products using perlite. Perlite is a naturally occurring volcanic rock, which can expand from four to twenty times its original volume when heated. Perlite is the little white kernels you see in a potted plant. During the manufacturing process, several wastes are generated, including off-specification perlite and fugitive perlite from baghouse dust collections. These two wastes are nonhazardous, and are not special wastes. The off-specification perlite is an industrial

process waste, and the fugitive perlite is a pollution control waste. Silbrico currently disposes of these two wastes at a permitted nonhazardous municipal waste landfill. However, due to the inert and nonhazardous characteristics of the off-specification perlite and the fugitive perlite, Silbrico seeks to dispose of these wastes at a "clean fill" facility which accepts only clean construction and demolition debris. Allowing the disposal of these wastes at a "clean fill" facility would save valuable space in municipal waste landfills and result in significant cost savings, while posing no environmental violation or threat.

Silbrico is pursuing a site-specific regulation to allow it to permanently dispose of the off-specification perlite and the fugitive perlite at a "clean fill" facility. Silbrico seeks a variance to allow it to dispose of these waste streams at a "clean fill" facility while its petition for site-specific rule is pending.

Petition Content Requirements

The Board's procedural rules set forth the content requirements for petitions for variance. (35 Ill.Adm.Code 104.204.) This section addresses those content requirements.

The regulation from which variance is sought (Section 104.204(a))

The Illinois Environmental Protection Agency (IEPA) has taken the position that Silbrico's off-specification perlite, and the fugitive perlite, must be disposed of at a nonhazardous waste landfill, rather than at a "clean fill" facility. (See IEPA letter dated September 16, 2004, attached as Exhibit A.) A search of the Board's regulations has located no regulation specifically stating that industrial process wastes (off-specification perlite) and pollution control wastes (fugitive perlite) must be disposed of in a

nonhazardous waste landfill.[1] Silbrico asks the Board to either: 1) grant a variance from the provisions of Parts 810 through 817, to the extent those Parts require disposal of the wastes in a nonhazardous waste landfill, or 2) in the alternative, declare that Silbrico's off-specification perlite and fugitive perlite waste streams are analogous to "clean construction and demolition debris" and can be disposed of in a clean fill facility.

A description of petitioner's activity (Section 104.204(b))

Silbrico is located at 6300 River Road, Hodgkins, Illinois, in Cook County. The Silbrico facility was built in 1960. The site was originally five acres, and has expanded to nine acres on one contiguous site, and another 3.8 acres next to Silbrico's neighbor. Silbrico employs 75 to 80 people. Silbrico manufactures several products from perlite. Perlite is a volcanic rock which naturally occurs in areas throughout the world. It expands four to twenty times its original volume when heated. Perlite is useful in many applications, including insulation, filtration, aeration and moisture control in soil. It is found in every home that has drywall in the plaster that seals the joints. It is used in all ceiling tile that is used in commercial buildings. It can be used in any commercial product that needs a lightweight, inert mineral filler. (See generally "Basic Facts About Perlite," attached as Exhibit B.) Silbrico uses perlite in the manufacture of Ryolex insulation, Krum soil conditioner, Sil-Kleer filter aids, and Sil-Cell filler.

When heated above 1600 degrees Fahrenheit, crushed perlite rock expands in a manner similar to popcorn. This expansion is due to the presence of 2-4% combined water within the crude perlite rock. The combined water vaporizes during the heating process, and creates tiny bubbles in the heat-softened particles. These diminutive

---

[1] The Part 809 regulations regarding industrial process and pollution control wastes discuss whether they are special wastes. Silbrico's wastes are not special wastes.

bubbles give expanded perlite its exceptionally light weight. (Expanded perlite can be manufactured to weigh as little as 2.5 pounds per cubic foot.) This expansion process also creates expanded perlite's characteristic white color. The expanded perlite processed by Silbrico is known by the trade name Ryolex. Attached as Exhibit C is a technical data sheet for Ryolex.

The processing of perlite creates two waste streams. Off-specification perlite is generated when the product produced does not meet Silbrico's or the customer's specifications for grain size, density, or other physical characteristics. The off-specification perlite is currently classified as an industrial process waste pursuant to 35 Ill.Adm.Code 809.103. Fugitive perlite is fugitive product captured by Silbrico's bag house filters[2] and by general housekeeping operations such as sweeping. The fugitive perlite is currently classified as a pollution control waste pursuant to 35 Ill.Adm.Code 809.103. Silbrico currently disposes of these two waste streams in a permitted nonhazardous waste landfill. Silbrico produces approximately 100 semi dump truck loads of off-specification perlite and fugitive perlite per year.[3] This disposal, at a nonhazardous waste landfill, costs approximately $40,000 to $50,000 per year.

Silbrico has not previously obtained any variance.

---

[2] Silbrico uses all required air pollution control equipment to capture emissions from its process to the air, and has the necessary permits for this equipment. (Silbrico has a lifetime air operating permit, number 73020157. The facility identification number is 031126AAD.) This variance request seeks relief only from waste disposal provisions, not from air emission regulations.

[3] A semi dump truck contains approximately twenty cubic yards of waste. At 100 truckloads per year, Silbrico is disposing of approximately 2000 cubic yards of off-specification and fugitive perlite per year.

Data describing the nature and extent of the failure to comply (Section 104.204(c))

This content requirement is not directly applicable to Silbrico's variance request. Silbrico is technically able to comply with the current requirement that its off-specification perlite and fugitive perlite waste streams be disposed of in a nonhazardous waste landfill, and is currently in compliance with that requirement. However, as set forth more fully below, compliance with the requirement imposes an arbitrary or unreasonable hardship while Silbrico pursues its site-specific rulemaking request.

Description of efforts needed for immediate compliance (Section 104.204(d))

This content requirement is also inapplicable to Silbrico's variance request because Silbrico is currently in compliance by its disposal of the two waste streams in a nonhazardous waste landfill.

Facts supporting Silbrico's claim of arbitrary or unreasonable hardship (Section 104.204(e))

The continued disposal of the off-specification perlite and the fugitive perlite at a nonhazardous waste landfill imposes an unreasonable hardship on Silbrico. Silbrico currently spends approximately $40,000 to $50,000 per year in disposal costs. Silbrico estimates it would save at least 50% of those costs annually if it could dispose of those waste streams at a "clean fill" facility which accepts only clean construction and demolition debris.

Additionally, the ability to dispose at a "clean fill" facility would provide Silbrico more flexibility in arranging for disposal sites. Flexibility may result in even more cost savings, as Silbrico may be able to negotiate prices between competing facilities. Further, Silbrico believes it will be able to utilize a "clean fill" facility which is located very close to Silbrico's facility. A grant of the variance would thus result in reduced trucking

distances, which equates to less traffic congestion, lowers the chances of traffic accidents, and could result in less air pollution based on fewer miles traveled.

Further, disposing of these waste streams in a nonhazardous waste landfill takes up valuable landfill space. According to IEPA's most recent landfill capacity report, the Chicago metropolitan area (the area in which Silbrico is located, and where its waste streams are disposed of) has only five years of capacity remaining.[4] That capacity should be reserved for wastes that truly need disposal in a landfill, with its engineered protections. Silbrico's off-specification perlite and fugitive perlite can be safely disposed of in a "clean fill" facility, thus reserving space in nonhazardous landfills.[5] While this consideration does not directly impose a hardship on Silbrico individually, saving landfill space does impact the people of the state of Illinois generally. This positive result of a grant of the variance (and the pending site-specific rule) should be considered.

The Board has previously held that economic costs are sufficient to warrant a finding of arbitrary or unreasonable hardship, when balanced by a finding of no or minimal impact. *Village of Lake Zurich v. Illinois Environmental Protection Agency*, PCB 97-77 (February 20, 1997). *See also City of Streator v. Illinois Environmental Protection Agency,* PCB 02-04 (January 10, 2002), where the Board granted a variance based upon a future economic benefit to the petitioner.

Here, there is no adverse environmental impact from the grant of the requested variance. The grant of the variance would result in significant cost savings to Silbrico,

---

[4] See "Nonhazardous Solid Waste Management and Landfill Capacity in Illinois," November 2004. This publicly available document is over 350 pages long. In the interests of reducing copying, the executive summary and the introduction to the report are attached as Exhibit D. The text of the full report is available at www.epa.state.il.us/land/landfill-capacity/2003/report.pdf.

[5] See below, in the section regarding environmental impact, for further discussion of the safety of disposal in a "clean fill" facility.

as well as increased flexibility in arranging for disposal. The cost savings and flexibility in arranging for disposal warrant a finding of unreasonable hardship, when balanced against the lack of any adverse environmental impact. Silbrico has demonstrated an unreasonable hardship.

A detailed description of the compliance plan (Section 104.204(f))

Silbrico's compliance plan for this variance request is obtaining a site-specific rule allowing Silbrico to dispose of its off-specification perlite and fugitive perlite in a "clean fill" landfill. Silbrico has filed, contemporaneously with this variance petition, a petition for site-specific rulemaking. Silbrico will pursue that site-specific rulemaking petition vigorously. In the event that the site-specific petition is denied by the Board, Silbrico will revert to disposing of the two waste streams in a nonhazardous waste landfill.

A description of the environmental impact of the activity (Section 104.204(g)

The off-specification perlite and the fugitive perlite are both nonhazardous waste streams that pose no threat to the environment. Perlite is a naturally occurring rock, and the expansion process does not add any chemicals or constituents to that rock.[6] (The material safety data sheet for Ryolex is attached as Exhibit E.) Perlite is an inert, stable material and is nonflammable.

The IEPA has already determined that the off-specification perlite and the fugitive perlite are not a threat to human health or the environment when landfilled in a nonhazardous waste landfill. (See Exhibits F and G.) While those determinations were made in the context of the former special waste delisting program, the IEPA's

---

[6] The perlite may contain less than 0.1% of crystalline silica (quartz).

findings are relevant to this proceeding. Those findings (in 1985 and 1995) show that IEPA found no reason to believe that these waste streams presented any problem which would require they be handled as special wastes.

Silbrico seeks this variance to allow it to dispose of these waste streams as "clean construction and demolition debris." "Clean construction and demolition debris" is defined as:

> Uncontaminated broken concrete without protruding metal bars, bricks, rocks, stone, reclaimed asphalt pavement, or soil generated from construction or demolition activities.
>
> (415 ILCS 5/3.160(b) (emphasis added).)

Perlite is a naturally occurring rock. The off-specification perlite and the fugitive perlite are simply perlite: a rock. Although these wastes are classified as "industrial process" and "pollution control" wastes, respectively, in reality they are "rock" or "stone." Nothing has been added to the perlite (rock) during Silbrico's processes. These waste streams should thus be treated as "clean construction and demolition debris." There is nothing in the perlite (rock) that will leach or react in a "clean fill" facility. It is safe to dispose of the waste streams in a "clean fill" facility, and there will be no impact to the environment.[7]

Citation to supporting documents (Section 104.204(h))

Silbrico has attached supporting documents (see Exhibits A through H) to this petition.

---

[7] The items listed in Section 104.204(g)(1)—(3) are not directly applicable to this petition. The disposal activity at issue does not include emissions or discharges. Silbrico currently disposes of these waste streams in a nonhazardous waste landfill; if the variance is granted, it will dispose of the waste streams in a "clean fill" facility. There is no environmental harm, or impact on human health, by disposal in a "clean fill" facility. Silbrico will, of course, continue to use all efforts to minimize the amount of off-specification perlite and fugitive perlite that need to be disposed of.

A copy of any relevant permit or permit application (Section 104.204(i))

This variance does not involve an existing permit or a pending permit application.

Any conditions suggested for the variance (Section 104.204(j))

Silbrico will comply with any reasonable conditions placed on the variance.

Proposed dates for the variance (Section 104.204(k))

Silbrico proposes that the variance begin on the date on which the Board grants the variance. Silbrico proposes that the variance end five years from the date on which the variance is granted, or the date nine months from the date on which the Board takes final action on Silbrico's request for site-specific rule, whichever occurs first. (The nine-month period would allow Silbrico time to arrange for disposal of the two waste streams in a nonhazardous waste landfill, in the event the site-specific rule is denied.)

Consistency with federal law (Section 104.204(l) and Section 104.208)

This request for variance may be granted consistent with federal law. This request does not involve the Resource Conservation and Recovery Act (RCRA). The Illinois provisions regarding the disposal of industrial process waste (off-specification perlite) and pollution control waste (fugitive perlite) are not federal requirements.

An affidavit verifying any facts (Section 104.204(m))

The affidavit of Tom M. Mendius, President of Silbrico, is attached as Exhibit H.

A statement regarding the need for a hearing (Section 104.204(n))

Silbrico requests a hearing on this petition. However, Silbrico reserves its right to waive hearing at a future date.

CONCLUSION

Silbrico has demonstrated that disposing of its off-specification perlite and its fugitive perlite waste streams in a nonhazardous waste landfill, while its request for a site-specific rule is pending, presents an arbitrary or unreasonable hardship. These two waste streams present no environmental threat when disposed of in a "clean fill" facility, as requested. Continuing to require Silbrico to use a nonhazardous landfill for the two waste streams is a waste of valuable landfill space, and is an unnecessary expenditure of money. Landfilling the waste streams in a nonhazardous landfill is an unreasonable hardship.

Alternatively, Silbrico has demonstrated that its off-specification perlite and fugitive perlite waste streams are analogous to "clean construction and demolition debris." The definition of "clean construction and demolition debris" includes "rock" and "stone." Perlite is a "rock" and shares the same inert qualities of a rock. Silbrico's perlite waste streams should be treated as "clean construction and demolition debris."

Therefore, Silbrico Corporation asks the Board to grant the requested variance. In the alternative, Silbrico asks the Board to declare that Silbrico's off-specification and fugitive perlite waste streams should be handled as "clean construction and demolition debris," and can be disposed of at a "clean fill" facility.

Respectfully submitted,

SILBRICO CORPORATION

By: _____
One of its attorneys

Dated: July 19, 2005

Elizabeth S. Harvey
Michael J. Maher
Swanson, Martin & Bell, LLP
One IBM Plaza, Suite 3300
330 North Wabash Avenue
Chicago, Illinois 60611
Telephone: (312) 321-9100

Exhibit A

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276, 217-782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601, 312-814-6026

ROD R. BLAGOJEVICH, GOVERNOR RENEE CIPRIANO, DIRECTOR

217/524-3300

September 16, 2004

Land and Lakes
Attn: Amanda Miller
21900 S. Central Avenue
Matteson, Illinois 60443

Re: 0311265003 – Cook County
Silbrico Corporation
Log No. PS04-140
Received: August 27, 2004
RCRA Permit File

Dear Ms. Miller:

This letter is in response to your correspondence (submittal) dated August 27, 2004. The submittal indicated that the above-referenced facility (Silbrico Corporation) manufactures "Ryolex", a trade name applied to expanded perlite. "Ryolex" is produced by processing (heating) perlite, a generic name for naturally occurring siliceous volcanic rock, to make it expand. During processing, several wastes are generated, including off-specification "Ryolex" and fugitive perlite. In your submittal you sought input from the Illinois EPA to determine the classification of the aforementioned waste and a determination whether the afore-mentioned waste can go to a non-permitted "clean fill" or must be disposed of at a permitted non-hazardous waste landfill.

Off-specification "Ryolex" meets the definition of industrial-process waste (Section 3.235 of the Environmental Protection Act (the Act)) while fugitive perlite meets the definition of a pollution-control waste (Section 3.335 of the Act). Off-specification "Ryolex" is generated when product material produced does not meet the manufacturer's or customer's specification for grain size, density, or other physical characteristic while waste perlite is generated from fugitive product captured by bag house filters or by general housekeeping operations. The aforementioned wastes do not qualify for the exclusion set forth in Section 3.235 of the Act.

It is the generator's responsibility to properly characterize any waste that the generator produces. Any business generating non-liquid, non-hazardous industrial-process or pollution control waste has the potential to certify that these wastes can be disposed of as non-special waste. Section

22.48 of the Environmental Protection Act, identifies the procedures for determining a waste is non-special, and requires you to keep this information at your facility and make the information available upon request by the Illinois EPA, the transporter or the operator of the facility receiving the waste for storage, treatment or disposal. Certification allows qualifying non-liquid, non-hazardous industrial-process and pollution control-wastes to be shipped as non-special waste to properly permitted facilities without manifesting or using special waste haulers. Current regulations do not require the Illinois EPA to review or approve the certification(s).

In addition, please be advised that based on a review of your submittal, it does not appear that the afore-mentioned wastes meet the definition of "clean construction or demolition debris" and as such, the wastes cannot be disposed of at a non-permitted "clean fill".

Should you have any questions regarding this letter, please contact Mr. John Riekstins of my staff at (217) 524-3309.

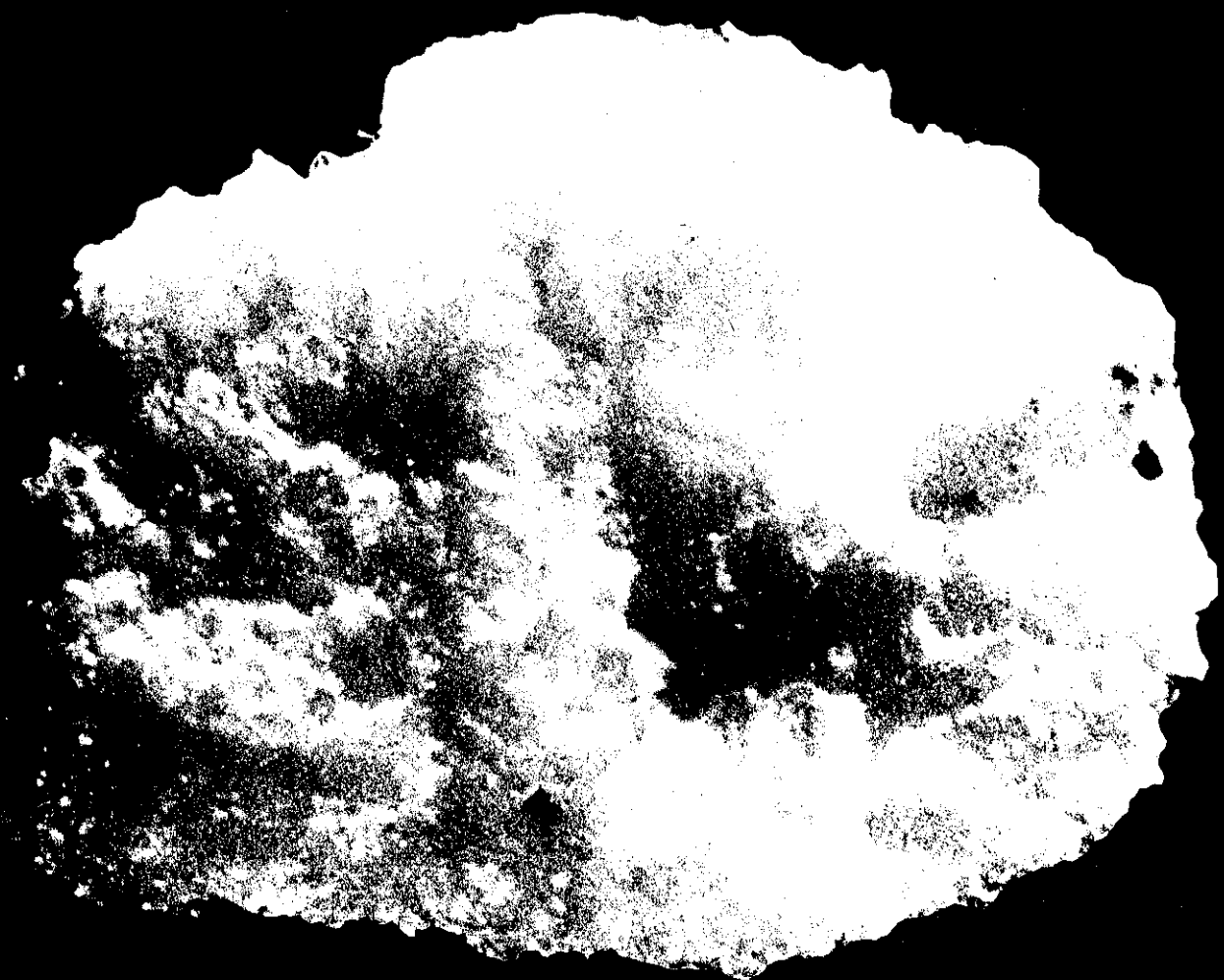
Sincerely,

Joyce L. Munie, P.E.
Manager, Permit Section
Bureau of Land

JLM:JR:041074.doc
JR, STN
cc: Tom Mendius – Silbrico Corporation

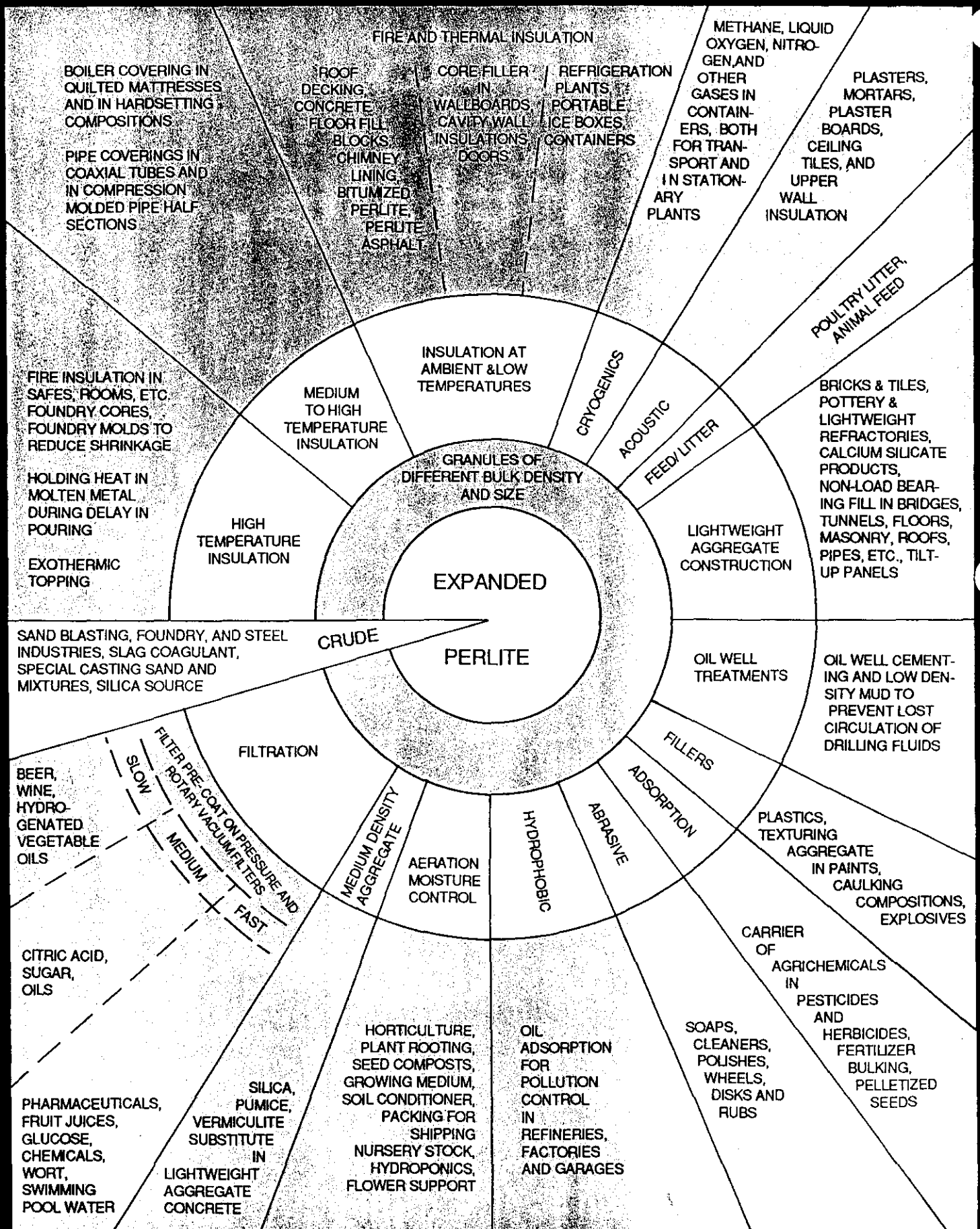
Exhibit B

basic facts about Perlite...



The World's Most Versatile Mineral

Applications for perlite...



Origin and Characteristics...

Perlite is not a trade name but a generic term for naturally occurring silicous rock. The distinguishing feature which sets perlite apart from other volcanic glasses is that when heated to a suitable point in its softening range, it expands from four to twenty times its original volume.

This expansion is due to the presence of two to six percent combined water in the crude perlite rock. When quickly heated to above 1600°F (871°C), the crude rock pops in a manner similar to popcorn as the combined water vaporizes and creates countless tiny bubbles which account for the amazing light weight and other exceptional physical properties of expanded perlite.

The expansion process also creates one of perlite's most distinguishing characteristics: its white color. While the crude rock may range from transparent light gray to glossy black, the color of expanded perlite ranges from snowy white to grayish white.

Expanded perlite can be manufactured to weigh as little as 2 pounds per cubic foot (32 kg/m^3) making it adaptable for numerous applications.

Since perlite is a form of natural glass, it is classified as chemically inert and has a pH of approximately 7.

Typical Elemental Analysis

Silicon	33.8
Aluminum	7.2
Potassium	3.5
Sodium	3.4
Iron	0.6
Calcium	0.6
Magnesium	0.2
Trace	0.2
Oxygen (by difference)	47.5
Net Total	97.0
Bound Water	3.0
Total	100.0

*All analyses are shown in elemental form even though the actual forms present are mixed glassy silicates. Free silica may be present in small amounts, characteristic of the particular ore body. More specific information may be obtained from the ore supplier involved.

Typical Physical Properties

Color	White
Refractive Index	1.5
Free Moisture, Maximum	0.5%
pH (of water slurry)	6.5-8.0
Specific Gravity	2.2-2.4
Bulk Density (loose weight)	As desired, but usually in the 2-25 lb/ft^3 range(32-400 kg/m^3)
Mesh Size Available	As desired, 4-8 mesh and finer
Softening Point	1600-2000°F (871-1093°C)
Fusion Point	2300-2450°F (1260-1343°C)
Specific Heat	0.2 Btu/lb•°F (837 J/kg•K)
Thermal Conductivity at 75°F (24°C)	.27-.41 Btu•in/h•ft^2•°F(.04-.06 W/m•K)
Solubility	Soluble in hot concentrated alkali and HF Moderately soluble (<10%) in 1N NaOH Slightly soluble (<3%) in mineral acids (1N) Very slightly soluble (<1%) in water or weak acids

Uses for Perlite...

As the chart on page 2 indicates, there are many uses for perlite. These uses can be broken down into three general catagories: construction applications, horticultural applications and industrial applications.

Construction Applications

Because of perlite's outstanding insulating characteristics and light weight, it is widely used as a loose-fill insulation in masonry construction. In this application, free-flowing perlite loose-fill masonry insulation is poured into the cavities of concrete block where it completely fills all cores, crevices, mortar areas and ear holes. In addition to providing thermal insulation, perlite enhances fire ratings, reduces noise transmission and it is rot, vermin and termite resistant. Perlite is also ideal for insulating low temperature and cryogenic vessels.

When perlite is used as an aggregate in concrete, a lightweight, fire resistant, insulating concrete is produced that is ideal for roof decks and other applications. Perlite can also be used as an aggregate in Portland cement and gypsum plasters for exterior applications and for the fire protection of beams and columns.

Other construction applications include under-floor insulation, chimney linings, paint texturing, gypsum boards, ceiling tiles and roof insulation boards.

Horticultural Applications

In horticultural applications, perlite is used throughout the world as a component of soilless growing mixes where it provides aeration and optimum moisture retention for superior plant growth. For rooting cuttings, 100% perlite is used. Studies have shown that outstanding yields are achieved with perlite hydroponic systems.

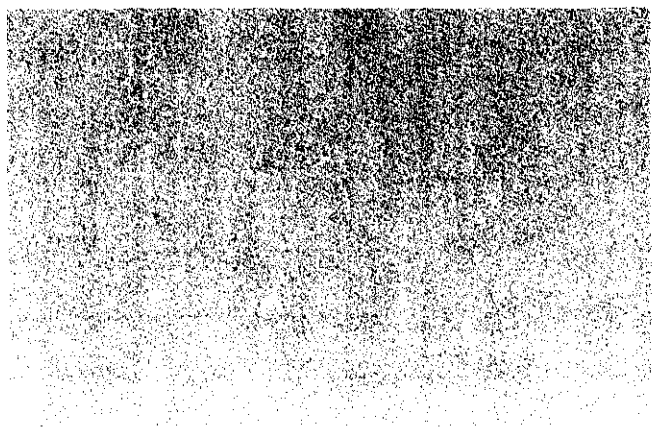
Other benefits of horticultural perlite are its neutral pH and the fact that it is sterile and weed-free. In addition, its light weight makes it ideal for use in container growing.

Other horticultural applications for perlite are as a carrier for fertilizer, herbicides and pesticides and for pelletizing seed. Horticultural perlite is as useful to the home gardener as it is to the commercial grower. It is used with equal success in greenhouse growing, landscaping applications and in the home in house plants.

Industrial Applications

Industrial applications for perlite are the most diverse, ranging from high performance fillers for plastics to cements for petroleum, water and geothermal wells. Other applications include its use as a filter media for pharmaceuticals, food products, chemicals and water for municipal systems and swimming pools.

Additional applications include its use as an abrasive in soaps, cleaners and polishes and a variety of foundry applications utilizing perlite's insulating properties and high heat resistance. This same heat resistant property is taken advantage of when perlite is used in the manufacture of refractory bricks, mortars, and pipe insulation.

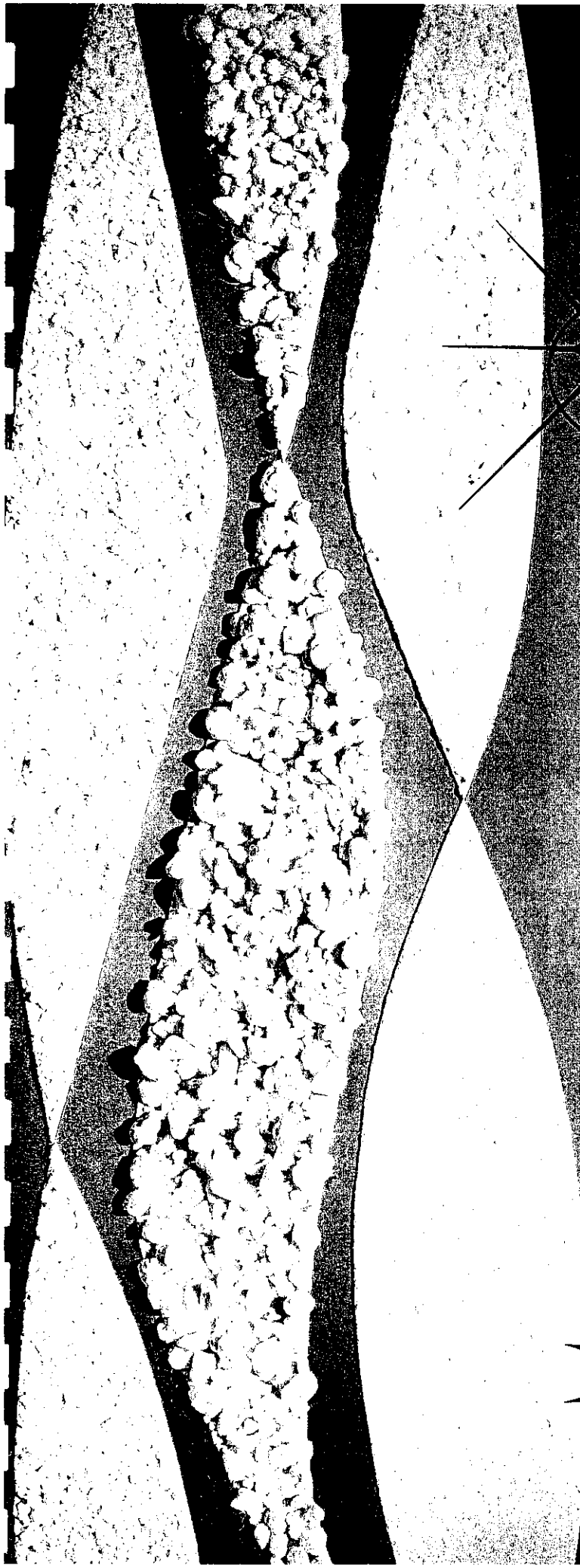


PERLITE INSTITUTE, INC.

88 New Dorp Plaza, Staten Island, NY 10306

718/351-5723 • Fax 718/351-5725 • E-mail: Inquiries@perlite.org

Exhibit C



R
IN
P

ORIGIN AND CHARACTERISTICS

Perlite is a petrographic term (not a trade name) for a siliceous volcanic rock which naturally occurs in certain regions throughout the world. The distinguishing feature, which sets it apart from other volcanic minerals is its ability to expand four to twenty times its original volume when heated to certain temperatures.

When heated above 1600 degrees F, crushed perlite rock expands in a manner similar to pop corn. This expansion is due to the presence of combined water within the crude perlite rock. The combined water vaporizes during the heating process and creates countless tiny bubbles in the heat softened glassy particles. It is these diminutive glass sealed bubbles which account for its light weight and other exeptional physical properties of expanded perlite. Expanded perlite can be manufactured to weigh as little as 2.5 lbs. per cu. ft.

Ryolex is a trade name applied to expanded perlite processed exclusively by Silbrico Corporation.

SILBRICO
CORPORATION

YOLEX PERLITE TECH DATA SHEET

TYPICAL PHYSICAL PROPERTIES

Softening point	1600°-2000° F
Fusion point	2300°-2450° F
pH	6.6 to 8.0
Specific heat	0.20 CAL/G° C
Specific gravity	2.2 to 2.4
Refractive index	1.5
% Free moisture, max.	<0.5

TYPICAL CHEMICAL ANALYSES*

Silicon	33.8
Aluminum	7.2
Potassium	3.5
Sodium	3.4
Iron	0.6
Calcium	0.6
Magnesium	0.2
Traces	0.2
Oxygen (by difference)	47.5
Net Total	97.0
Bound Water	3.0
Total	100.0 per cent

TRACE ELEMENTS (in per cent)

Arsenic	<0.001**	Lead	<0.001**
Barium	<0.1	Manganese	<0.3
Boron	<0.01	Molybdenum	<0.002
Chlorine	<0.0005	Nickel	<0.002
Chromium	<0.0045	Sulfur	<0.2
Copper	<0.0015	Titanium	<0.1
Gallium	<0.05	Zirconium	<0.003

**By Food Chemicals Codex Method

* All analyses are shown in elemental form even though the actual forms present are mixed glassy silicates. Free silica may be present in small amounts, characteristic of the particular ore body.

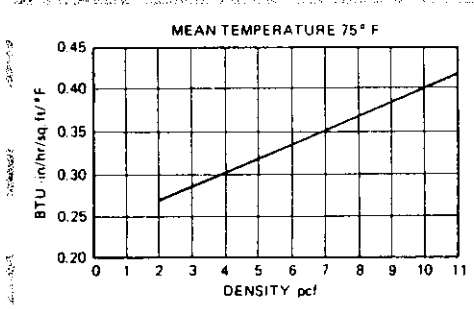
TYPICAL SCREEN ANALYSIS (Packaged in 4 cu. ft. bags)

This listing is for standard grades. Other grades available on request.

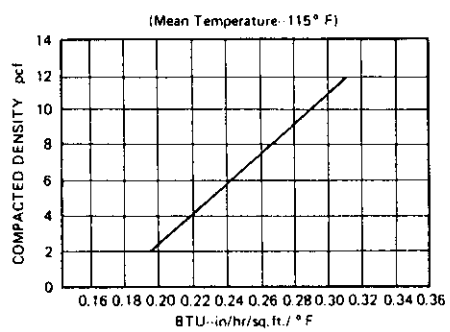
	Mesh	% Volume	% Weight	Packing Density
GRADE No. 1 Bag Wt. 31 to 34 Lbs.	+8	11	8	8 Lbs per cu. ft.
	-8 +10	14	11	
	-10 +20	49	51	
	-20 +30	7	7	
	-30 +50	8	9	
	-50 +100	5	6	
	-100	6	8	
GRADE No. 2-A Bag Wt. 28 to 32 Lbs.	+8	Trace	Trace	7.5 Lbs per cu. ft.
	-8 +10	1	1	
	-10 +20	38	41	
	-20 +30	22	18	
	-30 +50	18	20	
	-50 +100	10	10	
	-100	11	10	
GRADE No. 39 Bag Wt. 27 to 32 Lbs.	+30	12	5	7 Lbs per cu. ft.
	-30 +50	52	44	
	-50 +100	24	38	
	-100 +200	8	9	
	-200	4	4	

	Mesh	% Volume	% Weight	Packing Density
GRADE No. 3-S Bag Wt. 10 to 14 Lbs.	+10	0	0	3 Lbs per cu. ft.
	-10 +20	5	4	
	-20 +30	20	14	
	-30 +50	44	41	
	-50 +100	19	24	
	-100	12	17	
GRADE No. 9 Bag Wt. 26 to 30 Lbs.	+10	0	0	7 Lbs per cu. ft.
	-10 +20	5	3	
	-20 +30	14	10	
	-30 +50	48	44	
	-50 +100	22	32	
	-100	11	11	
GRADE No. 5 Bag Wt. 24 to 30 Lbs.	+6	23	21	6.5 Lbs per cu. ft.
	-6 +8	29	30	
	-8 +16	33	31	
	-16	15	18	

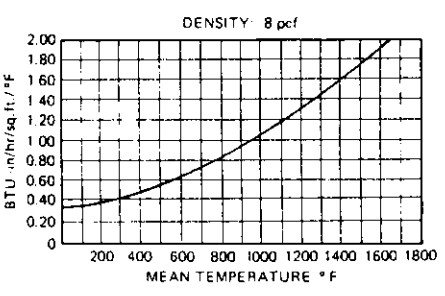
THERMAL CONDUCTIVITY



THERMAL CONDUCTIVITY VS. COMPACTED DENSITY



THERMAL CONDUCTIVITY



SILBRICO CORPORATION

6300 RIVER ROAD • HODGKINS, ILLINOIS 60525

PHONE: 708-354-3350 • FAX: 708-354-6698

E MAIL: SILBRICO @ AOL • COM

REFERENCES

J.L.F. Research, Inc., Reports dated December 24, 1962, January 2, 1964, July 1, 1965.

"Thermal Conductivity of Expanded Perlite Cryogenic Fill Insulation," G.R. Kinzer, Jr., ASHRAE Journal, February, 1963 and 1967.

Perlite Institute - TDS 2-4 1983

Exhibit D

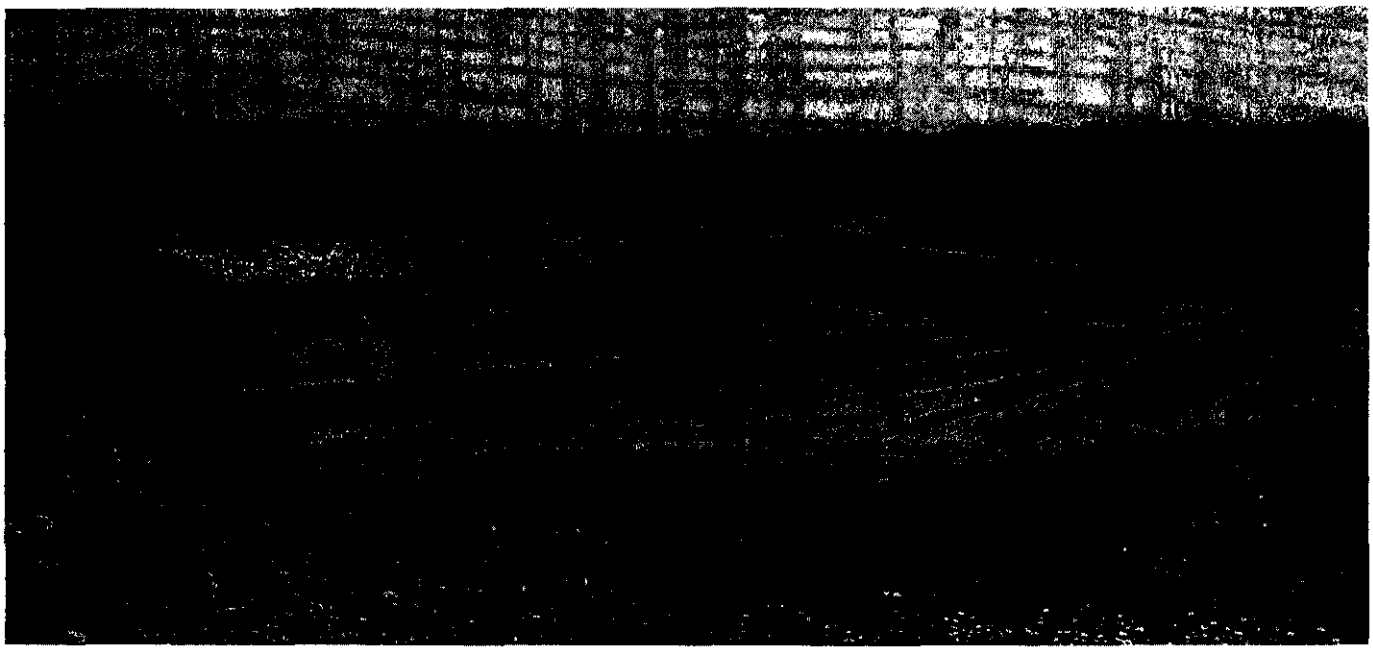
Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

November 2004

IEPA/BOL/04-021

Nonhazardous Solid Waste Management and Landfill Capacity in Illinois



2003 Annual Report

Topics Covered

- Waste disposed in landfills, 2001-2003
- Specification pages for 56 landfills, 111 transfer stations and 59 compost sites
- Waste handled by transfer stations, 2001-2003
- Remaining disposal capacity as of Jan. 1, 2003, and Jan. 1, 2004
- Waste generated and recycled, 2003
- Waste composted, 2001-2003

Printed on recycled paper

Nonhazardous Solid Waste Management And Landfill Capacity In Illinois: 2003

Reporting period for waste disposal: Jan. 1 to Dec. 31, 2003
Reporting date for landfill capacity: Jan. 1, 2004

This report has been prepared for the Governor of the State of Illinois and the General Assembly in accordance with Section 4 of the Illinois Solid Waste Management Act.

Illinois Environmental Protection Agency
Bureau of Land
Division of Land Pollution Control
Waste Reduction and Compliance Section

1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Printed on recycled paper

Contents

Maps and Tables

Maps and Tables

Additional Information and Acknowledgements

How to Obtain Additional Information

To learn more about municipal solid waste landfills, transfer stations or compost facilities in Illinois, please call 217-785-8604, or write to:

Illinois Environmental Protection Agency
Bureau of Land
Division of Land Pollution Control
Waste Reduction and Compliance Section
P.O. Box 19276
Springfield, IL 62794-9276

Our Internet address is **http://www.epa.state.il.us**

When using courier services (UPS, Airborne, etc.), please use the following street address and zip code:

1021 North Grand Avenue East
Springfield, IL 62702

Acknowledgements

This document is produced by the Illinois Environmental Protection Agency, Renee Cipriano, Director, and is published by the Agency's Office of Public Information, Dennis McMurray, Manager. Primary Editor was Ellen Robinson of the Waste Reduction and Compliance Section, Bureau of Land.

The report is printed in the Agency's print shop. Many thanks to Tom Davis who provided publishing advice to the Primary Editor. Nina Dugger provided editing. Excellent typing and design was provided by Judy Brubaker, the Section's clerical support. Photos were chosen by Terry Bent of Allied Waste, David Gambach, Ellen Robinson, Gary Steele and Robert Wiatrolik. Poems were from fifth and sixth graders throughout the State who won our 2003-2004 contest. Full length, fold-out State of Illinois and Chicago Metropolitan area maps using GIS software, were designed by Ted Prescott.

Illinois EPA Bureau of Land personnel contributed their time and expertise to the development of this publication. Computer data calculation was provided by Darrel Watkins, ensuring better data accuracy throughout the report. Assistance with compost site permitting and inspecting was provided by Gary Cima and Gary Steele. Neelu Reddy of the Remedial Project Management Section provided information about our abandoned landfill program. Jim Moore explained closure procedures for landfills.

The Agency also wishes to thank the 18 delegated counties, plus Ambraw Valley Solid Waste Agency and the City of Chicago who inspect and have first-hand knowledge of approximately 50 percent of the landfills, transfer stations and compost sites covered in this report. Our seven regional offices and their regional managers are responsible for inspecting all Agency-permitted pollution control facilities.

Photo Credits

Cover Photo: Photo of Sangamon Valley Landfill, Springfield, by Rich Johnson, Assistant Regional Manager Illinois EPA, Springfield Regional Office

Page 1 Photo of a Chicago transfer station by Ellen Robinson, Project Manager, Illinois EPA, Springfield Headquarters

Region 1: Essay: "Waste on Earth", Kim Whitfield, Oak Grove East School, Bartonville

Region 2: Photo of Hooker Street Transfer Station, Chicago by Ellen Robinson, Project Manager, Illinois EPA, Springfield Headquarters

Region 3: Poem: "Put Waste in Its Place", Kora Bestold, student, Oak Grove East School, Bartonville

Region 4: Aerial photo of Livingston Landfill, Pontiac, provided by Michael Friend, R. Russell and Associates, Pontiac and edited by Barbara Nowack of Andrews Environmental Engineering, Springfield

Region 5: Photo of Sangamon Valley Landfill, Springfield, by Hannah Van Zutphen-Kann, published in The State Journal-Register, February 12, 2004, reprinted with permission

Region 6: Photo of Roxana Landfill, Roxana, by David Terry, Solid Waste Inspector, Madison County Planning and Development, Edwardsville

Region 7: Poem: "Trash Could Ruin Us All!" Kelsey Swindle, student, Lisle Junior High School, Lisle

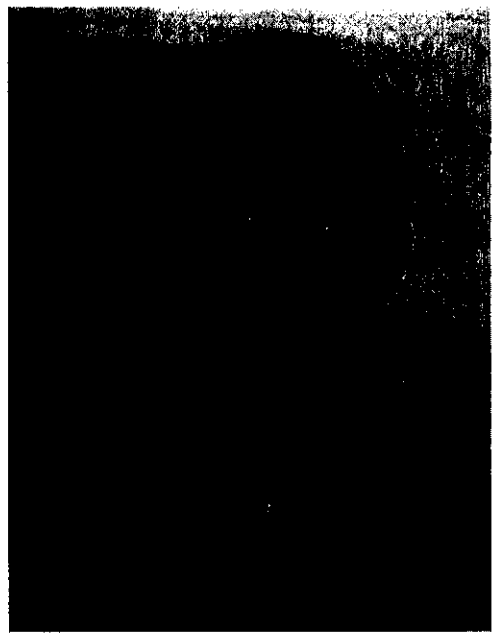
Landfills
Appendices A-D: Photo courtesy of David Farley, operator, Sangamon Valley Landfill, Springfield

Transfer Stations
Appendices E-G: Photo of Waste Management/Springfield Transfer Station by Dan Erni, Environmental Engineer, Waste Management, Taylorville

Compost Sites
Appendices H-J: Photo of Dirksen Parkway Compost Facility, Springfield, by Rochelle Gillespie, Associate Sanitarian, Sangamon County Department of Public Health, Springfield

Solid Waste Planning & Recycling
Appendices K-M: Recycling Activities at Lake Area Recycling Center, Springfield. Photo by Robert Wiatrolik, Photographer, Illinois EPA, Springfield Headquarters

Preface



Although the capacity remaining in Illinois landfills declined slightly, the available space is still adequate and should serve our citizens for at least another 12 years. In this, the Agency's 17th annual report on landfill disposal and available landfill capacity in Illinois, we report to you not only the remaining capacity, but many other useful facts about landfills and pollution control facilities throughout the state.

Since its inception in 1970, the Illinois EPA has overseen the development and operation of a productive system of modern sanitary landfills. The Agency continues to ensure that these facilities meet the strictest disposal standards in history, and that they are engineered to be fully protective of human health and the environment, especially where it concerns any possibility of groundwater contamination.

In 2003, the number of active landfills in Illinois accepting waste was 50. Regional capacity, however, varied tremendously. Region 4, which includes counties in East Central Illinois, has about four remaining years. The Chicago Metropolitan Region had five years of landfill capacity remaining at the end of 2003.

In July 2003, Sangamon Valley Landfill, Springfield re-opened after approval was received for a 50.31 acre lateral expansion that added 5.1 million cubic yards of airspace for waste disposal.

In October 2003, Milam Recycling and Disposal Facility, East St. Louis provided a 4.75 million cubic yards expansion to the state, adding 19.5 cubic yards of airspace for waste disposal.

Other landfills that expanded or were constructed at the beginning of 2004, include Winnebago Reclamation Services, Rockford; Prairie View Recycling and Disposal Facility, Wilmington; Envirofil of Illinois Inc, Macomb; Indian Creek Landfill #2, Hopedale; and Perry Ridge, DuQuoin. More about these facilities will be in the 18th annual report.

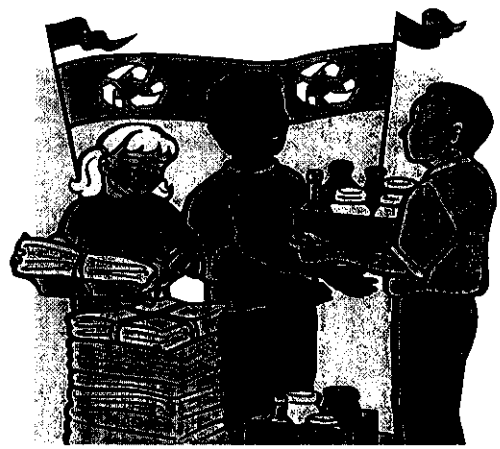
In 2003, there were additionally 91 active transfer stations and 38 active compost facilities that help manage the waste generated in Illinois.

Additionally, the Illinois EPA's seven regional offices and 18 counties, the Ambraw Valley Solid Waste Agency and the City of Chicago have been delegated the authority to inspect landfills, transfer stations and compost sites in their jurisdictions, providing a needed service to the citizens of Illinois.

The Illinois EPA hopes you will find this information useful and instructive and welcomes your comments and suggestions as to how it may be improved.

Renee Cipriano
Director
Illinois EPA

How to Use the Illinois EPA Landfill Capacity Report

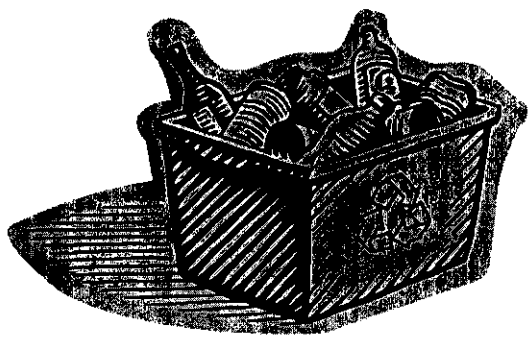


Nonhazardous Solid Waste Management and Landfill Capacity in Illinois is Illinois EPA's annual report describing the management of nonhazardous municipal solid waste by the State's solid waste landfills, transfer stations and compost facilities. The report is divided into sections representing Illinois EPA's administrative regions. Region 1 includes Northwestern Illinois counties; Region 2 includes Chicago Metropolitan counties; Region 3 includes Peoria/Quad Cities area counties; Region 4 includes East Central Illinois counties; Region 5 includes West Central Illinois counties; Region 6 includes Metropolitan East St. Louis area counties; and Region 7 includes Southern Illinois counties.

Each regional section includes newly designed specification pages describing the chief physical characteristics of each landfill. Provided are: its location and hours of operation, tipping fee, quantities of wastes received for the last three years, the landfill's certified remaining capacity (in gate cubic yards) for the last two reporting dates, solid waste management fees paid in 2003, the Agency regional field office or delegated local authority that inspects the facility, and the name, address and phone number of the landfill's owner and operator. Similar, but scaled down specification pages, are included for each transfer station. In all, this report includes details of 56 landfills, 111 transfer stations and 59 compost facilities. Those sites included accepted some waste in 2001, 2002 and/or 2003.

Landfill details are found in Appendices A through D; transfer station details are found in Appendices E through G; landscape waste compost facility information is found in Appendices H through J; the contact list for local (county) solid waste planning and recycling coordinators is found in Appendix K; in Appendix L, information is found about updated local (county) solid waste plans; and found in Appendix M is information about local municipal waste generation and recycling.

Additionally, this 17th edition of the report contains a state map designed with GIS software showing locations of Illinois landfills. A Chicago Metropolitan area map also shows the locations of transfer stations in addition to the location of landfills.



Executive Summary

THIS IS THE ILLINOIS EPA'S 17TH ANNUAL REPORT describing the management of nonhazardous municipal solid waste by the state's solid waste landfills, transfer stations and compost facilities.

The report is divided into sections representing Illinois EPA administrative regions. Each regional section includes specification pages describing the chief physical characteristics of each landfill.

Provided in this report are each facility's location and hours of operation, tipping fee, quantities of wastes received for the last three years (2001, 2002 and 2003), in both gate cubic yards and gate tons; the landfill's certified remaining capacity for the last two reporting dates Jan. 1, 2004, and Jan. 1, 2003, in gate cubic yards; solid waste management fees paid to the State in 2003; the Agency Regional office or delegated local authority that inspects the facility; and the name, address and phone number of the landfill's owner and operator.

Similar, but scaled down specification pages are included for each transfer station and compost facility. In all, this report includes details of 56 landfills, 111 transfer stations and 59 compost facilities. Any landfill, transfer station or compost site that accepted waste in 2001, 2002 and/or 2003 is included in the report. The list of active pollution control facilities during 2003 includes 50 landfills, 91 transfer stations and 38 compost sites.

Illinois municipal solid waste landfills are required to report to the Illinois EPA the quantities of solid waste they receive each year, and to calculate and report the amount of remaining capacity on the first day of the following year.

During 2003, 50 landfills reported receiving a total of 57 million gate cubic yards (17.3 million gate tons) of waste. This volume was almost 2.4 million gate cubic yards more than the total received during 2002, a 4.4 percent increase.

As of January 1, 2004, 49 landfills reported having a combined remaining capacity of 674.6 million gate cubic yards (almost 204.4 million tons), or 26 million gate cubic yards less than on January 1, 2003, a decline of 3.7 percent. One landfill did not report its capacity.

Dividing wastes disposed during 2003 by capacity remaining on January 1, 2004, indicates an overall landfill life expectancy in Illinois of 12 years, at 2003 disposal rates and barring capacity adjustments.

Areas to watch and monitor are the East Central Illinois area and Chicago Metropolitan Area with four and five years of capacity remaining respectively.

Nonhazardous Solid Waste Management And Landfill Capacity

2003

MUNICIPAL SOLID WASTE IS THE TERM USED TO DESCRIBE the garbage discarded by America's households, stores, offices, factories, restaurants, schools and other institutions. "Discarded" most often, in Illinois, means disposed of in Agency-permitted landfills. Waste is also handled through other alternative means of solid waste management: recycling and composting, after it is collected.

The U.S. EPA's *Municipal Solid Waste in the United States: 2000 Facts & Figures* says that nationwide 55.3 percent of solid waste was landfilled, 30.1 percent was recycled or composted, and 14.5 percent was incinerated. National figures for 2003 were not yet published when this report was printed.

In 2003, Illinois landfills accepted more than 57 million gate cubic yards of solid waste. Most Illinois waste was discarded in landfills within our borders. Wastes entering or leaving Illinois are not believed to noticeably affect this equation. Of all solid waste landfilled in Illinois in 2003, 11 percent, or about 6.2 million cubic yards or 1.9 million tons, came from 11 other states. We know this because Illinois landfills have reported these quantities to the Illinois EPA since 1992. However, waste haulers are not required to report how much Illinois waste they transport to landfills in other states or from which counties in Illinois waste is transported. Some local solid waste coordinators may have this information. Their contact information is found in Appendix K of this report.

Almost 37 percent of municipal waste is recycled

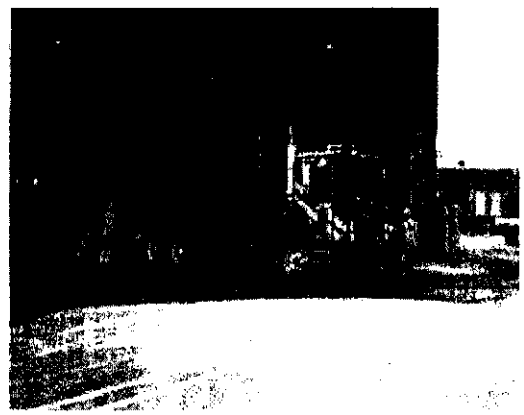
Much of Illinois is rural and far from recycling markets. However, most local governments have attempted to continue recycling education efforts, and to collect recycling data from haulers as an additional public service.

Local recycling coordinators in Illinois claim that almost 6 million tons of municipal waste were recycled in 2003. Total municipal waste generated is 16.2 million tons. Dividing the amount recycled (6 million tons) by the amount generated (16.2 million tons) equals a 37 percent recycling rate.

Most of the counties in the Chicago Metropolitan area voluntarily report recycling and waste generation figures annually. In this area, there are adequate recycling markets and public interest and recycling is high. In general, the most populated areas of the State voluntarily report waste generation and recycling data annually to the Illinois EPA.

What's happening in the solid waste industry in Illinois?

- ❖ Fifty active landfills in 2003, most with larger capacity
- ❖ In Southern Illinois, new landfills are open or proposed and two plan to expand
- ❖ A few compost facilities are closing. The agricultural community is managing landscape waste at "agronomic rates" on their farmland
- ❖ Continued private ownership and operation of landfills in Illinois
- ❖ Waste transfer out of metropolitan Chicago area into adjacent states, and to north and central Illinois counties continues into 2003
- ❖ More transfer stations in Chicagoland suburbs and elsewhere in Illinois obtain local siting and permits to operate.



2003 Annual Report

Topics Covered

- Waste disposed in landfills, 2001-2003 (in gate cubic yards and in gate tons)
- Remaining disposal capacity as of Jan. 1, 2003, and Jan. 1, 2004 (in gate cubic yards)
- Specification pages for 56 landfills, 111 transfer stations and 59 compost sites
- Waste generated and recycled, 2003 (in tons)
- Waste handled by transfer stations, 2001-2003 (in tons)
- Waste composted, 2001-2003 (in tons)

Burn Barrels Outreach Campaign

Illinois EPA began a Burn Barrel Public Education Campaign in September 2004, with funding from U.S. EPA. The goal of this 10-week initiative is to educate the public about the environmental hazards of burning household waste and help them find alternative disposal options. The campaign will consist of newspaper advertisements and radio spots targeted in various parts of Illinois.

Local governments, including Solid Waste & Recycling Coordinators and delegated agencies, could become a great asset for us in promoting this public education campaign. Our limited resources with combined partnerships (federal funding) could still influence some citizens to make better choices for waste disposal.

Two newspaper ads may include local contact information, and may be placed in local newspapers. Our web site, **www.Illinoisburnbarrels.org** could link to yours. Illinois EPA brochures and fliers or U.S. EPA brochures are also available for distribution.

For more information, contact Robert Fanning, Associate Director's Office, at 217-558-6716. ♦

New and Expanded Environmental Program Fees in Illinois

The Illinois General Assembly approved Governor Rod R. Blagojevich's proposal for new and increased fees for several types of environmental programs operated by Illinois Environmental Protection Agency to implement federal and state regulations.

Those fees are authorized under Senate Bill 1903 (Public Act 93-32, signed into law on June 20, 2003), and the fees became effective on July 1, 2003, the beginning of the state fiscal year.

The fees will impact a wide range of facilities, including landfills.

Municipal waste landfill operators currently pay two fees based upon the volume of waste received each year. Both of these fees (Solid Waste Tipping Fee and Subtitle D Fee) have been increased beginning with the waste received on or after July 1, 2003.

The fee depends on the total volume of waste received in a calendar year. Operators that received more than 150,000 cubic yards of waste in a year have the option of measuring waste by volume (cubic yards) or weight (tons) and deciding which unit to use to calculate the fee payment. Operators that receive less than 150,000 cubic yards in a year might fall into one of four other fee payment categories (see table below). These categories have remained the same.

Notices were sent by Illinois EPA to current permit-holders specifying their obligations under the new fee schedule. Permit-holders should be aware that failure to pay fees when they are due could result in a referral to the Attorney General's Office and potential penalties, pursuant to statute.

However, solid waste surcharges paid to local governments remain the same as those mentioned in the Illinois Environmental Protection Act, Section 22.15(j).

Additional information or assistance is available by contacting the Bureau of Land Financial Management Unit at 217-524-4337.

State Solid Waste Surcharge Fees

Landfills Receiving:	would pay a new solid waste fee of:	and a new Subtitle D Fee
greater than 150,000 cu. yds./yr.	$2.00/ton or $0.95/cy	$0.22/ton or $0.101/cy
between 100,000 and 150,000 cu. yds./yr.	$52,630	$7,020
between 50,000 and 100,000 cu. yds./yr.	$23,790	$3,120
between 10,000 and 50,000 cu. yds./yr.	$7,260	$975
less than 10,000 cu. yds./yr.	$1,050	$210

About $1 million per acre

Developing a landfill requires enormous investments in land and equipment totaling millions of dollars, plus engineering expenses, fees to state and local governments, taxes, normal operating costs and additional millions set aside for post-closure care. One industry rule of thumb says it takes about $1 million per acre to design, build, permit, operate, and conduct post-closure care at a landfill today. Patrick Engineering Inc., Springfield, designed plans for several counties in Illinois in 1994, which included landfill economic studies, describing costs necessary to build 100 tons per day (TPD), 500 TPD and 1,000 TPD landfills. As with everything, costs have gone up, no doubt.

These costs included pre-development stage, site development, site operation, closure costs, post-closure costs, and financing issues.

Landfills are developed cell by cell

Landfills are divided into sections called cells, which are developed as needed, filled systematically so that specific loads of waste can be located weeks or months later, and covered with soil or other materials to prevent the spread of odors and vermin.

Trucks arriving at a landfill are inspected for prohibited nonhazardous wastes (Illinois bans landfilling of liquids, motor oil, whole tires, and landscape wastes) and for hazardous wastes. Loads are weighed and details about them are recorded. They are then taken to the exposed portion of the active cell, which is known as the working face.

Trucks empty their loads at the working face, where specially modified bulldozers spread and compact the waste, crushing it to eliminate air pockets and squeezing it into the smallest space possible.

During 2003, 50 Illinois landfills reported receiving a total of 57 million gate cubic yards (almost 17.3 million gate tons) of solid waste. A ranking of these facilities (Appendix C) finds the top five landfills received 50.5 percent of waste received in Illinois. This unequal distribution of waste creates a large difference between an *average* landfill, which would have accepted almost 1.1 million gate cubic yards (about 346 thousand gate tons) of waste, and a *median* landfill, which would have received about 518 thousand gate cubic yards (almost 157 thousand gate tons).

Closings cut capacity

Three landfills closed their gates between 2001 and 2003. They were: Region 1: Freeport Municipal Landfill #4 (ceased accepting waste in April 2003); Region 2: Wheatland Prairie RDF (June 18, 2001) and CID RDF (Area 3 only) Dec. 31, 2003. Area 4 is a hazardous waste site that remains open.

Landfills projecting closure dates prior to the end of 2003 are as follows: Region 3: Streator Area Landfill #3 (expansion under review); Region 6: South Chain of Rocks RDF (still open as of September 2003); and in Region 7: Saline County Landfill (temporarily closed, appealing permit denial).

Delegated Inspection Program

The Illinois EPA has delegated inspection authority to 17 county agencies, the Ambraw Valley Solid Waste Agency, and Chicago. This program takes advantage of additional staff resources at the local level.

Delegation agreements authorize these agencies to conduct many of the duties that would otherwise be performed by an Illinois EPA field office: investigating suspected violations of land pollution laws and reports of open dumping, and inspecting landfills, transfer stations and compost facilities permitted through the Agency's Bureau of Land. Inspections can also include industrial landfills and monofills (private facilities that do not accept municipal solid waste).

Thousands of inspections of pollution control facilities and other sites were completed by delegated agencies during 2003. These efforts at the local level stimulate the regulated community to take all necessary steps to comply with environmental regulations. Also, prompt response by local authorities does much to curtail open dumping, unfortunately still a common practice throughout Illinois.

In 2003, a team of county and Agency staff developed a solid waste inspection training manual for its field operations personnel at the Agency's regional offices and for our delegated partners.♦

Average Illinois Landfill, 2003

Waste Disposed

1.1 million gate cu. yds. (about 346 thousand gate tons)

Capacity Available

13.8 million gate cu. yds. (4.2 million gate tons)

Gate Cubic Yards and Tons

Illinois landfills are required to report to the Illinois EPA the quantities of waste received during each calendar year. They must also calculate how much capacity remains available for future waste disposal as of Jan. 1.

These figures are submitted to the Agency in "gate cubic yards," or the volume of waste entering the landfill's gate. Remaining capacities are expressed as *certified* gate cubic yards, meaning that the calculations have been certified as true and accurate by a licensed professional engineer. These numbers are found on the landfill specification pages in each regional section of this report.

The term "in-place cubic yards" is used to indicate wastes that have been compressed to a half or a third or a quarter of their original volume, depending on the degree of compaction achieved by the landfill.

Gate cubic yards can be difficult to visualize. To aid the reader, we have divided gate cubic yards by an industry standard of 3.3 to achieve approximate tons. In other words **3.3 gate cubic yards = one ton.**

Acronyms Used in this Report

AKA	Also known as
CS	Compost site
LF	Landfill
LSW	Landscape waste
MRRF	Material Recycling and Recovery Facility
PPD/PCD	Pounds per person per day/Pounds per capita per day
RDF	Recycling and Disposal Facility
TPD	Tons per day
TPY	Tons per year
TS	Transfer station

Landfills seek to expand

Milam Recycling Disposal Facility, East St. Louis, increased its permitted disposal area in 2002. Streator Area Landfill #3, Streator, and Saline County Landfill, Harrisburg plan to expand their disposal areas in the near future.

Additional capacity at Sangamon Valley Landfill in Region Five was unavailable until July 2003, then the new owner/operator remedied the site's environmental issues to appease the county court. Illinois EPA also approved its application to re-open.

Southern Illinois Regional Landfill, DeSoto, also has a permit application under review to expand.

USEPA's MSW Report, 2000

National solid waste data are available in the report Municipal Solid Waste in the United States: 2000 Facts & Figures, published June 2002. To get a copy, contact USEPA at www.epa.gov/osw and search by report number EPA530-S-02-001. This report contains information about waste generation and categorizes the municipal solid waste stream by waste type. The executive summary is abstracted below. No newer figures were available at the federal level.

National Figures for 2000 Reported by USEPA[1]

Number of municipal solid waste landfills in the USA	1,967		
Average number of landfills per state	39		
	Million Tons	**Percent**	**PPD[2]**
Waste generated	231.9		4.5
Waste recycled and composted	69.9		
Waste recycled	53.4	30.1	
Waste composted	16.5		
Waste landfilled and combusted	162.0	70	
Waste landfilled	128.3	55.3	
Waste combusted	33.7	14.5	

[1] Source: Municipal Solid Waste in the United States: 2000 Facts & Figures, USEPA Office of Solid Waste and Emergency Response, June 2002
[2] PPD = Pounds Per Person Per Day

Waste imported and exported in 2003

Perhaps even more revealing, state data show, in the table on bottom of page 6, views of waste disposal and landfill capacities on a per capita basis. Chicago Metropolitan Region has the lowest remaining capacity per capita. There is a moratorium against landfills within Chicago's city limits and land prices have high values. Waste generated by 8.6 million people of the Chicago Metropolitan region then becomes a state-wide problem, and also affects available capacity in adjacent states of Indiana and Wisconsin.

Siting of new landfills or expansion of existing landfills in Northwest and Central Illinois might help alleviate this situation. Land prices are found to be lower in these areas.

Indiana Department of Environmental Management (IDEM), Indianapolis, has not yet released its 2003 edition, but reported in its "2002 Summary of Indiana Solid Waste Facility Data" that 88 percent of waste imports come from 29 Illinois counties. Almost 1.4 million tons of Illinois waste were imported into Indiana in 2002. Illinois waste in 2002 was sent to 14 landfills in 12 Indiana counties for disposal: Fulton, Greene, Hendricks, Lake, LaPorte, Newton, Pike, Putnam, Vanderburgh, Vermilion, Vigo and White.

Cook County, Illinois, (County Seat, Chicago) sent to Indiana's landfills and transfer stations almost 1.2 million tons of waste in 2002.

Any limits to out-of-state waste disposal in other states, or capacity shortages, would put pressure on the Chicago Metropolitan areas waste management systems and could cause a local shortage in landfill disposal capacity.

The tonnage of waste from Indiana counties that was sent to Illinois landfills in 2003 as reported by them totaled 42,210 tons. Indiana's waste was managed by 10 Illinois landfills, located mainly in East Central Illinois.

For a copy of Indiana's 2003 report, contact Michelle Weddle (IDEM) at 317-233-4624.

State of Origin of Wastes Received at Illinois Landfills in 2003[1]

Eleven percent of all solid waste landfilled in Illinois in 2003 is 6.2 million gate cubic yards (1.9 million tons). This is the amount which came from out-of-state. However, waste haulers are not required to report how much Illinois waste they transport to landfills in other states or from which counties (in Illinois) waste is transported. The 2003 amount is up just one percent from the previous year.

Most states exporting waste to Illinois are neighbors of Illinois and share its borders.

State of Origin	Cu. Yds.	Percent
Missouri	4,993,966	80%
Iowa	878,321	14%
Indiana	139,293	2%
Kentucky	5,339	< 1%
Wisconsin	165,068	3%
Other States [2]	24,868	< 1%
Total	6,206,855	100%

[1] Twenty-five Illinois landfills accepted waste from 11 other states in 2003.

[2] Arkansas, Georgia, Kansas, Minnesota, Nebraska, and Tennessee

Illinois Landfills: Waste Accepted in 2003 Versus 2002

Region	Landfills Accepting Waste 2003 [1]	Waste Accepted, Gate Cu. Yds. 2003 [2]	Waste Accepted, Gate Cu. Yds. 2002 [3]	Yearly Change Cu. Yds.	Yearly Change Percent	2003 Waste Share of State Total
One: Northwestern Illinois	8	12,631,640	11,221,557	+ 1,410,083	+ 12.6	22.1
Two: Chicago Metropolitan	9	12,402,321	13,970,429	- 1,568,108	- 11.2	21.7
Three: Peoria/Quad Cities	8	4,357,705	4,036,121	+ 321,584	+ 8.0	7.6
Four: East Central Illinois	9	14,653,759	13,811,429	+ 842,330	+ 6.1	25.7
Five: West Central Illinois	5	1,849,110	1,747,874	+ 101,236	+ 5.8	3.2
Six: Metropolitan East St. Louis	6	9,165,066	8,168,149	+ 996,917	+ 12.2	16.1
Seven: Southern Illinois	5	1,990,192	1,694,507	+ 295,685	+ 17.4	3.5
Totals	**50**	**57,049,793**	**54,650,066**	**+ 2,399,727**	**+ 4.4**	**100**

[1] Includes facilities that accepted municipal waste for less than one complete calendar year.

[2] Includes 6,206,855 cubic yards of out-of-state waste (11% of state total) accepted by 25 Illinois landfills during 2003.

[3] Includes 5,800,977 cubic yards of out-of-state waste (10% of state total) accepted by 26 Illinois landfills during 2002.

Illinois Landfills: Remaining Capacities Jan. 1, 2004 Versus Jan. 1, 2003

Region	Landfills Reporting Capacity 1-1-04	Reported Capacity, Gate Cu. Yds. 1-1-04	1-1-03	Yearly Change Gate Cu. Yds.	Percent	Capacity Share of State Total
One: Northwestern Illinois	7	150,019,000	158,998,000	- 8,979,000	- 5.6	22.2
Two: Chicago Metropolitan [2]	9	59,755,000	73,994,000	- 14,239,000	- 19.2	8.9
Three: Peoria/Quad Cities	8	179,875,000	177,195,000	+ 2,680,000	+ 1.5	26.7
Four: East Central Illinois	9	63,128,000	80,712,000	- 17,584,000	- 21.8	9.4
Five: West Central Illinois	5	53,924,000	51,499,000	+ 2,425,000	+ 4.7	8.0
Six: Metropolitan East St. Louis	6	124,149,000	112,470,000	+ 11,679,000	+ 10.4	18.4
Seven: Southern Illinois [3]	5	43,791,000	45,794,000	- 2,003,000	- 4.4	6.5
Totals	**49**	**674,641,000**	**700,662,000**	**- 26,021,000**	**- 3.7**	**100**

[1] Includes capacity at one reactivated facility: Sangamon Valley Landfill which re-opened in July 2003.

[2] Does not include any capacity for Community Landfill or Prairie View Landfill (new in 2004).

[3] Does not include capacity for Perry Ridge Landfill (new in 2004).

Landfill Opening Planned in Southern Illinois

Southern Illinois anticipates the opening of Perry Ridge Landfill in DuQuoin (Perry County) which planned to open in March 2004. Southern Illinois Regional Landfill also received Illinois EPA approval to expand on July 2, 2004.

Slight capacity loss documented on Jan. 1, 2004

In a year that brought a 3.7 percent decline in landfill capacity, Southern Illinois declined only 4.4 percent and Northwestern Illinois only 5.6 percent. The largest drop was in East Central Illinois, a 21.8 percent decline.

The table below compares landfill remaining capacities in "snapshots" taken Jan. 1, 2003, and Jan. 1, 2004. Capacity drops of 21.8 percent and 19.2 percent in East Central Illinois and Chicago Metropolitan areas respectively, are somewhat counter-balanced by expansions in Metropolitan East St. Louis, which had a capacity spurt of 10.4 percent.

Next year, capacity will be boosted by two new landfills (Prairie View Landfill, Wilmington, and Perry Ridge Landfill, DuQuoin), four expansions and one upgraded landfill (Indian Creek Landfill #2, Hopedale).

Waste Disposed and Landfill Capacity Per Capita; Landfill Life Expectancy

Region	Estimated Population	Waste Disposed, Cu. Yds. [1] 2003	Per Capita	Remaining Capacity, Cu. Yds Jan. 1, 2004	Per Capita	Landfill Life Years [2]
One: Northwestern Illinois	807,640	12,631,640	15.6	150,019,000	185.7	12
Two: Chicago Metropolitan	8,576,656	12,402,321	1.4	59,755,000	7.0	5
Three: Peoria/Quad Cities	760,144	4,357,705	5.7	179,875,000	236.6	41
Four: East Central Illinois	858,790	14,653,759	17.1	63,128,000	73.5	4
Five: West Central Illinois	561,922	1,849,110	3.3	53,924,000	96.0	29
Six: Metropolitan East St. Louis	708,732	9,165,066	12.9	124,149,000	175.2	14
Seven: Southern Illinois	434,527	1,990,192	4.6	43,791,000	100.8	22
Totals	**12,708,411**	**57,049,793**	**4.5**	**674,641,000**	**53.1**	**12**

[1] Amounts reported in gate cu. yds.

[2] Remaining capacity divided by waste disposed. Tells how long a region may be served by local landfills at current disposal rates, barring capacity adjustments, until capacity is depleted..

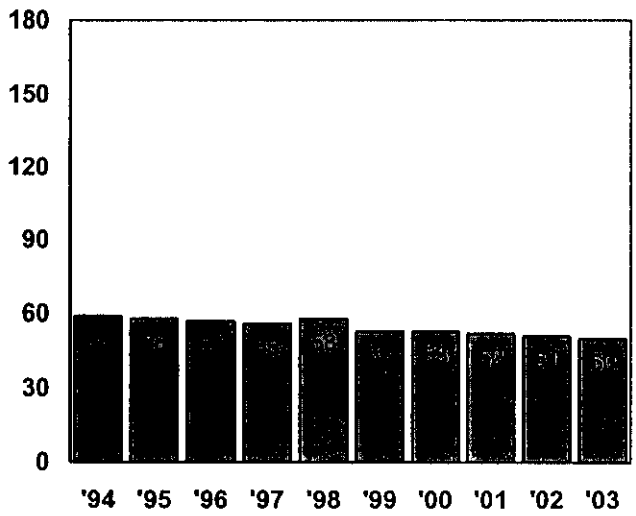
Statewide Landfill Capacity Is Abundant Despite Same Number of Facilities

At the end of each year, Illinois landfill operators calculate how much waste they will be able to accept in the future. This volume is known as remaining or available capacity, and is expressed in gate cubic yards, meaning waste received at the landfill's gate before it is compacted. One industry rule of thumb says 10 gate cubic yards of waste can be compressed into five compacted cubic yards. Obviously, the greater the compaction, the more waste can be buried.

In 2003, 50 landfills reported accepting 57 million gate cu. yds. of waste from Illinois counties and 11 other states besides Illinois. The 675 million cubic yards of available capacity allows for 12 years of landfill life.

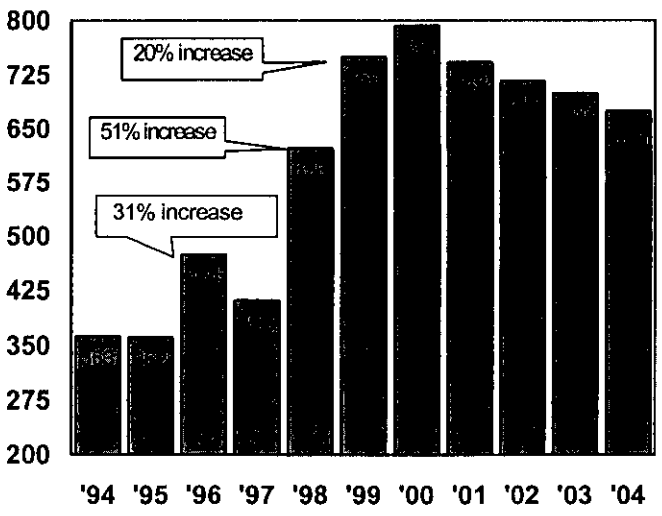
Tight Regulations Force Cutbacks

Active landfills accepting waste each year



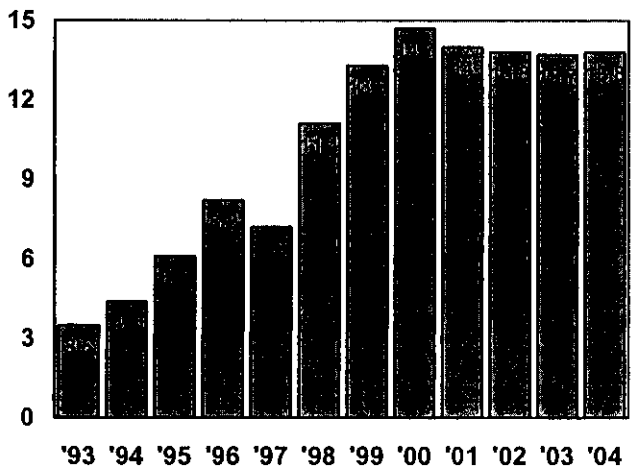
Pushing Survivors To Build Capacity

Available landfill space, millions of gate cubic yards



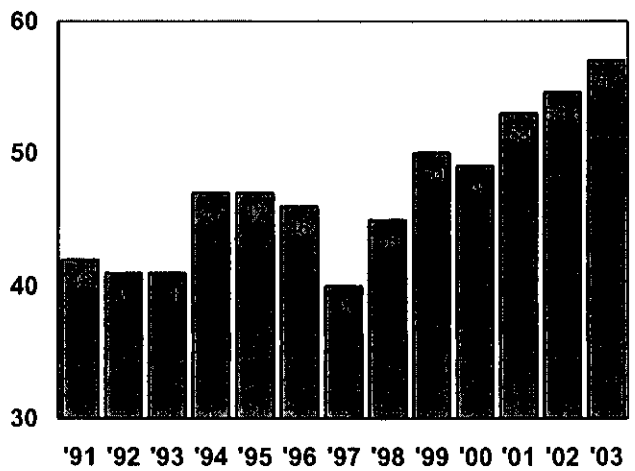
Average Landfill Capacity Steady

Millions of gate cubic yards



While Disposal Rates Remained Constant

Wastes landfilled, millions of gate cubic yards



New Facilities Permitted to be Constructed or to Expand

Region	Landfill	Municipality	Opening Date	Details	Design Airspace (cu. yds.)[1]
One: Northwestern Illinois	Winnebago Rec. Svs.	Rockford	4-27-04	N & S Unit Vertical & Horizontal expansion	1,798,840
Two: Chicago Metropolitan	Prairie View RDF	Wilmington	1-16-04	223 ac.	30,196,438
Three: Peoria/Quad Cities	Envirofil of Illinois Inc.	Macomb	4-20-04	57 ac. horizontal/19 ac. vertical	9,250,000
Three: Peoria/Quad Cities	Indian Creek LF #2	Hopedale	6-30-04	36.27 ac.	2,661,136
Five: West Central Illinois	Sangamon Valley LF	Springfield	7-7-03	50.31 ac. lateral exp.	5,135,625
Six: Metro East St. Louis	Milam RDF	E. St. Louis	10-16-03	4.75 million exp.	19,450,000
Seven: Southern Illinois	Perry Ridge	DuQuoin	5-2004	141 ac.	14,872,900
Total					**83,364,939**

[1] Includes space for waste, intermediate or daily cover and capacity (in-place cubic yards)

Municipal Waste Management Plans and Plan Updates

The Solid Waste Planning and Recycling Act requires all Illinois counties and the city of Chicago to develop, adopt and implement 20-year municipal waste management plans.

Every five, 10 and 15 years, each plan must identify changes in planning areas, evaluate progress in the plan implementation and, if necessary, revise plan recommendations and goals. A county also has the option of updating its solid waste generation rate. The plan is then submitted to the Illinois EPA for review and comment.

Questions concerning these plans should be directed to the appropriate local administrators listed in Appendix K of this report. Due dates for plan updates are found in Appendix L.

Contact Ellen Robinson for more information about this requirement of state law at 217-785-8604.

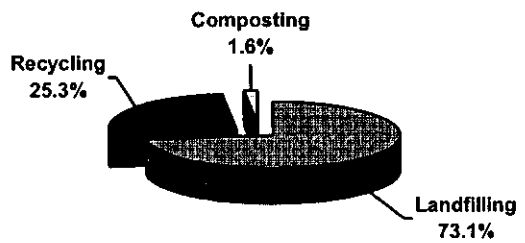
Municipal waste management in Illinois: 2003

Landfilling continues to play the largest role in the handling of municipal waste in Illinois. It is estimated that almost 75 percent was landfilled in 2003. Waste data collected from landfills (17.3 million tons), compost sites (366,571 tons), and the amount reported as recycled by local recycling coordinators (about 6.0 million tons) were added together and percentages of each were calculated.

Waste generation as calculated by recycling coordinators does not include the composted amounts managed by homeowners, or incineration for volume reduction using burn barrels. Neither does the composted amount include that managed on-farm at agronomic rates. No amount was burned in commercial incinerators in 2003 in Illinois.

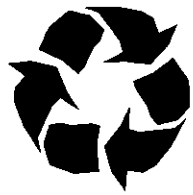
Municipal waste management computes to the following rates: landfilling: 73.1 percent; recycling: 25.3 percent and composting: 1.6 percent. These figures as outlined below in the pie chart might be the more accurate figures for Illinois.

Municipal Waste Management in Illinois: 2003



Amount recycled

Solid waste coordinators have many priorities to balance. More pressing priorities of public health concern such as West Nile Virus and bioterrorism, plus limited funding for solid waste planning studies, have diverted the attention of many away from solid waste management issues during the past few years. Therefore, the 37 percent recycling rate reported should be considered an estimate. Actual figures may be lower or higher.



Municipal Waste Generated & Recycled

Region	Estimated Population	Waste Generated Tons	Waste Generated PCD [1]	Waste Recycled Tons	Waste Recycled Percent
One: Northwestern Illinois	807,640	820,148	5.6	190,895	23.3
Two: Chicago Metropolitan	8,576,656	11,903,588	7.6	5,017,329	42.1
Three: Peoria/Quad Cities	760,144	926,220	6.7	243,008	26.2
Four: East Central Illinois	858,790	952,240	6.1	210,538	22.1
Five: West Central Illinois	561,922	538,045	5.2	81,732	15.2
Six: Metropolitan East St. Louis	708,732	632,188	4.9	182,873	28.9
Seven: Southern Illinois	434,527	389,469	4.9	56,637	14.5
Total	**12,708,411**	**16,161,898**	**7.0**	**5,983,012**	**37.0**

[1] PCD = Pounds per capita per day.

State Solid Waste and Recycling Grants

The Department of Commerce and Economic Opportunity (DCEO), Bureau of Energy and Recycling issues a number of grants to governments, not-for-profit organizations and businesses.

For information about grant programs promoting recycling efforts, contact these DCEO staff members.

Division and Contact Person	Phone
♦ ***Recycling & Waste Reduction Division***	217-782-7887
♦ ***Resource Recovery Section***	217-524-0933
♦ ***Resource Development Section***	217-785-2006
♦ ***Education, Research and Development*** Ron Swager, Manager	217-785-3498

For information about recycling, visit their web site at www.illinoisbiz.biz and click on the energy and recycling tab.

Who to Call for Help With Specific Problem Waste

The Illinois EPA supports a number of waste disposal and recycling efforts aimed at helping households and selected institutions safely dispose of household hazardous waste, scrap tires, leftover paint, used motor oil, educational hazardous waste and more.

To obtain the latest information about these programs, or to learn the dates, times and locations of drop-off collections, please call one of the following:

- Dan Rion, at 217-782-9294, concerning scheduling of Household Hazardous Waste collections; concerning what to do with waste paint and used motor oil;
- Tap Hefley or Todd Marvel, at 217-785-8604, concerning scrap/used tire disposal;
- David Saladino, at 217/558-4115 concerning high school laboratory hazardous waste and used fluorescent and high intensity light bulb disposal.

On-Farm Composting Facilities

In rural areas, farming provides an outlet for landscape waste management through the Illinois Environmental Protection Act's provisions for on-farm exemption and agronomic rate application, Section 830.106 a) and b). While the agronomic rate application has only one limit (20 tons per acre per year); other requirements must be met to be permit exempt:

- The site and where the finished compost is to be used, must be on property operated by the farmer doing the composting. The property used for the composting process cannot be more than two percent of that farmer's total acreage.
- The compost site, and the land where the compost is to be used, shall be "principally and diligently devoted to the production of agricultural crops."
- The land used and the farmer shall not be connected to a waste hauling company, or a generator of non-agricultural compost materials (tree trimming businesses, nurseries, cemeteries and utility companies). If the farmer is paid to haul the landscape waste to the site, he would not be qualified for the exemption.
- The compost needs to be used within 18 months from the day waste was first brought to the site.
- The compost site and use area meet required setbacks from wells (200 feet), nearest residence (one-fourth mile) and groundwater (five feet). It cannot be within the 10-year flood plain, or have more than 10 occupied non-farm homes within one-half mile.
- The farmer registers the site with the Illinois EPA, and submits an annual report.

Composting is increasing by 3.5 percent

Landscape wastes were banned from Illinois landfills beginning July 1, 1990. The number of compost sites now stands at 38, two less than in 2002.

Compost facilities report to the Agency each year the quantities of waste accepted. In 2003, the state's compost facilities processed 366,571 tons of landscape waste, a 3.5 percent increase from 2002's total of 354,333 tons.

Chicago Metropolitan area compost sites take five of the top 10 spots in terms of waste accepted in 2003. Number one, two and three ranked sites, located in McHenry, Kankakee and Kendall counties respectively, took in one-third of the wastes composted in Illinois in 2003.

However, increasing amounts of landscape wastes in all parts of the State are being handled by permit-exempt farms, which are described next.

Compost Facilities: Waste Handled 2003

Region	Active Facilities	Tons
One: Northwestern Illinois	5	47,125
Two: Chicago Metropolitan	17	226,863
Three: Peoria/Quad Cities	5	23,407
Four: East Central Illinois	3	21,830
Five: West Central Illinois	1	15
Six: Metropolitan East St. Louis	6	45,774
Seven: Southern Illinois	1	1,557
Total	**38**	**366,571**

On-farm composting facilities

If the farmer meets the requirements shown in the adjacent sidebar, then a composting permit is not needed. However, the sites are still subject to the minimum performance standards of Section 830.202 of the Act. These requirements include controlling odors, processing waste within five days, run-off and run-on control and windrow construction. They must have written plans for the intended use and for odor control. The only minimum standards they are not required to meet are posting an entrance sign and record keeping of complaints. They are not subject to any of the standards for permitted compost sites.

Due to the limitations of the exemption, the finished compost may not be sold, given to others, or used as alternate daily cover at landfills.

Transfer station and recycling center regulations proposed

The Agency has met with interested parties and organizations about regulations for recycling and transfer stations. The Illinois Pollution Control Board web site **www.ipcb.state.il.us** has more details about the rule-making process.

Transfer Stations: Waste Handled in 2003

Region	Facilities	Tons
One: Northwestern Illinois	6	146,216
Two: Chicago Metropolitan	62	4,801,549
Three: Peoria/Quad Cities	4	15,625
Four: East Central Illinois	7	9,400
Five: West Central Illinois	3	165,000
Six: Metropolitan East St. Louis	6	60,209
Seven: Southern Illinois	3	60,256
Total	**91**	**5,258,255**

[1] Each region contains active sites that did not report amounts of waste accepted.

In 2003, 44 of the 91 active transfer stations (48.4 percent) voluntarily reported handling nearly 5.3 million tons of trash, or nearly 30.4 percent of waste landfilled statewide. If the number of active landfills falls from 50 in 2003, to the mid-40s, or even the upper-30s, over the next decade, the number of transfer stations can be expected to grow, as will the amount of waste they will handle.

The Agency requested data from transfer stations, but not all of the facilities chose to voluntarily return the survey; so it is assumed that transferred amounts of waste are under-represented in this report.

We do know which transfer stations were accepting waste, because they are inspected on a regular basis by our Field Operations staff and the delegated agencies.

Project TREAD launched

Project TREAD (Tire Reduction, Education and Disposal) is the Illinois EPA's outreach effort to increase the public's awareness and assistance for the Illinois EPA's Used Tire Program in response to the serious West Nile Virus situation in Illinois.

In addition, the Illinois EPA issued a fact sheet in early 2003 called "Used Tires and the West Nile Virus." This fact sheet identifies the link between improperly managed used and waste tires and the proliferation of disease-carrying mosquitoes that results in an increased risk and occurrence of West Nile Virus. The fact sheet is available on our web site at **http://www.epa.state.il.us/land/tires/images/project-tread.pdf**.

For further information on the Illinois EPA's Used Tire Program, go to **http://www.epa.state.il.us/land/tires/index.html**.

Illinois EPA Enlists More Citizen "Tire Spotters": Project TREAD Launched

Illinois Environmental Protection Agency Director Renee Cipriano announced on March 20, 2003, the launch of "Project TREAD" that will seek additional help from the public and local officials to identify and remove illegal tire dumps.

"Illinois EPA's Used Tire Management Program cleaned up more than 1.1 million waste tires last year that were potential breeding grounds for mosquitoes that may spread West Nile virus and other diseases," said Director Cipriano.

"Project TREAD (Tire Reduction, Education and Disposal) will urge citizens and local officials to report improperly discarded tires to the Illinois EPA and/or to local police," Director Cipriano added.

Fact sheets addressing the hazards posed by abandoned used tires will also be sent to local officials across the state.

Public Service Announcements will also be mailed to radio stations statewide and Illinois EPA will give special recognition to those officials and citizens who make outstanding contributions to Project TREAD.

"In addition to the more than 1,000 inspections done by our staff each year, we rely on tips from the public and local officials to track down renegade tires," noted Director Cipriano.

If mosquito larvae are found, the inspector applies a larvacide and takes immediate action to have the tires removed and disposed of properly.

Illinois EPA is part of the state's West Nile Virus Task Force and last year cleaned up more than 50,000 waste tires at the request of the Illinois Department of Public Health and local health departments.

Approximately 12 million used tires are generated each year in Illinois. While most are now managed properly as a result of oversight by our Used Tire Management Unit, there are still hundreds of thousands of tires that need to be removed from illegal sites each year. ♦

Alternative re-use of Construction and Demolition Debris

The Illinois Environmental Protection Act was amended in July 2003 to increase the opportunities for beneficial reuse of clean construction and demolition debris. Clean construction or demolition debris includes uncontaminated concrete with no protruding metal bars, bricks, rock, stone; reclaimed asphalt pavement; and soil from construction or demolition activities.

Prior to July 2003, use of this material without being classified as disposal of solid waste was mainly limited projects where it was used "below grade." This meant the material was used to fill a quarry, borrow pit or other constructed excavation. It could also be used in engineered construction projects.

The changes to Section 3.160 of the Act removed the "below grade" requirement. It was replaced by the limitation that the fill is placed no higher than the existing elevation of the area immediately adjacent to the site prior to filling. With this change, leveling parking lots and filling in ravines can now be done without being part of an engineered project. Please refer to the whole text of Section 3.160 prior to beginning a project, as there are other limitations and conditions that must be taken into account before using the material.

The Illinois Environmental Protection Act and the Rules and Regulations of the Illinois Pollution Control Board are available on the Internet. Go to the Agency's web site, **www.epa.state.il.us** and choose "Rules and Regulations". This will provide links to the Illinois Pollution Control Board and Secretary of State web sites where this information is kept.◆

Permitting requirements of Illinois EPA

New landfills or landfill expansions cannot be built unless the Bureau of Land issues a permit. Issuance of a Bureau of Air permit to a landfill identifying it as a potential new source of air pollution must also be obtained.

An initial completeness review of a permit application normally takes 30 days. If omissions are found, the application is rejected as incomplete. The applicant then has 35 days to provide additional information to make an application complete. Once an application is found to be complete, technical reviews are conducted.

Approval or denial of permit applications

During the review period, comments are solicited from Bureau of Land's Regional Office, Groundwater Assistance Unit and the Solid Waste Unit. After review of the application, the addenda, and comments from public officials, the general public and the regional office, final action is ready to be taken.

If the reviewers have found the application to completely adhere to applicable environmental regulations, the permit is approved outright or with special conditions. If the application is deficient, the Permit Section denies the permit.

Rather than sending out a formal denial letter, the reviewer prepares a draft denial letter which explains the areas in the application that are deficient. The applicant has a choice of either providing some additional information in the form of an addenda to the original application or asking the reviewer for a formal denial that could be appealed to the Illinois Pollution Control Board. Additional information is usually provided. Approval or denial of a permit application takes 180 days, unless an extension is granted.

If the application is denied, an owner/operator could submit a new application, appeal the Agency's denial of the permit through the Illinois Pollution Control Board or they could abandon the project. Most choose to submit a new application, starting the 180-day process over again.

Permits for landfills contain detailed requirements for the design, construction, capacity and operation of the landfills. They also contain stringent requirements for monitoring the groundwater beneath and around the landfill to detect releases from the landfill that would adversely impact the quality of the groundwater. Finally, the permit contains detailed requirements to properly "close" the landfill once it has been filled to permitted capacity and to provide for proper care of the landfill after it has been closed.

From time to time, the owner/operator of a landfill must modify the facility's permit. These modifications can address many things, including changes in construction and/or operational practices; construction of cells within the permitted landfill boundaries; and groundwater monitoring issues.

This report attempts to document significant permit actions. However, only those permit actions which change the items mentioned in "Facility Facts" section of the landfill specification pages are acknowledged. Pay close attention to the footnotes on each facility specification page for permit actions made during 2001, 2002 and 2003, and on page eight of the Introduction there is a chart entitled "New Facilities Permitted to be Constructed or to Expand."

For more information about items discussed in this report, contact the Agency's Freedom of Information Officer at FOIA@epa.state.il.us. You may also fax requests on letterhead to 217/782-9290. Be very specific in your request for information and include the site's identification number, if possible.

Closure and post-closure care period

Once a landfill has received its permitted volume of waste, it must be "closed" in accordance with an approved plan and with Illinois landfill regulations. Proper closure of a landfill includes establishing a proper grading plan to allow for precipitation to run off of the landfill, constructing a final cover over the waste to minimize the amount of precipitation that can infiltrate the landfill, establishing a vegetative cover system over the final cover system to minimize erosion and finalizing the gas and leachate management systems to ensure that gas and leachate generated in the landfill after the landfill is closed are properly managed.

After a landfill has been properly closed, it must then receive at least 30 years of post-closure care. Proper post-closure care includes maintaining the vegetative cover to ensure it does not erode, monitoring the groundwater to ensure there have been no releases due to the landfill, and removing the gas and leachate generated in the landfill to ensure that they do not have adverse impacts on the area surrounding the landfill.

Closure activities, depending on the site, may include: capping the landfill; installing monitoring devices if they are not already in place; providing topsoil, seeding, and mulching as necessary; and possibly converting the land for follow-up use. Routine post-closure care continues for 30 years after a landfill ceases to accept waste and includes maintaining the surface cover, monitoring gas produced, flaring or collecting any gas, monitoring, pumping and transporting any leachate, and monitoring groundwater. Estimates for both closure and post-closure care costs must be based on an engineering estimate of the cost for a third party to perform the necessary work and maintenance. Financial assurance is also required for corrective action measures, such as remediation of groundwater contamination.

Financial Assurance Requirements

Funding for landfill closure, post-closure maintenance and corrective action must be provided by the landfill owners and operators, ensuring costs are not borne by taxpayers. Many different mechanisms are available to help landfill owners prove now that they will be able to pay later.

Financial assurance mechanisms for landfill closure and long-term care fall into three broad categories: cash-in-hand, in the form of trust funds or escrow accounts; third-party insurance, including letters of credit and surety bonds; and various types of self-insurance. Self-insurance can include a financial test, a guarantee by a parent corporation or government entity, or deferred funding in the form of pledge of revenues. The state can further determine which mechanisms are allowable for publicly and privately owned landfills and how landfill owners and operators must provide accounting.

Closure and long-term cost estimates are revisited annually for active landfills. For those which closed under Part 807 regulations, review takes place every two years. Costs are updated based upon the remaining capacity in the landfill, the remaining post-closure care period, and adjusted for inflation. The funds available must be adequate to cover the projected costs.

For more information about Illinois regulations regarding financial assurance, contact Greg Bouillon, Bureau of Land, at 217-785-8604. ◆

Solid Waste Landfill Terms Defined

Closure: procedure that a solid or hazardous waste management facility undergoes to cease operations and ensure protection of human health and the environment for the future.

Final Cover System: the materials or layers (i.e., erosion/vegetative layer, infiltration/barrier layer, drainage layer) installed over the top of a closed landfill to minimize infiltration and erosion.

Leachate: any liquid, including any suspended components in the liquid, which percolates through or is drained from waste.

Operation & Maintenance: activities conducted at a site to ensure that the treatment and containment system is functioning properly. This may include: grading, seeding and mowing the vegetative layer, monitoring and repairing gas and leachate collection systems; treating collected leachate; groundwater monitoring and maintaining; and repairing the physical integrity of drainage control structures.

Response Action: an action taken to reduce or control risks to human health and the environment.

Site Investigation: a study designed to gather data needed to determine the nature and extent of contamination. ◆

Thirty-three abandoned landfills targeted for clean-up

In March 1999, the Illinois General Assembly appropriated $50 million to clean up 33 abandoned landfills located in 21 counties throughout the state. Although these landfills stopped accepting waste, they were not properly closed. Resulting risks include contaminated drinking water, surface water pollution from run-off, odors and dead vegetation from methane accumulation, presence of vectors and other rodents, exposure to pathogens, exposure to hazardous materials present in exposed refuse, infectious wastes or hazardous substances present in the exposed refuse, and/or landslides due to differential settling or unstable slopes.

The corrective action conducted at these landfills often includes pumping of accumulated leachate, constructing an impermeable cover, grading and slope stabilization, and seeding of vegetation for erosion control. Several years of post-corrective care will also be necessary for maintenance and monitoring.

When corrective action is complete at all 33 landfills, as many as 12 of these may be available for use as green space using native vegetation, or serve municipal functions as city garages or parking lots.

Five years after inception of the program, 69 percent of the $50 million allotted to clean up the 33 abandoned landfills has been spent. In 2003, response actions were completed at the Anna Municipal Landfill, Anna; Bi-State Disposal, Belleville; Chicago Heights Refuse Depot, Chicago Heights; Lewis Landfill, Beardstown; Prior Landfill and Prior-Blackwell Landfill, Centralia and H & L Landfill, Danville. Construction began at three landfills: Lewis Landfill, Beardstown; Chicago Heights Refuse Depot, Chicago Heights and Anna Municipal Landfill, Anna. Site investigations were conducted at four landfills: Bishop Landfill, Litchfield; Delta Regional Landfill, Mounds; Triem, Chicago Heights; and Morrison City Dump, Morrison. Operation and maintenance activities continued at Carlinville Landfill, Carlinville; Western Lion and Service Disposal Landfill, Mattoon; Steagall Landfill, Galesburg; Multi-County Landfill, Villa Grove; Waste Hauling Landfill, Decatur; Bath Landfill, Decatur; Paxton II Landfill, Chicago; Centralia Environmental Services Landfill, Centralia.

The Illinois EPA will make every effort to recover the State's corrective action costs from responsible parties.

For more information: a report entitled Illinois FIRST Abandoned Landfill Program is available on our Bureau of Land website; (click on clean-up programs, state response program, publications) or contact State Response Action Program Acting Manager, Neelu Reddy at 217-782-6761.

Landfill liner study and continuing engineering education for Illinois EPA staff

Illinois EPA's Bureau of Land, Permit Section, wrote some recommendations in January 2003 for the 92nd General Assembly in fulfillment of House Resolution 715.

"A Study of the Merits and Effectiveness of Alternate Liner Systems at Illinois Landfills" is outlined on our web site. Methodology and conclusions reached, as well as the entire report, can be accessed at **www.epa.state.il.us/land/publications/#solid-waste-permits**.

In addition, Illinois EPA has provided civil engineering training for its staff. Topics included landfill liquid management, landfill gas emissions, slope stability and slope failures, and geotechnical engineering analysis. These classes were taught by civil engineering professors from Clemson University, Clemson, South Carolina, and University of Illinois, Urbana.

Nonhazardous Solid Waste Management and Landfill Capacity in Illinois: 17th Annual Report (2003)

Section 4 of the Illinois Solid Waste Management Act requires the Agency to "publish a report regarding the projected disposal capacity available for solid waste in sanitary landfills. . . . Such reports shall present the data on an appropriate regional basis. . . [and] shall include an assessment of the life expectancy of each site."

This legislative mandate explains why the main body of this report is organized by seven Illinois EPA administrative regions, and why landfill capacity and life expectancy are emphasized in nearby tables and charts, and in text, tables, map symbology and landfill specification pages in the regional sections.

Other states which write a report similar to this are Florida, Indiana, Washington and Virginia. For more information contact Peter Gorer, Florida Dept. of Environmental Protection at 850-487-9532; Michelle Weddle, Indiana Dept. of Environmental Management at 317-233-4624; Ellen Caywood, Washington Dept. of Ecology at 206-459-6259; and John Ely, Virginia Dept. of Environmental Quality at 804-698-4249. Virginia's report is only available on the internet.

Conclusion

Our state-wide analysis of solid waste management is now concluded.

For more details about solid waste management throughout the seven Illinois EPA administrative regions of Illinois, see the body of the document on pages R1.1 through R7.16.

The Appendices also contain supporting documentation that will be useful. ◆◆

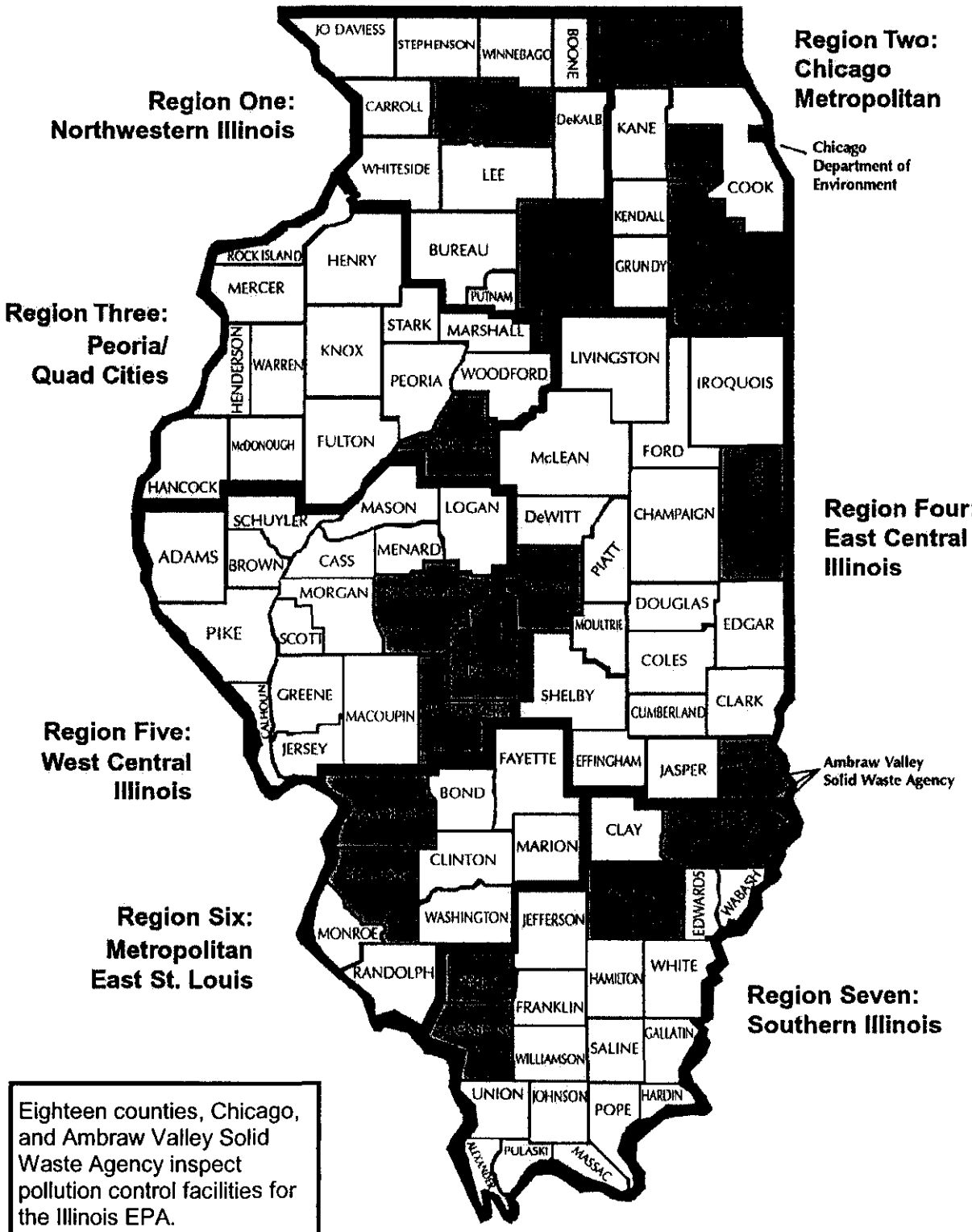
Case Study of Prior 1,2,3,4 and Prior-Blackwell Landfill, Centralia

The Prior 1,2,3,4 and Prior-Blackwell Landfills are located about three miles south of Centralia, on Perrine Avenue just south of Greenview Road. These two landfills are adjacent to each other and have similar environmental problems. These sites are in close proximity to the Centralia Environmental Services Landfill and together these three sites span approximately 72 acres of waste disposal. Prior-Blackwell was in operation for 12 years from 1975 to 1986 and Prior 1,2,3,4 was in operation for only five years from 1981 to 1986.

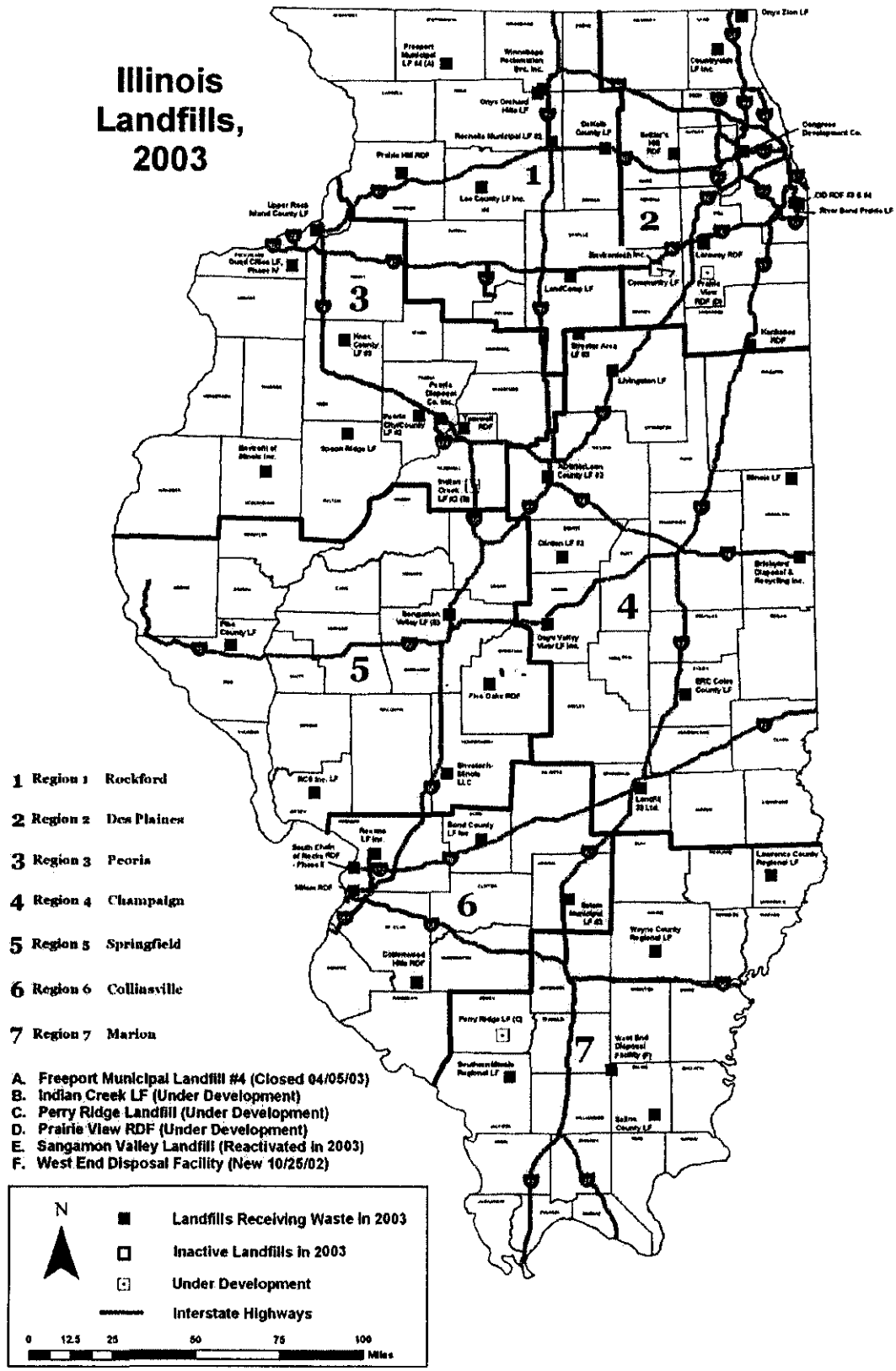
In the 1993, 1997, and 1998 investigations conducted by the Illinois EPA, it was discovered that some of the waste disposed of in these sites were solid waste, special waste, sewage, industrial sludge, asbestos-containing material, used paint, used ink, and soil mixed with diesel fuel. Steep slopes, subsided cover, inadequate vegetation, erosion gullies and exposed trash were concerns, along with leachate seeps entering an adjacent stream. Leachate became a concern since there are no groundwater leachate systems or liners at either site.

In the spring of 2002, corrective actions at the site were initiated. During the winter months, construction activities were halted. Activities resumed in the spring of 2003 and the environmental issues addressed included: regrading the landfills to create stable slopes and improve drainage, constructing a final cap consisting of 24 inches of compacted clay, a six-inch drainage layer and 12 inches of topsoil followed by a native prairie vegetation cover. Also, a passive gas collection and venting system was installed to safely vent landfill gas. Construction at Prior-Blackwell and Prior 1,2,3,4 was completed during the fall of 2003. ◆

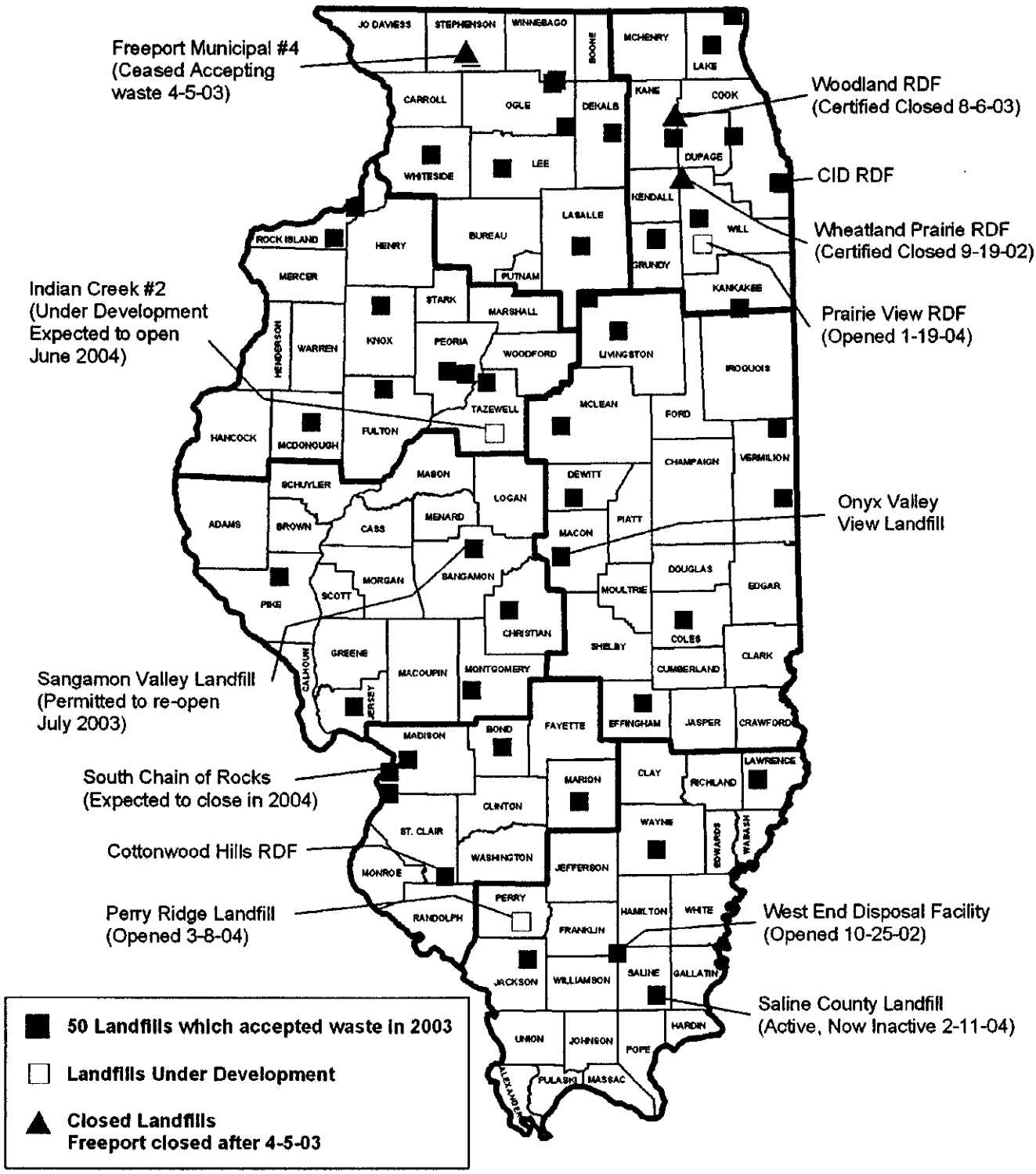
Local Agencies Delegated to Inspect Pollution Control Facilities for the Illinois EPA



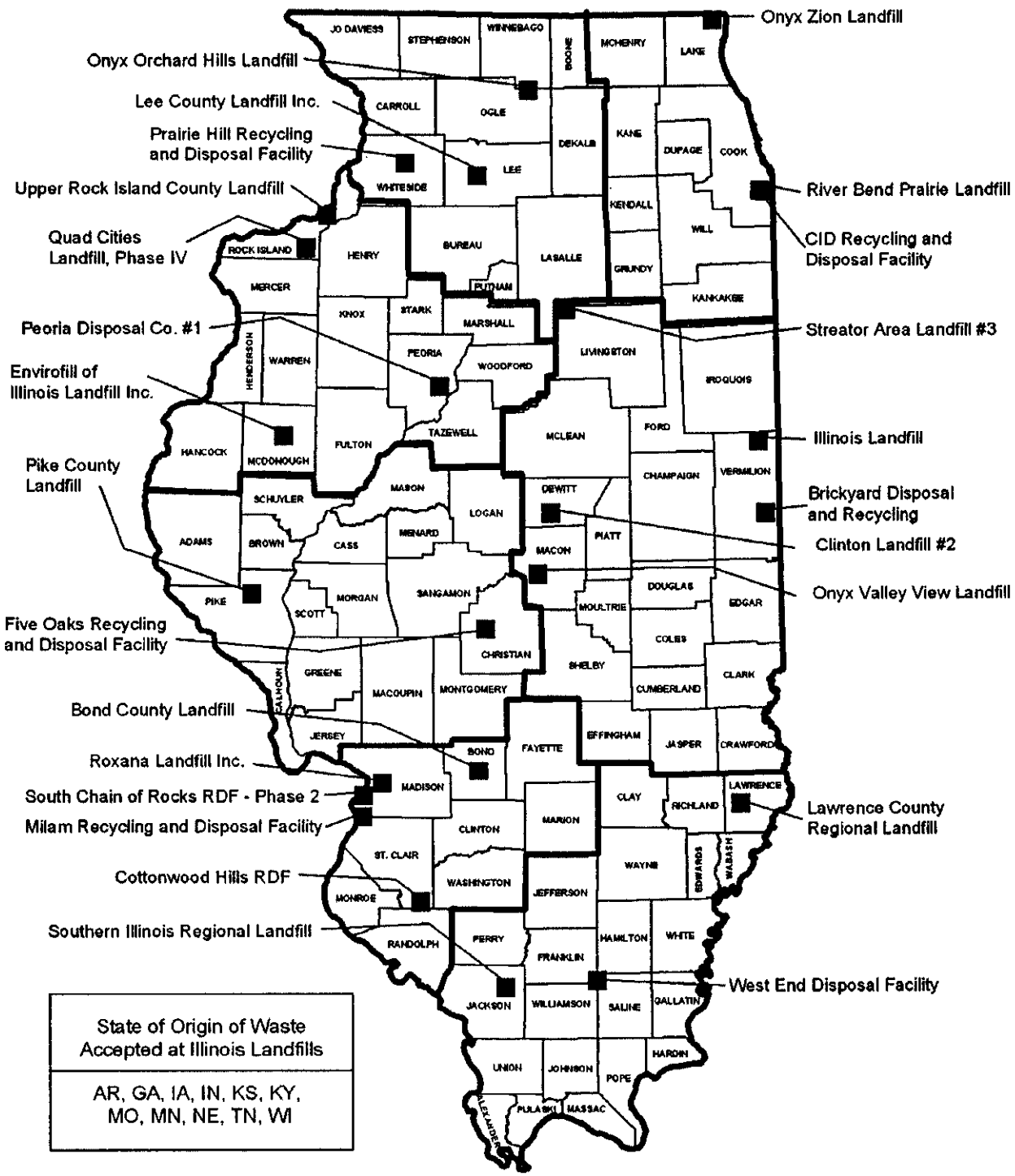
Eighteen counties, Chicago, and Ambraw Valley Solid Waste Agency inspect pollution control facilities for the Illinois EPA.


Illinois Landfills, 2003
1 Region 1 Rockford
2 Region 2 Des Plaines
3 Region 3 Peoria
4 Region 4 Champaign
5 Region 5 Springfield
6 Region 6 Collinsville
7 Region 7 Marion
A. Freeport Municipal Landfill #4 (Closed 04/05/03)
B. Indian Creek LF (Under Development)
C. Perry Ridge Landfill (Under Development)
D. Prairie View RDF (Under Development)
E. Sangamon Valley Landfill (Reactivated in 2003)
F. West End Disposal Facility (New 10/25/02)
N
Landfills Receiving Waste in 2003
Inactive Landfills in 2003
Under Development
Interstate Highways
0 12.5 25 50 75 100
Miles

Landfills: Active, Closed, Under Development in 2003

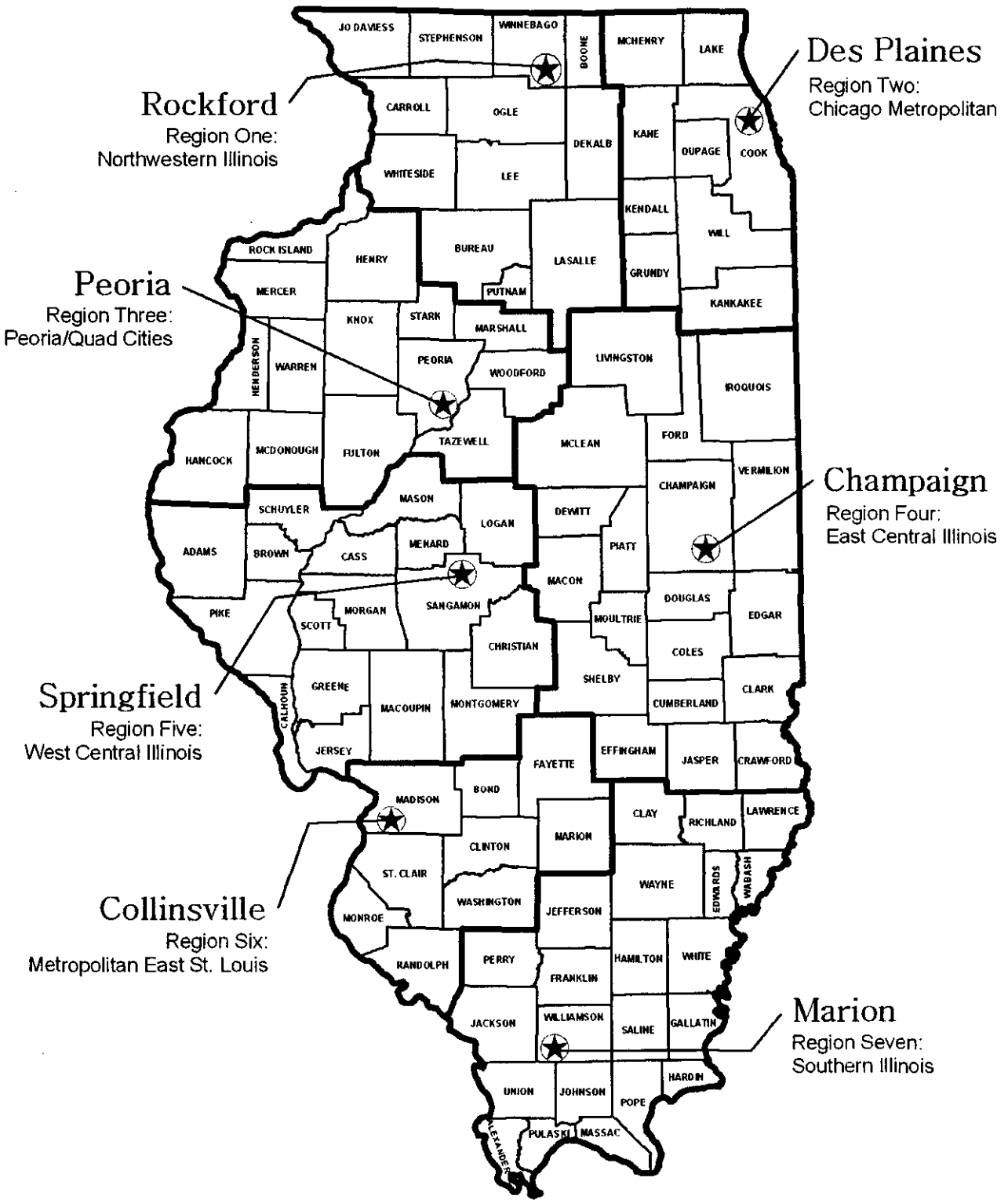


Landfills Receiving Waste from Other States in 2003



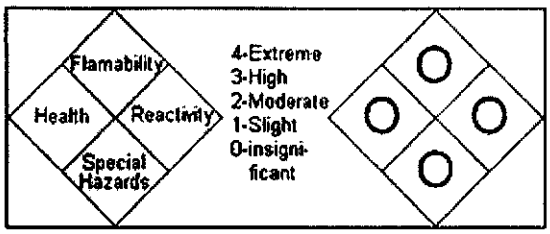
■ Twenty-five (25) landfills receiving waste from eleven (11) other states, besides Illinois in 2003

Illinois Environmental Protection Agency Administrative Regions



Regional offices are located in Rockford, Des Plaines, Peoria, Champaign, Springfield, Collinsville and Marion

Exhibit E



NFPA FIRE HAZARD SYMBOL
See NFPA 704 for detailed explanation

SILBRICO CORPORATION

MATERIAL SAFETY DATA SHEET

No.: 140 Rev. No.: 11
Date Revised: 3/28/05

I. PRODUCT IDENTIFICATION

Trade Name(s): Ryolex® - All Grades
CAS #: 93763-70-3
Chemical Name: Sodium Potassium Aluminum Silicate
Formula: Mixture
Manufacturer: SILBRICO CORPORATION
Address: 6300 River Road
City: Hodgkins
State: Illinois
Zip: 60525
Telephone: 708/354-3350
Emergency: 708/354-3350

II. PRODUCT INGREDIENTS

Ingredient Name: Expanded Perlite
CAS Number: 93763-70-3
%: 100
PEL and TLV (except as noted)
15 mg/m³ total dust-OSHA
5 mg/m³ respirable dust-OSHA
10 mg/m³ total dust-ACGIH

Ingredient Name: This product may contain crystalline silica: Quartz (Typical Analysis)
CAS Number: 14808-60-7
%: <0.1
PEL and TLV (except as noted)
1 mg/m³ respirable quartz
OSHA & ACGIH TLV

III. PHYSICAL DATA

Appearance and Odor: Dry White Powder or Aggregate/No Odor.
Boiling Point: NA
Evaporation Rate: NA
Vapor Pressure: NA
Specific Gravity (H2O = 1): 2.35
Water Solubility (%): Negligible

Melting Point: NA
Vapor Density (Air=1): NA
% Volatile by Volume: None

IV. FIRE AND EXPLOSION DATA

Flash Point (Method): Nonflammable
Flammable Limits: LEL: NA % **UEL:** NA %
Extinguishing Media: NA
Unusual Fire or Explosion Hazards: None
Special Fire-Fighting Procedures: None

V. REACTIVITY DATA

Material is Stable. Hazardous Polymerization Cannot Occur.
Chemical Incompatibilities: Hydrofluoric Acid
Conditions to Avoid: None in designed use
Hazardous Decomposition Products: May react with hydrofluoric acid to form a toxic gas.

VI. HEALTH HAZARD DATA

Route(s) of Entry:
Inhalation? Yes **Skin?** No **Ingestion?** No
Health Hazards (Acute and Chronic):
Acute: Upper Respiratory Irritant, Excessive Inhalation of Any Dust May Overload Lungs.
Chronic: None Known.
Carcinogenicity:
NTP? No **IARC Monographs?** No **OSHA Regulations?** No
Signs and Symptoms of Exposure:
Upper Respiratory and Eye Irritation
Medical Conditions Generally Aggravated by Exposure:
Pre-Existing Upper Respiratory and Lung Diseases
Emergency and First Aid Procedures:
Inhalation - Remove to Fresh Air
Eyes - Flush with Large Quantities of Water

VII. SPILL OR LEAK PROCEDURES

Procedures for Spill/Leak:
Vacuum clean or sweep up using a dust suppressant such as water.
Uncontaminated materials may be re-used.

Waste Management:
Non-hazardous as defined by RCRA (40 CFR part 261).
Method of disposal - landfill.
Reportable quantity - N/A.

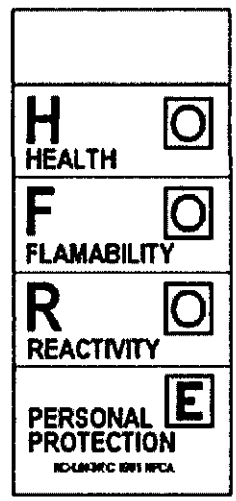
VIII. SPECIAL PROTECTION INFORMATION

Eye Protection: Goggles or Safety Glasses are recommended.

Gloves: Not normally required.
Respirator: MSHA/NIOSH approved respirator
Ventilation: Local exhaust ventilation may be required to keep dust concentrations below PEL/TLV.
Other Protective clothing or equipment: None

IX. SPECIAL PRECAUTIONS

Storage Segregation Hazard Classes: NA
Special Handling/Storage: Repair broken bags immediately; avoid creating dust
Special Workplace Engineering Controls: Not normally required.



Perlite is a naturally occurring substance and is therefore included, but not individually listed, in the TSCA inventory.

HMIS Ratings: 0 = Minimal Hazard E - Dust Respirator

Prepared/Revised by: SILBRICO CORPORATION

As of the date of preparation of this document, the foregoing information is believed to be accurate and is provided in good faith to comply with applicable federal and state law(s). However, no warranty or representation with respect to such information is intended or given.

Back to Top

Prev
Next

Exhibit F

Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

217/782-6762

Refer to: Cook County
Hodgkins/Silbrico Corporation

December 20, 1985

Mr. Tom Mendius, Vice President
Silbrico Corporation
6300 River Road
Hodgkins, Illinois 60525

Dear Mr. Mendius:

This letter is in response to your November 1, 1985 letter requesting the Agency to formally delist off-specification perlite as a special waste as defined in 35 Ill. Adm. Code Section 809.103.

An evaluation of the off-specification perlite you have described has been conducted. This evaluation determined the waste to be non-hazardous, and that even though this waste is considered an "Industrial Process Waste" by definition, it is our opinion that this waste material is not a special waste due to the fact that disposal by normal means of this waste in a sanitary landfill will not present a potential threat to human health or the environment.

However, if at a later date new information on potential human health threats or problems associated with the disposal of this waste are identified, the Agency reserves the right to re-classify the waste as a special waste and require a special waste supplemental permit and the use of manifest all in accordance with 35 Ill. Adm. Code Subtitle G.

If you should have any questions, please contact Charlie Zeal at 217/782-6762.

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:CAZ:bls/2727E,8

cc: Division File
Maywood Region
Compliance Section

Exhibit G

State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

217/524-3300

January 13, 1995

Mr. Tom Mendius
Silbrico Corporation
6300 River Road
Hodgkins, Illinois 60525

Re: 0311265003 -- Cook County
Silbrico Corporation
Log No. D-282
Special Waste Determination: Off specification and waste perlite
Permit File

Dear Mr. Mendius:

The Agency has evaluated your request for declassification of a special waste stream for off specification and waste perlite generated at the above referenced facility. That request is dated November 11, 1994 and was received by the Agency on November 15, 1994.

Based upon the Agency's evaluation of the special waste stream decalssification request, the waste described therein has been deemed declassified pursuant to 35 Ill. Adm. Code 808.245(d). Furthermore, the waste shall not be considered a special handling waste (Class B special waste) as defined in 35 Ill. Adm. Code 808.110.

Pursuant to 35 Ill. Adm. Code 808.521, the following conditions are applicable to this waste stream classification determination:

1. WASTE STREAM DESCRIPTION:

   Off specification and waste perlite is generated when material produced does not meet the manufacturer's or customer's specification for grain size, density, or other physical characteristic; and fugitive product captured by baghouse filters or by general housekeeping operations.

2. WASTE STREAM IDENTIFICATION NUMBER:

   Log No. D-282

3. WASTE STREAM CLASSIFICATION:

   Solid waste: Pursuant to 35 Ill. Adm. Code 808.245(d), the special (non-RCRA) waste as described in log No. D-282 is declassified and shall no longer be considered a special waste for regulatory purposes.

4. LIMITATIONS ON THE MANAGEMENT OF THE WASTE:

Since the waste described in log No. D-282 is declassified from the special waste status, transport and disposal in Illinois may be performed without utilizing the Agency's manifest and supplemental waste stream permit system. however, this waste stream must be containerized or securely bagged prior to shipment and disposal to prevent the dispersal of airborne particles. Also, this waste stream must be disposed at a lawfully permitted site authorized to accept solid waste.

5. QUALITY ASSURANCE PLAN:

The quality assurance plan submitted under log No. D-282 pursuant to 35 Ill. Adm. Code 808.402(a)(8) is hereby approved. This plan shall be implemented at all times within which this waste is disposed of as a declassified waste.

6. EXPIRATION DATE:

There is no specific expiration date for this special waste stream classification. however, this classification is subject to review and modification by the Agency as deemed necessary to fulfill the intent and purpose of the Environmental Protection Act, and all applicable rules and regulations.

If you have questions concerning this special waste declassification, please contact Cyrus Rastegar at 217/524-3300.

Very truly yours,

Edwin C. Bakowski, P.E.
Solid Waste Branch Manager
Permit Section, Bureau of Land

ECB:CHR:lo/0019X/18-9

cc: Martin J. Hamper, Montgomery Watson

Exhibit H

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SILBRICO CORPORATION,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB 06-
	)	(Variance—land)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
	)	
	)	
Respondent.		

Affidavit of Tom M. Mendius

I, Tom M. Mendius, being first duly sworn on oath, deposes and states:

1. I have been employed at Silbrico Corporation since November 29, 1971. I am currently the president of Silbrico.
2. I have read the petition for variance, and the facts stated in that petition are true and correct to the best of my knowledge and belief.

FURTHER AFFIANT SAYETH NOT.

Tom M Mendius
Tom M. Mendius

Subscribed and sworn to before me on this 15th day of July 2005.

Notary Public

OFFICIAL SEAL
TODD KOKES
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 11-2-2007