RECEIVED
MAR 0 1 2011
DEQ-SALEM OFFICE

State of Oregon Department of Environmental Quality

BND
proj 5565

Application for a

Solid Waste Beneficial Use Determination

DEQ USE ONLY – BUSINESS OFFICE
Date Received: _____
Amount Received: _____
Check No.: _____
Deposit No.: _____
Forward confirmation of fee payment for:
Eastern Region to DEQ, The Dalles
Northwestern Region to DEQ-NWR, Portland
Western Region to DEQ, Salem

A. REFERENCE INFORMATION *(Please type or print clearly.)* Clearwater Landfill SW# 1120

Rick Gross	Silica West LLC		
Legal name of applicant	Business name of applicant if different		
1990 Clearwater Ln	Springfield	OR	97478
Mailing address	City	State	Zip
541 - 513-2103	same	rgross@peacehealth.org	
Phone	Mobile	E-mail	Fax

No current generation			
Generator of solid waste (may be same as applicant)			
Mailing address	City	State	Zip
Phone	Mobile	E-mail	Fax

B. TYPE OF BENEFICIAL USE DETERMINATION REQUESTED Beneficial Use Determination applications are categorized based on the type of information and potential amount of work required by DEQ staff to review application materials and render a decision. A tiered review and fee system has been established in rule. The tiers are:

Tier 1 For a beneficial use of a solid waste that does not contain hazardous substances significantly exceeding the concentration in a comparable raw material or commercial product and that will be used in a manufactured product;

Tier 2 For a beneficial use of a solid waste that contains hazardous substances significantly exceeding the concentration in a comparable raw material or commercial product, or involves application on the land;

Tier 3 For a beneficial use of a solid waste that requires research, such as a literature review or risk assessment, or for a demonstration project to demonstrate compliance with this rule.

I am applying for a ☒ Tier 1 ☐ Tier 2 ☐ Tier 3 determination.

C. DOES THIS PROPOSED BENEFICIAL USE INVOLVE LAND APPLICATION OF ANY MATERIAL?
☐ Yes ☒ No

D. SIGNATURE I hereby certify by my signature below that the information contained in this application, and the documents I have attached, are true and correct to the best of my knowledge and belief.

Rick Gross	Rick Gross	owner	2/24/11
Signature of legally authorized representative	Print name	Title	Date

Clearwater Landfill
SW# 1120

E. REQUIRED ATTACHMENTS TO THIS APPLICATION *(For an application to be complete, it must provide the required information for each listed item of the tier which is being applied for.)*

Tier 1

- ☑ A description of the material, manner of generation, and estimated quantity to be used each year;
- ☑ A description of the proposed use;
- ☑ A comparison of the chemical and physical characteristics of the material proposed for use with the material it will replace;
- ☑ A demonstration of compliance with the performance criteria in OAR 340-093-0280 based on knowledge of the process that generated the material, properties of the finished product, or testing; and
- ☑ Any other information that DEQ may require to evaluate the proposal.

Tier 2

- ☐ The information required for a Tier 1 application;
- ☐ Sampling and analysis that provides chemical, physical, and biological characterization of the material and that identifies potential contaminants in the material or the end product, as applicable;
- ☐ A risk screening comparing the concentration of hazardous substances in the material to existing, DEQ approved, risk-based screening level values, and demonstrating compliance with acceptable risk levels;
- ☐ Location or type of land use where the material will be applied, consistent with the risk scenarios used to evaluate risk;
- ☐ Contact information of property owner(s) if this is a site-specific land application proposal, including name, address, phone number, e-mail, site address and site coordinates (latitude and longitude); and
- ☐ A description of how the material will be managed to minimize potential adverse impacts to public health, safety, welfare, or the environment.

Tier 3

- ☐ The information required for a Tier 1 & 2 application;
- ☐ A discussion of the justification for the proposal;
- ☐ An estimate of the expected length of time that would be required to complete the project, if it is a demonstration; and
- ☐ If it is a demonstration project, the methods proposed to ensure safe and proper management of the material.

F. PERFORMANCE CRITERIA *(For all tiers - An application for a beneficial use determination must demonstrate satisfactory compliance with the following performance criteria.)*

The use is productive, including:

- ✓ ♦ There is an identified or reasonably likely use for the material that is not speculative;
- ✓ ♦ The use is a valuable part of a manufacturing process, an effective substitute for a valuable raw material or commercial product, or otherwise authorized by DEQ, and does not constitute disposal; and
- ✓ ♦ The use is in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices.

The use will not create an adverse impact to public health, safety, welfare, or the environment, including:

- ✓ ♦ The material is not a hazardous waste under ORS 466.005;
- ✓ ♦ Until the time the material is used in accordance with a beneficial use determination, the material will be managed, including any storage, transportation, or processing, to prevent releases to the environment or nuisance conditions;
- ✓ ♦ Hazardous substances in the material do not significantly exceed the concentration in a comparable raw material or commercial product, or do not exceed naturally occurring background concentrations, or do not exceed acceptable risk levels, including evaluation of persistence and potential bioaccumulation, when the material is managed according to a beneficial use determination.

✓ **The use will not result in the increase of a hazardous substance in a sensitive environment.**

✓ **The use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions.**

✓ **The use will comply with all applicable federal, state, and local regulations.**

Clearwater Landfill
SW # 1120

G. FEES *(Must accompany the application for it to be considered complete)*

☑	Tier 1 beneficial use determination	$1,000
☐	Tier 2 beneficial use determination	$2,000
☐	Tier 3 beneficial use determination	$5,000

Make checks out to: **Oregon DEQ**

Total fees included: #1,000

H. APPLICATION PROCEDURE

Step 1
Contact a DEQ staff person for assistance with the preparation of the application. DEQ staff will help with: 1) Determination of the eligibility for a beneficial use determination of a particular waste or process; and, 2) If eligible, establish the tier of beneficial use determination review required and associated fee to submit with the application.

Step 2
Mail the original signed application, all attachments, including the fee payment plus one extra copy to the appropriate regional office (see listing below.) Note that DEQ review work will not begin until a complete application packet is received. Incomplete applications may be returned. DEQ recommends the applicant keep a full copy of all application materials to guard against possible loss in transit.

Step 3
DEQ will contact the applicant, acknowledging receipt of the application, and will identify the staff person assigned to carryout the review. This staff person will contact the applicant if any additional information is needed.

Region	Counties Served	Address & Phone
Eastern Region	Baker, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler	Eastern Region Department of Environmental Quality 400 E Scenic Drive, Ste 2.307 The Dalles, OR 97058 (541) 298-7255 ext. 221
Northwest Region	Clatsop, Clackamas, Columbia, Multnomah, Tillamook, and Washington	Northwest Region DEQ Solid Waste Programs 2020 SW Fourth Ave. Ste 400 Portland, OR 97201 (503) 229-5353
Western Region	Benton, Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Linn, Marion, Polk, and Yamhill	Western Region DEQ Solid Waste Programs 750 Front St. NE Suite 120 Salem, OR 97301 (503) 378-5047

Clearwater Landfill SW # 1120

COMPANY Description

cementec INDUSTRIES INC

corporate info products services order desk contact

about us

* **Cementec Industries Inc.** is a privately owned, Canadian-based, award-winning product development and production company with two decades of industry experience. As a major supplier to the oilwell cementing, concrete and construction industries, Cementec provides specialized, proprietary products offering high performance and cost-effectiveness. We back up our products with a wealth of experience and an unsurpassed reputation for quality and service.

Cementec's Head Office and operations are based in Calgary, Alberta, Canada, where the company operates a Bulk Products Production Facility, Packaged Products Production Facility and Research and Development Laboratory. In addition, Cementec has an established warehouse and distribution network throughout North America.

Cementec's family of products represents the accomplishments of a dedicated team of technical experts, including professional engineers, scientist, chemists, and business professionals with our long-standing emphasis on research and development.

Applying years of experience and knowledge and utilizing some of the latest testing equipment, our industry-leading technical team constantly develops new value added products and processes and monitors our ongoing Quality Control Programs.

Cementec is committed to satisfying the needs of our customers with innovative and cost-effective solutions to industry challenges.

SHARE

©2005 All rights reserved | Privacy Policy

* Cementec has an exclusive contract with Silica West (Rick Gross) for the rights to the silica fume in the clearwater Lesrd Fill

RG

Cementec (1) of 5

cementec INDUSTRIES INC

corporate info products services order desk contact

latest news

3/31/10 | Cementec signs Illinois and Missouri distribution agreement with General Resource Technology, Inc.

7/15/09 | Cementec signs Colorado distribution agreement with Rio Grande Co.

4/17/09 | Cementec signs Quebec distribution agreement with Geroquip Inc.

2/15/09 | Cementec signs Manitoba distribution agreement with Brock White Canada Company.

SHARE

facebook

about cementec

Cementec Industries Inc. is an established, since 1987, award winning engineering (registered with APEGGA), product development and production company. Cementec undertakes the production and distribution of a number of unique, proprietary products used in the oil & gas and construction industries.

Cementec's product manufacturing and distribution facilities are headquartered in Calgary, Alberta, Canada. Cementec are equipped with a full materials testing laboratory, with experienced technical staff utilizing some of the latest testing equipment, for both our ongoing Quality Control Programs and our extensive research and development activities. More...

©2005 All rights reserved | Privacy Policy

Clearwater Landfill

Cementec (2) of 5

cementec INDUSTRIES INC

corporate info products services order desk contact

concrete additives

Hard-Cem™
Integral Concrete Hardener

www.hardcem.com

General Description: Hard-Cem is engineered to provide concrete with superior hardness and improved durability for demanding construction projects. **Hard-Cem** is unique is its ability to enhanced the integrity of air-entrained non air-entrained concretes.

For detailed product description please refer to www.hardcem.com.

Standard Brochure 1/2
Standard Brochure 2/2
Product Usage Information
Material Safety Data Sheet

Product description, manner of generation, proposed use

*CON-Fume™
Silica Fume

Silica west material (Clearwater Landfill)

- **General Description: CON-Fume** silica fume is a pozzolanic material used to produce high performance concrete or mortar possessing increased strength, impermeability and durability. Silica fume reacts with the hydration products of Portland cement, forming calcium silicate hydrate gel, which enhances strength and durability by consuming weaker calcium hydroxide. **CON-Fume** silica fume has been specially developed to provide enhanced bulk material flow and handling characteristics, providing efficient bulk transportation and pneumatic unloading.
- **Applications: CON-Fume** is recommended for high performance concrete and mortar applications. For additional information on **CON-Fume**, or its use in developing a concrete mix with specific performance characteristics, please contact Cementec Industries Inc.
- **Availability: CON-Fume** is available in bulk in pneumatic trailers, in 1,000 kg bulk sacks and 11.4 kg (25 lb) bags. Custom packaging is available upon request.

Technical Spec ASTM
Technical Spec CSA
Golden Ears Bridge Profile
Material Safety Data Sheet

In-Cure™
Internal Concrete Curing Aid

General Description: In-Cure™ is a liquid, integral admixture that is batched into the concrete mix and retains pore water in the concrete. By reducing water evaporation from the surface of new concrete, In-Cure™ aids in internal concrete curing.

Product Information Sheet
Material Safety Data Sheet

*"Con-fume" is Cementec's (TM) name for the material it hauls from the Clearwater Landfill (EB)

Cementec (3) of 5

(RG) (High quality silica fume from Clearwater Landfill) → CONFUME™ High flowability silica fume

• Product

Golden Ears Bridge • • USES

The Golden Ears Bridge, a 1 kilometer (0.62 mile) 6 lane cable stayed bridge, is the largest improvement to the Greater Vancouver Area road system in over 20 years. Construction started in June 2006 and once open in the spring of 2009, the Golden Ears Bridge will connect the communities of Surrey and Langley on the south side of the Fraser River to Pitt Meadows and Maple Ridge on the north side of the Fraser River.

Designed to replace the Albion Ferry to enhance traffic flow in the Greater Vancouver Area, the Golden Ears Bridge is an adaptation of the Alex Fraser cable stayed bridge. With many years of international experience, the Golden Crossing Constructors modified the design to create a much lower profile bridge as well as other various improvements.

Cementec Con-Fume™ USES

Cementec Con-Fume™ Silica Fume was used in approximately 6,000 cubic meters (7,800 cubic yards) of concrete on the Golden Ears Bridge project. Rempel Brothers Concrete Ltd. was impressed with the consistent qualities that Con- Fume™ gave to the plastic and hardened concrete. Con-Fume™ Silica Fume is specially engineered for enhanced flowability in pneumatic storage and batching equipment. With vast experience supplying the round the clock demands of the construction industry, Cementec was able to provide a high quality silica fume product to the Golden Ears Bridge project while maintaining the flexibility to meet any changes in the construction schedule.

Silica Fume - Description

Silica fume is a pozzolanic material used to produce high performance concrete possessing increased strength, impermeability and durability. Silica fume reacts with the hydration products of Portland cement, forming calcium silicate hydrate gel, which enhances strength and durability by consuming weaker calcium hydroxide.

Cementec Industries

Cementec is an award winning engineering, production, and distribution company with special expertise in the research and development of proprietary products for the construction and oil and gas industries. Cementec has been in business since 1987 and is the only producer of silica fume in Western North America.

Contact Us

cementec INDUSTRIES INC

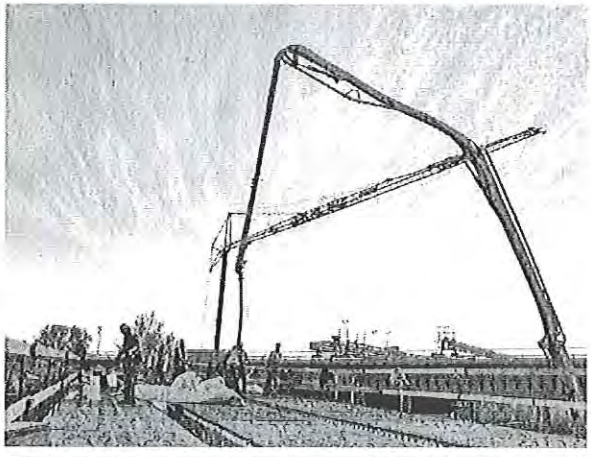
Toll-free 24 hour order desk: 1.866.256.1367
For more information 1.403.720.6699 or info@cementec.ca
www.cementec.ca

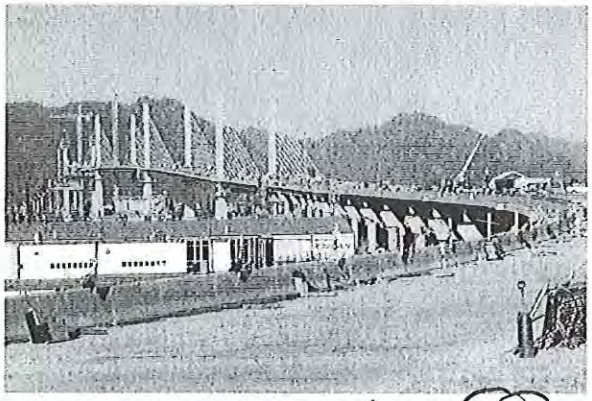
See related Con-Fume technical and product usage documents.

Con-Fume is a registered trademark of Cementec Industries Inc.
Photo Credit: Golden Crossing Constructors Joint Venture

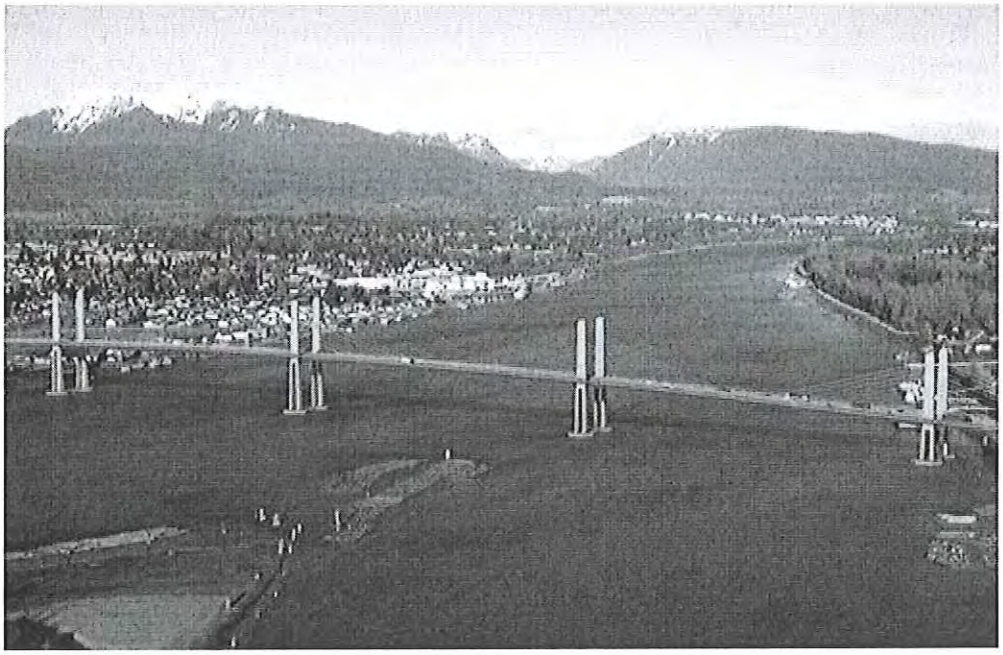
Project Profile

Owner:	Translink
Project Manager:	Golden Crossing Constructors Joint Venture (Bilfinger Berger and CH2MHill)
Concrete Supplier:	Rempel Brothers Concrete Ltd.
Placers:	Neelco, R-Four
Total Area:	Main Bridge Deck 23,000 sq metres (248,000 square feet)





Cementec (4) of 5



Golden Ears Bridge
- using Silica Fume from Clearwater Landfill!

Cementec (5)

First page + Signature page of contract with Cementec + Silica West (Rick Gross + Denise Brittain

EXCLUSIVE SILICA FUME SALES AGREEMENT

This Agreement made effective this 1st day of June, 2009 (the EFFECTIVE DATE), between Silica West LLC (hereinafter referred to as SILICA WEST) and Cementec Industries Inc., a Canadian Corporation (hereinafter referred to as CEMENTEC).

RECITALS

A. SILICA WEST LLC of 1990 Clearwater Lane, Springfield, OR, 97478, all its Subsidiaries and Affiliates, and also Rick Gross and Denise Brittain are all hereinafter jointly referred to throughout this Agreement as SILICA WEST.

B. SILICA WEST is the owner of a certain tract or parcel of real property situated at 1990 Clearwater, Springfield, Oregon (hereinafter referred to as SILICA WEST PROPERTY) as per Exhibit A.

C. CLEARWATER LANDFILL is a Silica Fume (hereinafter referred to as SILICA FUME) stockpile which is in its entirety situated on two (2) properties, namely, on SILICA WEST PROPERTY and on the property owned by the Neighbor (NEIGHBOR) adjacent to SILICA WEST PROPERTY and hereinafter referred to as NEIGHBORING PROPERTY. The entire volume of SILICA FUME in the CLEARWATER LANDFILL is estimated at 60,000 tons more or less.

D. SILICA WEST owns SILICA FUME in the CLEARWATER LANDFILL situated on SILICA WEST PROPERTY in the amount of approximately 40,000 tons more or less as per Exhibit B and is engaged in the business of selling SILICA FUME with the balance of 20,000 tons more or less situated on NEIGHBORING PROPERTY and owned by NEIGHBOR as per Exhibit C.

E. Furthermore, SILICA WEST has a 25 year agreement with NEIGHBOR stipulating SILICA WEST's exclusive right to sell SILICA FUME from CLEARWATER LANDFILL situated on NEIGHBORING PROPERTY. Proof of such an agreement between SILICA WEST and NEIGHBOR stipulating access to SILICA FUME situated on NEIGHBORING PROPERTY for the purpose of sales and also a survival clause in case of sale of NEIGHBORING PROPERTY by NEIGHBOR as per Exhibit D.

F. CEMENTEC is a company engaged in the business of selling SILICA FUME and uses SILICA FUME in manufacturing processes.

G. CEMENTEC is desirous of arranging with SILICA WEST exclusive rights hereof to purchase all of the SILICA FUME from the entire CLEARWATER LANDFILL (approx. 60,000 ton) located on SILICA WEST PROPERTY and NEIGHBORING PROPERTY.

H. CEMENTEC desires and SILICA WEST agrees to permit CEMENTEC and its contractors to enter upon SILICA WEST PROPERTY and NEIGHBOURING PROPERTY in order to remove all the SILICA FUME from the CLEARWATER LANDFILL.

NOW THEREFORE, in consideration of the matters described above, and of the mutual benefits and obligations set forth in this Agreement, the parties agree as follows:

M.P.

Clearwater Landfill

Cementec contract (1) of 2

XXII
ENTIRE AGREEMENT

22.1 This Agreement contains the entire agreement between the parties hereto with respect to the transactions contemplated herein and supersedes all previous written or oral negotiations, commitments, understandings and writings.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first above written in the State of Oregon.

Cementec Industries Inc.

Sign: _____
Mike Pildysh
President

Date: May 12/09

Silica West LLC

Sign: _____
Rick Gross
Owner

Date: 5/15/09

Sign: _____
Denise Brittain
Owner

Date: 5/15/09

OFFICIAL SEAL
EDNA JEAN ERICKSON
NOTARY PUBLIC - OREGON
COMMISSION NO. 438387
MY COMMISSION EXPIRES APRIL 14, 2013

STATE OF OREGON
COUNTY OF LANE
RICK GROSS & DENISE BRITTAIN
personally appeared Before me on
May 15, 2009

Edna Jean Erickson

Clearwater Landfill

contract (2) of 2

M. P. 9/35

CON FUME™
High flowability silica fume

cementec
INDUSTRIES INC

General Information:

Silica fume is a pozzolanic material used to produce high performance concrete or mortar possessing increased strength, impermeability and durability. Silica fume reacts with the hydration products of Portland cement, forming calcium silicate hydrate gel, which enhances strength and durability by consuming the weaker calcium hydroxide.

CON-Fume™ silica fume has been specially developed to provide enhanced bulk material flow and handling characteristics, providing efficient bulk transportation and pneumatic unloading.

Physical Properties: (typical)

Parameter	Standard	Result
Appearance:		Light Grey Powder
Specific Gravity*:	ASTM C1240	2.15
Bulk Density:	ASTM C1240	650 kg/m^3
Oversize Fineness*: 45 micron	ASTM C1240	<1%
BET Fineness (m^2/g):	ASTM C1240	18.2 m^2/g
PSA Index (7 day)*:	ASTM C1240	114%
Alkali Silica Reactivity (14 day)*:	ASTM C1240	98%

Chemical Analysis: (typical)*

Component	Units	Standard	Result
Silicon Dioxide (SiO_2):	wt %	ASTM C1240	92.0
Loss On Ignition (LOI):	wt %	ASTM C1240	3.0
Moisture Content:	wt %	ASTM C1240	0.1 – 0.5

Mixing and Handling:

Caution must be used in exposed silica fume applications as the concrete or mortar containing silica fume is darker than standard concrete.

Silica fume is very fine and dust may cause eye and respiratory irritation. Use good industrial hygiene practices (i.e. wear goggles and approved usage dust mask). For further handling and safety instructions, please consult the Material Safety Data Sheet (MSDS).

Supply:

Please contact Cementec Industries for FOB pricing to your location. CON-Fume is available in 25 lb (11.4 kg) bags or pneumatic bulk trailer shipments. Custom packaging is also available by request.

** testing performed by AMEC Earth & Environmental Ltd.*

Product performance is affected by many factors including storage, method and conditions of application and use. User testing is ESSENTIAL to determine suitability of product for intended method of application and use. Seller's SOLE WARRANTY is that the product has been manufactured to specifications. No oral or written information or advice shall increase this warranty or create new warranties. Seller's SOLE LIABILITY is to replace product proved defective. In no event shall Seller be liable for any consequential, indirect or other damages whether arising from negligence or otherwise.

288, 200 Rivercrest Dr. SE, Calgary, AB T2C 2X5
Ph: 403-720-6699 Fax: 403-720-6609
info@cementec.ca www.cementec.ca

A Member of the PILDYSH Group

Clearwater Landfill

Chemical Description (F) 1 of 1

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Western Region Eugene Office
1102 Lincoln Street, Suite 210
Eugene, OR 97401
(541) 686-7838
FAX (541) 686-7551
TTY (541) 687-5603

October 12, 2006

Mr. Richard Gross
1990 Clearwater Lane
Springfield, OR 97478

RE: 2006 Compliance Inspection Report
Clearwater Landfill, Lane County
SWDP No.1120; SW Project No. 3621

Dear Mr. Gross:

Please find enclosed the inspection report resulting from our compliance inspection at your facility in Springfield on April 26, 2006. We found the facility to be in compliance with the provisions of SW Permit No. 1120 at the time of this inspection.

If you have any questions about this report, please don't hesitate to call me at 541-687-7438 or e-mail me at wong.gene@deq.state.or.us.

Sincerely,

Gene Wong, Environmental Engineer
West Region Hazardous and Solid Waste
Permitting and Compliance

Encl: 2006 Inspection Report

GW

X:\Solid Waste\SWWRPermitFiles\1120Clearwater\2006InspRptCovLtr(10-06)

DEQ Inspection + Compliance (1) of 4

State of Oregon
Department of Environmental Quality Memorandum

To: File
From: Gene Wong
Subject: Clearwater Landfill Site Inspection Report
Date: September 29, 2006

INSPECTION REPORT

FACILITY: Clearwater Landfill
PERMIT #: 1120 (project 3621)
COUNTY: Lane
INSPECTOR(S): Gene Wong (HSW project manager) & Jack Arendt (RES H/G)
DATE OF INSPECTION: April 26, 2006

INSPECTION FREQUENCY:
The Clearwater Landfill is an industrial waste landfill currently owned by Mr. Richard Gross. According to the inspection frequency directive from the HSW WR manager and in conformance with the Western Region Solid Waste Performance Measures, this site should be inspected once every two years. The last inspection was conducted by Hugh Gao on November 10, 2004.

SITE VISIT:

1. Condition of the Site – The site is located on the southeastern outskirts of Springfield near the intersection of Jasper Road and 42nd Street. The land use in the area of the landfill is mostly farmland, rural park, and horse farms. While the landfill property extends all the way to the Willamette River, the fill area is separated from the river by several hundred feet and a forested area. A large power line runs above the landfill area. The site consists of two irregularly shaped cells of silica fume material. The vegetative cover on the older west cell consists mostly of grasses and invasive species (scotch broom and blackberries), some which have been recently cleared (see figure 1). The newer east cell of the silica fume material has not been covered by soil or vegetation (see figure 2).

   The silica fume present at this facility is in the form of ¼ to ½ inch dark gray pellets (see figure 3). The size and hardness of these pellets minimizes the potential for dust generation. Currently, the owner of the site is exploring marketing the silica fume material as a cement concrete admixture. This material is known to have physical properties that make it a good concrete additive. Currently, groundwater monitoring is not a condition of the permit though there have historically been four monitoring wells located at this site. Since site closure via waste removal is being explored, monitoring wells were inspected to determine their location and conditions to support possible decommissioning and removal of the wells. Three of the four wells (MW-1, 2 and 4) were located and in good condition. Monitoring well MW-3 could not be located.

2. Overview of Operations – This landfill is no longer in use for waste disposal since Globe Metallurgical (generator of silica fume material) went out of business. The landfill area is locked, gated and separated some distance from the property access road. Mr. Gross provided access to the site by leaving the gate unlocked, but did not accompany us on the actual inspection. As previously described, the silica fume material is pelletized and the properties in the area are large, such that the limited dusts generated from storage of the material has minimal effect on neighboring properties. Some construction soil was placed near the site's entrance (see figure 4). This material will be used as cover over the silica fume if needed.

3. Overview of Surface/Storm Water Management – Surface water at the site is directed via ditches and drains off of the cells. The conditions of these drainageways were good. The Willamette River is far removed from the waste area. There is a flood control slough that runs roughly parallel to the Willamette River between the river and the waste area. This slough showed no impacts from the stored waste materials.

4. Overview of Leachate Collection/Storage/Disposal – Leachate is not being collected and treated at the site.

5. Overview of Landfill Gas Collection and Treatment – Landfill gas is not being collected and treated at the site. The waste material dos not produce landfill gas.

6. Items/matters that need additional attention – Continue to check with Mr. Gross regarding his attempt to market and sell the silica fume material as a concrete cement admixture.

SITE EVALUATION:
Project Manager Evaluation – The site appeared to be well maintained and operated in compliance with the SW permit.

Figure 1 – Older west cell covered with grasses and invasive species vegetation

Figure 2 – Silica fume materials in small piles on newer east cell

Figure 3 – Close-up photo of the pelletized silica fume material

Figure 4 – Fill and soil near the entrance of the landfill that may be used as cover

CON-FUME
MATERIAL SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity: CON-FUME

Manufacturer:
Cementec Industries Inc.
159, 3953 – 112 Avenue SE
Calgary, Alberta
T2C 0J4
Emergency Telephone: 403-720-6699

Supplier:
Cementec Industries Inc.
159, 3953 – 112 Avenue SE
Calgary, Alberta
T2C 0J4

MSDS Preparer:
Cementec Industries Inc.
159, 3953 – 112 Avenue SE
Calgary, Alberta
T2C 0J4

Date of MSDS Preparation: October 24, 2006 (Updated July 16, 2010)

Product Use: Cement additive for Portland cement-based concrete materials.

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Approximate Percent by Weight	C.A.S. Number	Occupational Exposure Limits (OELs) (also see footnote)		LD_{50}/LC_{50} Species and Route
Silicon Dioxide (amorphous)	89 - 96	69012-64-2	OSHA PEL ACGIH TLV NIOSH REL	30 mg/m^3 / %SiO_2 (total) 10 mg/m^3 / %SiO_2+2 (resp) Withdrawn due to insufficient data 6 mg/m^3	>22,000 mg/kg rat - oral >15,000 mg/kg mouse - oral
Iron Oxide	0.2 – 2	1309-37-1	OSHA PEL ACGIH TLV NIOSH REL	10 mg/m^3 (total) 5 mg/m^3 (resp) None established	No Data
Silicon Carbide	2	409-21-2	OSHA PEL ACGIH TLV NIOSH REL	10 mg/m^3 (total) 5 mg/m^3 (resp) 10 mg/m^3 total) 3 mg/m^3 (resp) 10 mg/m^3 (total) 5 mg/m^3 (resp)	No Data
Aluminum Oxide	0.2 - 2	1344-28-1	OSHA PEL ACGIH TLV NIOSH REL	15 mg/m^3 (total) 5 mg/m^3 (resp) 10 mg/m^3 None established	No Data
Silicon dioxide (crystalline quartz)	2 - 4	14808-60-7	OSHA PEL ACGIH TLV NIOSH REL	30 mg/m^3 / %SiO_2+2 (total) 10 mg/m^3 / %SiO_2+2 (resp) 0.025 mg/ m^3 (resp) 0.05 mg/ m^3 (resp)	500 mg/kg bw /Quartz 10-200 μ) rat - iv

This product also contains other minor constituents including calcium, magnesium, potassium and sodium minerals each less than approximately 1% by weight (calculated as their respective oxides.)

NOTE: OELs for individual jurisdictions may differ from OSHA PELs. Check with local authorities for the applicable OELs in your jurisdiction.
OSHA - Occupational Safety and Health Administration; ACGIH - American Conference of Governmental Industrial Hygienists; NIOSH – National Institute for Occupational Safety and Health. OEL – Occupational Exposure Limit, PEL – Permissible Exposure Limit, TLV – Threshold Limit Value, REL – Recommended Exposure Limit, (resp) – respirable dust fraction as defined in Appendix D of the ACGIH TLV booklet.

Trade Names and Synonyms: Silica Fume

Clearwater Landfill

MSDS 1

2 of 2

SECTION 3. HAZARDS IDENTIFICATION

Emergency Overview: A solid grey-powder material that is not flammable and combustible at room temperatures. This product is relatively non-toxic and does not pose an immediate hazard to the health of emergency response personnel or to the environment in an emergency situation.

Potential Health Effects: Acute exposure to iron oxide (Fe_2O_3) dust or fume can cause x-ray changes (siderois or iron pigmentation) in the lungs as a result of long-term exposure. Siderosis is a benign condition and is not associated with pulmonary fibrosis.
Silicon carbide dust may cause mild irritation of the upper respiratory tract on acute overexposure. Chronic overexposure to particulates of respirable size may cause lung inflammation, difficult breathing, chest pain, coughing, and pneumoconiosis or possible fibrotic changes in the lungs.
Prolonged overexposure to respirable crystalline silica in excess of the TLV may result in irreversible fibrosis of the lungs (silicosis.)

Potential Environmental Effects: The product has a high degree of intrinsic chemical stability and is relatively non-toxic in the environment. This material is normally stored in closed containers.

SECTION 4. FIRST AID MEASURES

Eye Contact: The product is a powder, and may be a mechanical irritant in the eyes. Flush eyes with water until irritation is removed.

Skin Contact: Remove contaminated clothing and wash exposed area with soap and water.

Inhalation: Use adequate respiratory protection and remove victim from exposure area to fresh air. Medical oxygen may be administered, if available, where breathing is difficult. If irritation persists or cough or other symptoms develop, seek medical attention.

Ingestion: If swallowed, do not induce vomiting. Consult a physician if necessary.

SECTION 5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: The product is non-combustible and not an explosion hazard.

Extinguishing Media: Not applicable

Fire Fighting: As with any fire, fire fighters should be fully trained and wear full protective clothing including an approved, self-contained breathing apparatus which supplies a positive air pressure within a full face piece mask.

Flashpoint and Method: None

Upper and Lower Flammable Limit: Not applicable

Autoignition Temperature: Not applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

Procedures for Cleanup: Ensure personal safety and control source of spillage. Clean up spilled material immediately, observing precautions in Section 8, Personal Protection and using methods that will minimize dust generation (e.g., vacuum solids, dampen material and shovel or wet sweep). Return uncontaminated spilled material to the process if possible. Place contaminated material in suitable labeled containers for

Clearwater Landfill

MSDS 2 of 5

recovery or disposal. Treat or dispose of waste material in accordance with all local, regional, and national requirements.

Personal Precautions: Persons responding to an accidental release should wear protective clothing, gloves and a dust respirator (see also Section 8). Close-fitting safety goggles may be necessary in some circumstances to prevent eye contact with dust.

Environmental Precautions: Care should be taken to prevent the spillage of this product to aquatic and terrestrial environments. Measures to control dust generation from product spills should be applied in dry dusty locations.

SECTION 7. HANDLING AND STORAGE

Material is to be stored in suitable containers. Handle and open the container with care in accordance with good storage and handling practices. After handling, always wash hands thoroughly with soap and water.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Protective Clothing: Gloves and coveralls or other work clothing are recommended to prevent prolonged or repeated direct skin contact. Appropriate eye protection should be worn where dust is generated. Safety type boots are recommended.

Ventilation: Use adequate local or general ventilation to maintain the concentration of dust in the work environment well below recommended occupational exposure limits.

Respirators: Where excessive dust is generated and cannot be controlled to within acceptable levels by engineering means, use appropriate NIOSH-approved respiratory protection equipment for very fine particulates.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Grey powder	**Odour:** None	**Physical State:** Solid	**pH:** 6.30
Vapour Pressure: Not Applicable	**Vapour Density:** Not Applicable	**Boiling Point/Range:** Not Applicable	**Freezing/Melting Point/Range:** Not determined
Specific Gravity: Approx. 2.2	**Evaporation Rate:** Not Applicable	**Coefficient of Water/Oil Distribution:** Not Applicable	**Odour Threshold:** Not Applicable
Solubility in Water: Negligible	**Particle Size:** ≤ 1 micron		

SECTION 10. STABILITY AND REACTIVITY

Stability and Reactivity: This material is stable and non-reactive under normal room temperatures and pressures.

Incompatibilities: Strong oxidizing agents. Material may react with strong oxidizers, halogens, unsaturated oils, and strong acids. Upon reaction with hydrofluoric acid, silicon tetraflouride, a toxic substance, is formed.

Hazardous Decomposition Products: Product is non-combustible.

Clearwater Landfill

SECTION 11. TOXICOLOGICAL INFORMATION

General: In the powder form in which this material is sold it is relatively non-toxic. Normal handling should not cause either acute or chronic health effects. This product has not undergone testing for either acute or chronic toxic effects.

Acute: Acute exposure to iron oxide (Fe_2O_3) dust or fume can cause x-ray changes (sideroisis or iron pigmentation) in the lungs as a result of long term exposure. Siderosis is a benign condition and is not associated with pulmonary fibrosis. Airborne respirable dust may cause irritation to the nose, throat, and lungs.

Skin: Components are probably not irritating to the skin. There is no human or animal information available.

Eye: Dust particles may mechanically irritate the eyes and impair vision.

Inhalation:. Silicon carbide dust may cause mild irritation of the upper respiratory tract on acute overexposure. Chronic overexposure to particulates of respirable size may cause lung inflammation, difficult breathing, chest pain, coughing, and pneumoconiosis or possible fibrotic changes in the lungs. Prolonged overexposure to respirable crystalline silica in excess of the TLV may result in irreversible fibrosis of the lungs (silicosis) with symptoms of coughing, shortness of breath, wheezing and impaired pulmonary function. The IARC has classified inhalable crystalline silica as Group 1, with sufficient evidence that crystalline silica may be carcinogenic to humans.

Ingestion: Not established.

SECTION 12. ECOLOGICAL INFORMATION

The principle constituents of this product are chemically stable and, as such, it will be relatively inert in the environment. Material should, however, be kept in suitable containers and spilled material cleaned-up.

SECTION 13. DISPOSAL CONSIDERATIONS

If material cannot be returned to process or salvage, dispose of in accordance with applicable regulations. Material may be disposed of in a sanitary landfill.

SECTION 14. TRANSPORT INFORMATION

PROPER SHIPPING NAME	Not regulated
TRANSPORT CANADA CLASSIFICATION	Not applicable.
US DOT HAZARD CLASSIFICATION	Not applicable.
TRANSPORT CANADA PRODUCT IDENTIFICATION NUMBER	Not applicable.
US DOT PRODUCT IDENTIFICATION NUMBER	Not applicable.
MARINE POLLUTANT	Not applicable.
IMO CLASSIFICATION	Not applicable.

SECTION 15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

U.S.

INGREDIENTS LISTED ON TSCA INVENTORY	Yes
HAZARDOUS UNDER HAZARD COMMUNICATION STANDARD	Yes
CERCLA SECTION 103 HAZARDOUS SUBSTANCES	No
SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCE	No ingredients apply
SARA SECTION 311/312 HAZARD CATEGORIES	Chronic health
SARA SECTION 313 TOXIC RELEASE INVENTORY	No ingredients apply

Clearwater Landfill

CALIFORNIA PROPOSITION 65..... This product contains chemical(s) known to the State of California to cause cancer: silica, crystalline.

CANADIAN:

LISTED ON THE DOMESTIC SUBSTANCES LIST..... Yes
LISTED ON THE NATIONAL POLLUTANT RELEASE INVENTORY..... No
WHMIS CLASSIFICATION: D-2A

SECTION 16. OTHER INFORMATION

The information in this Material Safety Data Sheet is based on the following references:

American Conference of Governmental Industrial Hygienists, 1991, Documentation of the Threshold Limit Values and Biological
Exposure Indices, Sixth Edition plus supplements.

American Conference of Governmental Industrial Hygienists, 2006, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices.

Canadian Centre for Occupational Health and Safety (CCOHS) CHEMpendium Chemical Information Data Base, Disk A2 (2000-2).

Clayton and Clayton, 1994, Patty's Industrial Hygiene and Toxicology, Fourth Edition.

US National Library of Medicine, Toxicology Data Network, Hazardous Substances Data Bank; Web Site,

Industry Canada, SOR/88-66, Controlled Products Regulations, as amended.

Merck & Co., Inc., 1983, The Merck Index, An Encyclopedia of Chemicals, Drugs, and Biologicals, Tenth Edition.

Sax, N. Irving, 1989, Dangerous Properties of Industrial Materials, Seventh Edition.

Urben, P. G., 1995, Bretherick's Handbook of Reactive Chemical Hazards, Fifth Edition.

U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, 1990, NIOSH Pocket Guide to Chemical Hazards. CD-ROM Edition DHHS (NIOSH) Publication No 99-115, April 1999

Notice to Reader

Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your
information, consideration and investigation. Cementec Industries Inc. extends no warranty and assumes no responsibility for the accuracy of the content and expressly disclaims all liability for reliance thereon. This material safety data sheet provides guidelines for the safe handling and processing of this product; it does not and cannot advise on all possible situations. Therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

Clearwater Landfill

MSDS 5 of 5