

CERTIFICATE OF SERVICE

I, the undersigned non-attorney, state that I served a copy of Petitioner Silbrico Corporation's Amended 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 October 24, 2005.



Jeanette Podlin

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 06-011
(Variance -- Land)**

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OCT 24 2005

STATE OF ILLINOIS
Pollution Control Board

SILBRICO CORPORATION,)
)
Petitioner,)
)
v.)
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

PCB 06-011
(Variance—land)

AMENDED PETITION FOR VARIANCE

Petitioner SILBRICO CORPORATION ("Silbrico"), by its attorneys Swanson, Martin & Bell, LLP, hereby submits its amended petition for a variance allowing Silbrico to dispose of nonhazardous, inert waste at a "clean construction and demolition debris" facility.

Background

Silbrico filed its petition for variance on July 19, 2005. Silbrico seeks a variance to allow it to dispose of two specific waste streams (off-specification perlite, and fugitive perlite from baghouse dust collections) in a "clean construction and demolition debris" facility. Silbrico requests this variance to allow it to dispose of those waste streams in a "clean" facility while it pursues its petition for site-specific rulemaking. (See, *Proposed Site-Specific Waste Regulation Applicable to Silbrico Corporation*, R 06-08.) Alternatively, Silbrico asks the Board to declare that the two waste streams are analogous to "clean construction and demolition debris," so that those wastes can be disposed of in a "clean fill" facility (otherwise known as a "clean construction and demolition debris operation").

On September 1, 2005, the Board issued an order directing Silbrico to provide additional information. This amended petition addresses the informational inquiries posed by the Board in its September 1 order, and is intended to be read in conjunction with Silbrico's July 19, 2005, petition for variance.¹ (The sections below coincide with the numbered paragraphs of the Board's order.)

Responses to Board Information Inquiries

Paragraph one.

The Board asks for identification of statutory provisions, and any additional regulatory provisions, from which a variance is being sought. As discussed in Silbrico's petition, the Agency has stated that the two waste streams must be disposed of in a permitted nonhazardous waste landfill. The Agency further stated that the two perlite waste streams do not meet the definition of "clean construction and demolition debris," and therefore cannot be disposed of at a "clean fill" facility. (See petition at pages 2-3; Exhibit A to petition.)

The fugitive perlite waste is a "pollution control waste," as defined in Section 3.335 of the Act, and the off-specification perlite waste is an "industrial process waste," as defined in Section 3.235 of the Act. (See Exhibit A.) Silbrico agrees with the Agency that the perlite waste streams are currently properly classified as "pollution control" and "industrial process" wastes, under those statutory definitions. Because they are classified as "wastes," the fugitive perlite and the off-specification perlite must be disposed of in a permitted facility (see Section 21(e) of the Act), unless there is an exemption which allows an alternate form of disposal. The provisions governing "clean

¹ Silbrico will refer to its July 19 petition for variance as "petition."

construction and demolition debris" ("CCDD") are one such exemption. In its request for variance, Silbrico seeks permission to dispose of its two perlite waste streams as CCDD, while it pursues its petition for site-specific rule.

Additional searching of the Act and the regulations reveal no statute or regulation that specifically states that industrial process wastes and pollution control wastes must be disposed of in a nonhazardous waste landfill.² However, there is no dispute (see Exhibit A) that these two waste streams must currently be so disposed. Silbrico believes that the provisions of the Board's waste rules must, at least by implication, require that industrial process wastes and pollution control wastes be disposed of in a nonhazardous waste landfill.³ Therefore, Silbrico reiterates its request that the Board either: 1) grant a variance from the provisions of Part 810 through 817, only 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," as defined in Section 3.160(b) of the Act, and can be disposed of at a CCDD operation which meets the requirements of Section 22.51 of the Act.

Paragraph two.

The Board seeks further explanation of how the waste streams are similar to "rock" and "stone" generated from construction or demolition activities. As noted, the two wastes are made solely of perlite, which is a naturally occurring rock. While the two

² As noted, the Part 809 regulations discuss whether industrial process and pollution control wastes are "special wastes." Silbrico's wastes are not special wastes. (See paragraph six of this amended petition.) The only other specific reference to industrial process or pollution control wastes in the Board's regulations is in the definitions section of Part 810.

³ If the Board finds that its rules do not require disposal in a nonhazardous waste landfill, Silbrico reserves the right to make further arguments on this issue.

waste streams are not “generated from construction or demolition activities,” the two waste streams may well be “cleaner” than rock or stone generated from construction or demolition activities. Unlike rock or stone which is a result of construction or demolition, these two waste streams are segregated from any other material, and are never commingled with other potential wastes. The wastes, being made entirely of rock (perlite), are inert and contain nothing that will leach or react when disposed of.

The provisions for “alternate” disposal of clean construction and demolition debris recognize that there are some types of materials, which would otherwise be considered “waste,” which do not pose a threat to the environment or health if disposed of in an alternate manner. Allowing CCDD to be disposed of at a CCDD operation (see paragraph three below) conserves valuable space in permitted landfills, while still protecting the environment. The General Assembly has found:

That there are wastes which may have reduced environmental threat when disposed of in monofills because they are non-putrescible, homogeneous, do not contain free liquids, or for other reasons;

(415 ILCS 5/20(d)(4).)

Silbrico’s two perlite waste streams fit this statement perfectly. The perlite waste streams are non-putrescible, homogenous, and do not contain free liquids. Allowing these two perlite waste streams to be disposed of as CCDD wastes would carry out the intent of the legislature, while protecting the environment.

Paragraph three.

The Board asks for a formal definition of “clean fill facility,” as Silbrico used that term in its petition for variance. At the time the petition was filed, there was no specific statutory or regulatory definition of a “clean fill facility.” Silbrico used that term in

reference to facilities which accepted "clean construction and demolition debris," or "CCDD."⁴ However, since the variance petition was filed, the Illinois General Assembly passed, and the governor has signed, P.A. 94-0272. Among other things, that public act adds provisions to the Environmental Protection Act which establish registration and permitting requirements for "clean construction or demolition debris fill operations." (See new Section 22.51 of the Act, added by P.A. 94-0272.) Section 22.51 requires that any facility which uses CCDD as fill material in a current or former quarry, mine, or other excavation obtain an interim authorization from the Agency. That section also provides that the Agency is to propose, and the Board is to adopt, regulations for the use of CCDD as fill material, and further establishes a phased-in schedule for requiring CCDD facilities to obtain permits.

Thus, Silbrico asks that it be allowed to dispose of the two waste streams at a clean construction and demolition debris operation which has obtained interim authorization (or, when required, a permit) pursuant to Section 22.51 of the Act. Silbrico proposes the following language for inclusion in the variance:

Silbrico may use a clean construction and demolition debris operation, which has obtained the necessary authorization and/or permit pursuant to Section 22.51 of the Act, to dispose of its "off-specification perlite" and "fugitive perlite" waste streams.

Paragraph four.

Silbrico has considered recycling the two waste streams, to either sell or give away. However, the only technology known to Silbrico to accomplish recycling is to palletize the wastes. This technology is expensive, and may not result in a "product" which the Agency would agree is recycled (as opposed to a waste). When Silbrico's

⁴ "Clean fill facility" is also the term used previously by the Agency. See Exhibit A.

output of wastes was smaller, it used to be able to give some of the waste product away as a low-grade filter aid.⁵ Silbrico remains open to the possibility of recycling, should it become feasible, but is pursuing this variance (and the accompanying site-specific rule) to keep all of its options open.

Paragraph five.

As noted in the petition, Silbrico is located in Cook County, at 6300 River Road, Hodgkins, Illinois. The "area affected by petitioner's activity" is technically only the Silbrico facility, since manufacturing activities occur on site. The two waste streams are retained on site until they are trucked off for disposal. Viewing the "area affected by petitioner's activity" more broadly, it could be said that the portion of Cook County in and around Hodgkins is such an area.

Paragraph six.

Silbrico does self-certify that the two waste streams are not special wastes. The most recent self-certification is attached as Exhibit I.⁶

Paragraph seven.

Silbrico's perlite products are manufactured at a rate of 1500 to 4000 pounds of perlite per hour, depending on the product. The perlite ore is introduced directly into the gas flame of a vertical tube furnace. The ore reaches a temperature of 1600 to 2200 degrees Fahrenheit in just seconds, causing the water in the perlite ore to vaporize.

⁵ At times Silbrico is still able to give away some of the off-specification perlite as a low-grade filter aid or filler. However, Silbrico cannot rely on that means of "disposing" of the off-specification perlite because demand is small and inconsistent.

⁶ Exhibit I is the first exhibit to this amended petition. Exhibits A through H are attached to the July 19, 2005, petition for variance.

The ore then pops like popcorn and expands, forming both internal and external air voids in each particle of perlite ore.

Paragraph eight.

The Board asked for analysis of the perlite in units compatible to 35 Ill.Adm.Code 742.

TYPICAL CHEMICAL ANALYSES OF PERLITE

<u>ELEMENTS</u>	<u>%</u>	<u>Mg/kg</u>
Si	33.8	338000
Al	7.2	72000
K	3.5	35000
Na	3.4	34000
Fe	0.6	6000
Ca	0.6	6000
Mg	0.2	2000
Traces	0.2	2000
Oxygen	47.5	475000
<u>Bound water</u>	<u>3.0</u>	<u>30000</u>
Total	100	

Of the trace elements (which are less than 2% of the perlite waste streams), the percentage of each element, and its analysis:

TRACE ELEMENTS CHEMICAL ANALYSIS
(BY FOOD CHEMICAL CODEX METHOD)

<u>ELEMENTS</u>	<u>%</u>	<u>mg/kg</u>
As	<0.001	<10
Ba	<0.1	<1000
B	<0.01	<100
Cl	<0.0005	<5
Cr	<0.0075	<75
Cu	0.0015	<15
Ga	<0.05	<500
Pb	<0.001	<10
Mn	<0.3	< 3000
Mo	<0.003	<30
Ni	<0.002	<20
S	<0.2	<2000
Ti	<0.1	<1000
Zr	<0.003	<30

Paragraph nine.

Silbrico does not add any chemical or constituent to its filter-aid or its soil amendment products. Silbrico does add a silicone coating (0.24% by weight) before packaging some of the filler products. However, it is important to note that this silicone coating is added after manufacture. Both waste streams at issue here are created during manufacture, and not during the packaging process. The off-specification perlite and the fugitive perlite waste streams do not have any coating, or any other constituent or chemical, in them.⁷

Paragraph ten.

The Board seeks additional information on Silbrico's efforts to reduce off-specification product. Here, Silbrico addresses its efforts to reduce the amounts of both off-specification perlite and fugitive perlite.⁸

During the 45 years in which Silbrico has been manufacturing at its current location, Silbrico's production has increased from processing fewer than 3000 tons of perlite ore per year to more than 70,000 tons of perlite ore per year. Silbrico has continually upgraded its equipment, revised its systems and procedures, and has upgraded the training of its employees. This has allowed Silbrico to produce more product more efficiently, while reducing the amounts of off-specification and fugitive perlite.

⁷ The only items the perlite ore comes in contact with during manufacturing is the natural-gas which fuels the furnace during expansion, and the excess air which is used to convey the expanded perlite to the collection area.

⁸ See also paragraph four, above, regarding recycling efforts.

For example, currently, during normal operations, the dust collected from the baghouse (the fugitive perlite) goes directly into the product. It is only during shutdowns of production that the residual perlite is discharged from the baghouse dust collectors, and must be disposed of. Previously, the baghouse dust (the fugitive perlite) did not go into the product, so all of that fugitive perlite had to be disposed of. Likewise, off-specification perlite can now often be blended back into the product from which it came. This was not true in the past, and all off-specification perlite had to be disposed of.

It is in Silbrico's economic interest, as well as in the interests of the environment, to "reuse" the perlite waste streams (both fugitive and off-specification) to make a product that can be sold, rather than allowing those waste streams to be disposed of. Thus, Silbrico seeks all opportunities to "reuse" the waste streams, and thus reduce the amount which must be disposed of.

Paragraph eleven.

All of the off-specification perlite and fugitive perlite waste streams are one hundred percent perlite, with no packaging or other materials included in those waste streams. These two waste streams come directly from the manufacturing process, which involves only perlite. The two waste streams are segregated, and do not come into contact with any other materials.

Silbrico's other wastes (paper, wood, packaging, and "household-type" wastes) are disposed of separately from the two perlite waste streams. (Those "other" waste streams are disposed of pursuant to regulatory requirements.) This variance request applies only to the two perlite waste streams, and not to any other waste generated at Silbrico.

Paragraph twelve.

As noted in its petition (see pages 4-5), disposal of the two perlite waste streams (at a nonhazardous waste landfill) currently costs Silbrico between \$40,000 and \$50,000 per year. Silbrico has explored costs of disposal at a CCDD operation and believes it would save \$20,000 to \$25,000 annually, on disposal costs alone, if it could dispose of the two perlite waste streams at a CCDD operation.

In addition to savings in the cost of disposal, Silbrico could save significant sums on the cost of trucking the waste streams to the disposal location. There is a CCDD operation (McCook Quarry Area A & B) located almost literally directly behind the Silbrico facility. There are several other "registered" CCDD operations in Cook County. Trucking costs could be greatly reduced if Silbrico was able to have the waste streams trucked only a mile or two. Given the skyrocketing prices of gasoline, trucking costs are, and will continue to be, a very important component of the total costs of disposing of the perlite waste streams.

These two components (disposal fees and trucking costs) could be greatly reduced if Silbrico is able to dispose of its perlite waste streams at a CCDD operation. However, an equally important consideration for Silbrico is the flexibility it would gain if this variance is granted. There are several CCDD operations in Cook County, and others in the surrounding metropolitan Chicago area. By seeking disposal at a nearby CCDD facility, Silbrico has the advantage of competition in negotiating disposal fees. The flexibility would also prevent Silbrico from becoming the victim of the shrinking landfill space in the Chicago metropolitan area⁹: the lessening capacity could adversely

⁹ See page 6 of the petition, and Exhibit D, regarding the reduction in landfill space.

affect Silbrico in both the price it pays for disposal, and in the possibility of having no disposal space at all. Silbrico has grown and been successful over the years because it has been nimble and able to react to changes around it. Allowing disposal of the waste streams at a CCDD operation would further strengthen the company, by providing flexibility in disposal options. This flexibility is an important consideration in seeking this variance.

Paragraph thirteen.

The compliance plan for the variance request is to obtain a site-specific rule allowing Silbrico to dispose of its perlite waste streams at CCDD operation. (See page 7 of the petition.) If granted, the requested variance would allow Silbrico to use a CCDD operation for disposal while the site-specific rule is pending.¹⁰ It is difficult to provide a specific time schedule for the site-specific proceeding. As noted in the petition, Silbrico will vigorously pursue the site-specific. In the event the site-specific rule is denied by the Board, Silbrico will revert to disposal of the two perlite waste streams in a nonhazardous waste landfill.¹¹

Paragraph 14

Similar to the Board's request in paragraph ten, paragraph fourteen asks for information regarding Silbrico's efforts to reduce the amount of perlite waste. In addition to the information provided in paragraphs four and ten, above, Silbrico hereby provides qualitative information on its waste reduction efforts.

¹⁰ It has been accepted practice before the Board for a petitioner to seek a variance to allow it to operate while pursuing a site-specific rule or an adjusted standard.

¹¹ Silbrico has proposed that the variance run for five years, or until nine months after the Board takes final action on the site-specific rule, whichever comes first. (See page 9 of the petition.) This nine-month period would allow Silbrico time to arrange for disposal in a nonhazardous waste landfill, in the event the site-specific is denied.

The improvements in Silbrico's machinery and manufacturing procedures have made it possible to make more product without greatly increasing the number of machines in operation. In 1985 (twenty years ago), one of Silbrico's machines produced product at a rate of 1200 pounds per hour. This production rate equated to a total production, on that machine, of 4,600,000 pounds for the year. (In 1985 the fugitive perlite waste, from the baghouses, did not go back into the product, as it normally does now.) In 2004 Silbrico produced 117,000,000 of this same product, using just four machines. If Silbrico had not improved its technology, systems, and procedures, Silbrico would have needed twenty-six machines to produce what it was able to produce with four machines. Twenty-six machines would have produced at least seven times the amount of perlite waste over the amount (about 2000 cubic yards) actually disposed last year.

Paragraph fifteen.

Silbrico segregates its perlite waste streams on site, and then wets the perlite waste until it is completely damp, and no longer in a dry, dust-like form. The perlite waste then stays damp for several days. If necessary, the perlite waste is re-wet, to keep it damp while at Silbrico's facility. The waste is then transported to the nonhazardous waste facility by covered semi-dump trailer truck. The perlite waste is then disposed of and covered the same day, at the permitted facility. Silbrico is committed to keeping the perlite waste from blowing while at the Silbrico facility, or while being trucked for disposal.

The CCDD operations Silbrico has investigated handle disposal in the same way: the waste streams are disposed of and covered the same day. The CCDD operations

have an interest in keeping dust from blowing around their site, which can cause problems with on-site machinery and adversely affect the neighbors. Silbrico notes that the Agency will be proposing, to the Board, regulations for CCDD operations, pursuant to new Section 22.51 of the Act. It seems likely that those regulations will prohibit any blowing of dust at a CCDD operation. As noted above, Silbrico seeks only to use an authorized/permitted CCDD operation, which will comply with all standards imposed on it.

Affidavit.

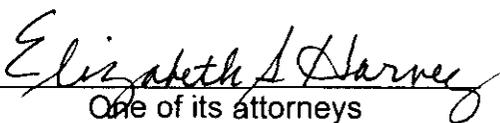
The affidavit of Tom Mendius, Silbrico's president, is attached as Exhibit J.

CONCLUSION

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: October 24, 2005

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SILBRICO CORPORATION

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October 10, 2005

To Whom It May Concern:

Pursuant to the provisions of the Environmental Protection Act, I certify that the fugitive perlite waste (pollution control waste) and off-specification perlite waste (industrial process waste) generated at Silbrico Corporation are not special wastes. Neither of these two waste streams are liquid wastes; they do not contain asbestos or PCBs; they are not formerly hazardous wastes rendered nonhazardous; and they are not generated by shredding recyclable metal. Therefore, these two wastes are not special wastes.

I determined that these fugitive perlite and off-specification perlite wastes are not special wastes by reviewing the attached Material Safety Data Sheet for perlite, and by reviewing the processes by which the wastes are generated.

Very truly yours;

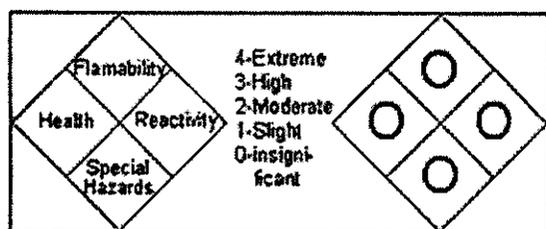
Tom M. Mendius

Tom M. Mendius
President

EXHIBIT

I

tabbles



NFPA FIRE HAZARD SYMBOL
See NFPA 704 for detailed explanation



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.

H HEALTH	<input type="checkbox"/>
F FLAMABILITY	<input type="checkbox"/>
R REACTIVITY	<input type="checkbox"/>
PERSONAL PROTECTION	E

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