

file No. 10908

Government of Alberta ■
Environment and Water

Operations, Northern Region
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December 14, 2011

Cleanit Greenit Composting System Inc.
-and-
Kirstin Castro-Wunsch
15619-112 Ave
Edmonton, AB T5M 2V8

Sent Via email to: kirstin@cleanitgreenit.net
Sent Via fax to: 780-452-8284

**Re: Enforcement Order EO-2011/03-NR
Correction to Typographical Error**

The above-noted Enforcement Order was issued on December 13, 2011.

After the issuance of this Order, an error in paragraph 3 (page 9) of the Order was noted. In that paragraph, it states that, "the Parties shall by January 30, 2011 submit to the Director a written survey report..." That date should have read **January 30, 2012**.

Should you have any questions, please feel free to contact me.

Sincerely,

Original signed by

Jeff Toering
District Compliance Manager
Northern Region

cc: Stuart Chambers, McLennan Ross (fax: 780-482-9100)
Shannon Keehn, Alberta Justice

Alberta ■

ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT

BEING CHAPTER E-12 R.S.A. 2000 (the "Act")

ENFORCEMENT ORDER NO. EO-2011/03-NR

Cleanit Greenit Composting System Inc.
1500, 10180-101 Street NW
Edmonton, Alberta
T5J 4K1

-and-

Kirstin Castro-Wunsch
7222-119 Street NW
Edmonton, Alberta
T6G 1V6

[hereinafter collectively referred to as "the Parties"]

WHEREAS Clean it Greenit Composting System Inc. ["Cleanit Greenit"] operates a Class I Compost Facility on lands legally described as Lot 4, Block 1, Plan 7822069 [the "Lands"], municipally known as 11304-205 Street, Edmonton, Alberta;

WHEREAS Cleanit Greenit has been operating the compost facility since November 1998;

WHEREAS a land title certificate shows Compsite Inc. is the owner of the Lands;

WHEREAS Kirstin Castro-Wunsch is a director and sole shareholder of both Cleanit Greenit and Compsite Inc., and has been the sole directing mind of Cleanit Greenit at all material times, and is a person responsible for the compost facility;

WHEREAS on June 21, 2005, Albert Environment and Water [AEW] issued to Cleanit Greenit Registration No. 218439-00-00 to operate the compost facility under the Environmental Code of Practice for Compost Facilities [the "Code"] (made under the *Environmental Protection and Enhancement Act*, RSA 2000, c. E-12);

WHEREAS the Cleanit Greenit compost facility consists of composting piles, a dry bunker, a wet bunker, a surface water storage pond, a weigh scale and associated equipment and structures;

WHEREAS according to Cleanit Greenit's records, the types of wastes accepted at the compost facility include:

- Biosolids;

- Food waste;
- Paper waste;
- Label pulp;
- Manure;
- Source separated organics;
- Yard waste;
- Wood waste and drywall; and
- Hydrocarbon contaminated soils;

WHEREAS on March 17, 2004 in response to a number of public complaints regarding odours from the site, an AEW Environmental Protection Officer inspected the compost facility and observed that

- composting piles were more than 30 feet high,
- temperature measurement of the piles were unreliable, and
- overflow from surface water storage pond was running off-site, causing among other concerns, a concern regarding soil contamination;

WHEREAS on April 19, 2004 AEW issued a Notice of Investigation to Cleanit Greenit for failure to contain odours onsite;

WHEREAS the Notice of Investigation advised Cleanit Greenit that AEW had completed inspections in response to 40 odour complaints, had confirmed odours were offensive, and advised that all offensive odours from the composting facility must be controlled;

WHEREAS on August 30, 2004, Alberta Health Services issued an Executive Officer's Order to Cleanit Greenit regarding nuisance conditions relating to foul odours from anaerobic conditions occurring during the composting operation and on-going fly infestation problems;

WHEREAS the Alberta Health Services 2004 Order required Cleanit Greenit to:

- stop accepting waste immediately;
- reduce the piles of waste due to serious odor [*sic*] problems; and
- follow AEW's Code in reducing the existing piles;

WHEREAS Alberta Health Services conducted a follow-up inspection of the compost facility and determined that the requirements of the 2004 Order had been fulfilled;

WHEREAS from January 5, 2005 to December 13, 2011 AEW has received at least 130 odour complaints reporting Cleanit Greenit as the source of the odours;

WHEREAS in this same time period, the City of Edmonton, the Energy Resources Conservation Board and ATCO Gas and Pipelines Ltd. and received a number of public complaints regarding odours from the Cleanit Greenit compost facility;

WHEREAS section 38 of the *Waste Control Regulation* (AR 192/96 as amended) requires compost facilities to be operated so that the generation of odours is minimized, and run-on and run-off water is controlled so that surface and groundwater are not contaminated;

WHEREAS section 24 of the *Waste Control Regulation* requires the person responsible for Class I Compost Facility to operate in accordance with the Code;

WHEREAS Cleanit Greenit is required under section 7(1) of the Code to implement an operations plan that includes:

- a. A description of the source and types of feedstock to be composted;
- b. Operation procedures for feedstock preparation, aeration, moisture control and temperature control;
- c. Feedstock acceptance procedures and policies; and
- ...
- e. A plan for the management, detection and mitigation of offensive odours.

WHEREAS Cleanit Greenit is required under section 7(4) of the Code to prevent the release of leachate or run-off from the composting pad to the surrounding watershed unless the leachate or run-off meets the least stringent of:

- (a) surface water background quality,
- (b) the most recent edition of *Alberta Ambient Water Quality Interim Guidelines* [now the Surface Water Quality Guidelines for Use in Alberta (November, 1999 Alberta Environment)], or
- (c) the most recent edition of *Canadian Water Quality Guidelines*;

WHEREAS Cleanit Greenit is required under section 11(3) of the Code to prepare an annual report for the calendar year from January 1 to December 31, completed by March 31 of the following the year, which shall contain the following information:

- (a) The type and volume of feedstock received and processed in the calendar year;
- (b) The amount of compost produced, stored and shipped from the compost facility in the calendar year;
- (c) The operating temperatures recorded in accordance with section 8(1);
- (d) The surface water monitoring data;
- ...
- (f) an analysis of the compost where it is intended for an unrestricted use as defined in the most recent edition of *Guidelines for Compost Quality*, published by the Canadian Council of Ministers of the Environment; and
- (g) any remedial action taken in relation to clauses (c),(d)...

WHEREAS the Parties have, at various times:

- failed to keep the total annual waste accepted below 20,000 tonnes;
- failed to implement an operations plan in accordance with s. 7(1) of the Code, particularly with respect to implementing a plan for the management, detection and mitigation of offensive odours;
- failed to operate so that the generation of odours is minimized;
- failed to prepare annual reports in compliance with the requirements of the Code;
- had, for the surface water storage pond, exceedences of Surface Water Quality Guidelines for Use in Alberta (Agriculture Uses) (November, 1999, Alberta Environment) in 2007, 2008, and 2009, causing concern for potential contraventions of s. 7(4) if the Code;

2009 AEW Inspection

WHEREAS on August 18, 2009, an AEW inspection of the compost facility observed:

- compost piles approximately 30ft high;
- compost piles containing non-compostable items such as plastic bags and shoes;
- waste material being stored off the compost pad and no controls were in place to prevent run-off from entering the surrounding environment; and
- leachate/run-off collection was not directed to the surface water storage pond, again causing concern for soil and surface water contamination;

2009 Annual Report

WHEREAS Cleanit Greenit's 2009 Annual Report contained the following information and recommendations:

- the sediment of the surface water storage pond should be dredged out and top portion of water disposed of as the pond appears to have become anaerobic; and
- a continuous groundwater monitoring program is necessary;

WHEREAS contrary to section 11(3) of the Code, in the 2009 annual report Cleanit Greenit failed to:

- report the volume and type of feedstock for the calendar year; and
- report the amount of compost produced, stored and shipped from the facility in the calendar year;

WHEREAS Total dissolved solids in the surface water storage pond for 2007, 2008 and 2009 exceeded Surface Water Quality Guidelines for Use in Alberta (Agriculture Uses) (November, 1999 Alberta Environment);

2010 AEW Inspection

WHEREAS on June 29 & 30, 2010, in following-up on several odour complaints, AEW conducted an inspection of the compost facility and a review of the Cleanit Greenit Operations Plan;

WHEREAS during the June 29 and 30, 2010 inspection Cleanit Greenit advised AEW that one of the composting piles (identified as Pile Lot 09/09) is a concern, as the operator turning it currently has to wear a filter mask many nights due to the odours;

WHEREAS the 2010 Inspection Report states that Lot 09/09 received frozen feedstock and was mixed wet and frozen, so that it did not start to process and cure, which, along with pH values or electrical conductivity levels, may be the cause of the odour problems.

2010 Audit

WHEREAS a Greenhouse Gas Assertion (GHG Assertion) is a statement made by a project proponent, such as Cleanit Greenit, on the total volume of greenhouse gases reduced during a specified period of time, verified by a third party to ensure the GHG Assertion is within 5% of what was claimed;

WHEREAS in December 2010, Millennium EMS Solutions Ltd. conducted an audit of Cleanit Greenit's recalculated GHG Assertion for the years 2003-2008;

WHEREAS the December 2010 Audit Report prepared by Millennium EMS Solutions Ltd contained the following observations and conclusions:

- the total quantity of waste used in the calculation of the assertion does not reconcile with tipping logs;
- loads delivered by tandem trucks are recorded in the accounting system as a quantity of one tonne, even though such trucks can carry up to 5 tonnes of waste;
- the total mass of waste represented by delivery of one tonne trucks is approximately 15-20% of the total waste received by the site;
- "It is the belief of the audit team this 'one tonne' assumption results in the understatement of the GHG Assertion as it would be in the interest of the customer to dump in excess of one-tonne if they are charged for only one tonne";
- the data management system is very manual and paper intensive which results in a time-consuming audit process; and
- Cleanit Greenit should have a process in place to ensure that inappropriate waste streams are excluded from the calculations;

2010 Annual Report

WHEREAS Cleanit Greenit's 2010 Annual Report contained the following information and recommendations:

- no temperature data from the piles was collected between March 15-June 2, 2010;
- the temperature probe broke after June 15, 2010 and therefore there is no temperature data available thereafter;
- measurements of total dissolved solids and dissolved oxygen of the storage pond were not collected in 2010 and could not be compared to the Surface Water Quality Guidelines for Use in Alberta (Agriculture Uses) (November, 1999 Alberta Environment);
- an efficient aeration system should be employed to improve surface water quality retained in the storage pond; and
- from November 1, 2009 to October 31, 2010 a total of 19,402.2 tonnes of waste was accepted at the compost facility comprised of 5454.1 tonnes of bio solids, 510.3 tonnes of food waste, 87.0 tonnes of label pulp, 12.2 tonnes of manure, 12,610.1 source separated organics and 728 tonnes of yard waste;

WHEREAS pursuant to a report commissioned by AEW and described later herein as the EWMCE 2011 Report, the actual amount of waste accepted by the compost facility in 2010 was in excess of 20,000 tonnes;

WHEREAS contrary to section 11(3) of the Code, in the 2010 annual report Cleanit Green it failed to:

- include the type and volume of feedstock for the calendar year;
- include the amount of compost produced, stored and shipped from the facility for the calendar year;
- include operating temperatures after June 15, 2010;

WHEREAS contrary to section 7(1) of the Code, Cleanit Greenit failed to implement its operation plan by failing to monitor compost pile temperatures as outlined in Cleanit Greenit's 2008 Operations Plan;

WHEREAS on November 1, 2010 and January 1, 2011 in response to odour complaints received by AEW, Cleanit Greenit reported to an AEW Environmental Protection Officer that kitchen grease was being received at the site;

WHEREAS on August 17, 2011, an AEW Environmental Protection Officer spoke with Cleanit Greenit, which confirmed that sump wastewater and kitchen grease were accepted at the compost facility in 2010, but, contrary to the Code these were not reported in the 2010 Annual Report as part of the feedstock;

2011 Site Characterization Report

WHEREAS in 2011 AEW commissioned the Edmonton Waste Management Centre of Excellence (EWMCE) to inspect the Lands and provide to AEW a report regarding the status of Cleanit Greenit's compost facility;

WHEREAS on February 25, 2011 the EWMCE conducted a site visit, and in March 2011 provided a Phase 1: Site Characterization Report (the "EWMCE 2011 Report"), which made the following findings:

- Cleanit Greenit estimated that the volume of current material on site was 42,100-45,900m³. When compared with Cleanit Greenit's operating plan, this is an extremely high volume of material on site. Since the current operating plan has a material retention time of one year and suggests a material loading of 16,000-18,000 tonnes per year, the maximum expected volume would be 18,500m³ of material. Therefore the total amount of material on site is 2.5 times greater than planned;
- In 2009 the total wet weight of feed stock accepted at the facility was 19,589 tonnes;
- In 2010 the total wet weight of feed stock accepted at the facility was 21,044 tonnes;
- The three processing zones were not clearly separated, but appeared to be one continuous pile, which is not typical of a well-managed composting facility;
- An excavator is used to mix, form piles and turn the material, which is an inadequate piece of equipment for the handling of wet feedstock such as biosolids;
- There is significant odour generation from three locations on site: the composting pile, the wet bunker, the surface water storage pond;
- The wet bunker and surface water pond were both anaerobic and odours were emanating from each;
- Free water was observed to be leaching from the toe of the compost material pile at several locations on the site;
- Off-site pungent odours traced to the facility were detected 500 to 750 metres downwind of the site;
- Standard operating procedures (SOPs) for the process sampling and monitoring program were not provided and operations do not follow a known compost sampling standard;
- The Cleanit Greenit operator stated the aeration strategy used on site is based on porosity and turning, but no porosity measurements were taken or reported;
- Currently no oxygen monitoring is done on site;

- Raw temperature monitoring data was not provided; however, some incomplete temperature data from the first half of the 2010 calendar year were provided;
- A 2009 survey prepared by Cleanit Greenit indicated that the amount of material on site was approximately 53,500 to 57,300m³ and the highest elevation of composting piles was 709m and a site grade of approximately 696m (pile reaching 13m at that time);
- The large piles make it difficult to obtain representative data, e.g. temperature sampling only penetrates about 1.22 metres into the piles, which are approximately 13 metres high;
- Free air space is a critical parameter to predicting air transfer within the pile and the company has not demonstrated a detailed characterization of the material free airspace at all depths in the pile;
- Feedstock batches were not physically separated;
- Laboratory accreditation concepts are not well understood by the operator;
- Cleanit Greenit is not keeping any recipes for each batch of material, which information is necessary when troubleshooting problem mixes;
- Cleanit Greenit has not developed any sampling and monitoring procedures (oxygen, raw temperature, feedstock separation); and
- Material overs are not characterized or included in the material inputs;

WHEREAS the EWMCE 2011 Report also provided a year over year comparison for 2010/2009, which showed that that wet weights of the bio solids increased by 89% and the bulking agent materials decreased by 16.2% suggesting that significantly less bulking agent was used in 2010 as compared to 2009;

WHEREAS the EWMCE 2011 Report also stated that, based on Cleanit Greenit's information, the ratio of bulking agent to biosolids in the feedstock recipe in 2011 was 0.9 tonnes of bulking agent per tonne of biosolids, which is much lower than the 1.5 ratio for 2010. The lower ratio of bulking agent per tonne of biosolids calculated in 2011 indicates a continuing trend of using less bulking agents on site over the past three years, which negatively impacts porosity and airflow in compost piles;

WHEREAS up until November 8, 2011, AEW's information was that Cleanit Greenit did not have a scale that records loads weighing under 1 tonne, and that Cleanit Greenit has historically recorded some loads as 1 tonne where the total volume of waste accepted may have been as much as 5 tonnes, therefore it remains unknown exactly how much waste is annually accepted into the compost facility;

WHEREAS on December 9, 2011 AEW received from Cleanit Greenit a document entitled, "Response to Cleanit Greenit Composting Facility Assessment – December 2011", which was Cleanit Greenit's response to the EWMCE 2011 Report, which included, but was not limited to, the following information:

- A plan to address the compost facility's challenges regarding pile height, improved mixing and improved surface water management procedures would be forthcoming;
- Cleanit Greenit recognizes that the facility is at capacity and is not receiving any additional tonnages;
- Cleanit Greenit is implementing operational changes to address the current odours;
- Cleanit Greenit recognizes and agrees that pile height is an issue and needs to be reduced
- Cleanit Greenit is now keeping a more detailed record of recipes;

- Cleanit Greenit agrees that improvements in assessing and monitoring porosity need to be implemented;
- SOPs for process sampling and monitoring exists, but are contained in Cleanit Greenit's Procedures Manual, rather than the Operations Plan (s. 7(1) of the Code requires that these be in the Operations Manual);
- An oxygen meter has been purchase and oxygen monitoring will be conducted; and
- The scale weighs in units of kilograms;

WHEREAS on December 12, AEW received from Cleanit Greenit a document entitled, "Cleanit Greenit Composting System Inc.'s Plan to Reduce Odour – December 2011", which contained Cleanit Greenit's plan to reduce odours by:

- Improving porosity by reducing pile heights to 9 metres, increasing bulking agents, improving mixing, and improving monitoring of temperature, porosity and oxygen in the piles; and
- Improving surface water management through increased surface water storage pond aeration, removing the contents of the wet bunker and in 2012 implementing a "two bunker" system;

WHEREAS Jeff Toering, District Compliance Manager, Northern Region, has been appointed a Director for the purposes of issuing enforcement orders under the Act (the "Director");

WHEREAS pursuant to s. 2(1)(a.1) of the *Activities Designation Regulation* (AR 276/2003, as amended), the Director is of the opinion that the Cleanit Greenit compost facility is a Class I Compost Facility;

WHEREAS the Director is of the opinion that the Cleanit Greenit composting facility is accepting greater than 20,000 tonnes of waste per year for composting;

WHEREAS s. 5(1) and Schedule 1, Division 1 (I) the *Activities Designation Regulation* identifies the construction, operation or reclamation of a compost facility that accepts more than 20,000 tonnes of waste per year for composting as an activity that requires an approval;

WHEREAS Cleanit Greenit does not have an approval, as required by section 61 of the *Act* to operate the composting facility;

WHEREAS the Director is of the further opinion that, as described herein, Cleanit Greenit has contravened:

- section 24 of the *Waste Control Regulation*
- section 38 of the *Waste Control Regulation*
- section 7(1) of the Code of Practice for Compost Facilities; and
- section 11(3) of the Code of Practice for Compost Facilities

WHEREAS is it is the Director's opinion that in these Order, "Waste" includes "waste" as defined in the *Waste Control Regulation* (AR 192/96, as amended), and without limiting the generality of the foregoing, includes feedstock, bulking agents, and amendments.

THEREFORE, I, Jeff Toering, District Compliance Manager, Northern Region, pursuant to section 210 of the *Environmental Protection and Enhancement Act*, DO HEREBY ORDER:

1. The Parties shall immediately cease accepting any and all Waste, including feedstock, amendments and bulking agents, at the Lands.
2. Registration No. 218439-00-00 shall expire on **September 30, 2014**.
3. The Parties shall by **January 30, 2011** submit to the Director a written Survey Report of the Lands, signed and stamped by a third party Alberta land surveyor, who holds a certificate under the *Land Surveyors Act* (RSA 2000, c.L-3).
4. In the Survey Report, the Parties shall include, at minimum, the total volume of:
 - a. Waste;
 - b. Finished compost; and
 - c. Unfinished composton the Lands.
5. The Parties shall by **March 16, 2012** submit to the Director a Material Characterization Report, signed by an independent third-party qualified professional currently registered with the Association of Professional Engineers, Geologists, and Geophysicists of Alberta (APEGGA), excluding all employees of any corporation of which Ms. Kirstin Castro-Wunsch is a director.
6. In the Material Characterization Report, the Parties shall include, at minimum, a representative physical and chemical assessment of all
 - a. Waste; and
 - b. Other materialon the Lands using standard sampling and testing guidelines.

Site Rehabilitation

7. The Parties shall by **March 16, 2012** submit to the Director, for the Director's approval, a written Site Rehabilitation Plan, signed by a third party qualified professional currently registered with APEGGA, excluding all employees of any corporation of which Ms. Kirstin Castro-Wunsch is a director.
8. In the Site Rehabilitation Plan, the Parties shall include, at minimum, detailed information for each of the following:
 - a. The total volumetric operational capacity of the compost facility on the Lands, including the calculations for determining the volumes within the areas designated for:
 - i. feedstock receiving,
 - ii. active composting,

- iii. curing,
 - iv. screening, and
 - v. product storage;
- b. The total area available for operating the compost facility on the Lands, including the calculations for determining the area designated for:
- i. feedstock receiving,
 - ii. active composting,
 - iii. curing,
 - iv. screening, and
 - v. product storage;
- c. A detailed description of all Waste and other material that will be removed from the Lands to meet the volumetric operational capacity set out in accordance with clause 8(a);
- d. The legal land locations to which all Waste and other material removed from the Lands will be taken;
- e. An assessment of the integrity of the composting pads and their liners;
- f. A comparison of the construction of the composting pads as against the requirements of section 6 of the Code;
- g. A plan for storing all
- i. Waste;
 - ii. Feedstock;
 - iii. Unfinished compost; and
 - iv. Any other material used in the composting process
- on composting pads designed in accordance with section 6 of the Code.
- h. A complete physical and chemical assessment and description of the volume and contents of the Wet Bunker;
- i. The manner in which both the liquid and solid contents of the Wet Bunker will be removed;
- j. The legal land location(s) at which the contents of the Wet Bunker will be disposed;
- k. An assessment of the integrity of the Wet Bunker liner;
- l. A detailed characterization of predicted odour potential for the implementation of the Site Rehabilitation Plan;
- m. The manner in which odours will be monitored, mitigated and managed throughout the implementation of the Site Rehabilitation Plan;
- n. A detailed contingency plan to be implemented if odours exceed thresholds predicted under paragraph 8(l) of this Order during the implementation of the Site Rehabilitation Plan;

- o. The manner in and frequency of which ambient air monitoring will be conducted throughout the implementation of the Site Rehabilitation Plan, including but not limited to:
 - i. total reduced sulphur,
 - ii. ammonia,
 - iii. total hydrocarbon,
 - iv. wind direction, and
 - v. wind speed;
 - p. A description of how all air monitoring throughout the implementation of the Site Rehabilitation Plan will be carried out in accordance with the Air Monitoring Directive (Alberta Environment June 1989 and amended 2006);
 - q. The methods by which all data collected during the implementation of the Site Rehabilitation Plan will be collected and maintained;
 - r. The Standards of Practice that will be employed in the implementation of the Site Rehabilitation Plan for:
 - i. Handling all materials;
 - ii. Minimizing dust;
 - iii. Minimizing noise; and
 - iv. Handling truck traffic;
 - s. A schedule of implementation for the Site Rehabilitation Plan, which has a completion date of no later than **June 29, 2012**.
9. The Parties shall implement each part of the Site Rehabilitation Plan in accordance with the Director's written authorization.

Surface Water/Runoff Management

10. The Parties shall not release, cause or allow to be released any substance from the surface water storage pond.
11. The Parties shall, by **March 16, 2012** submit to the Director, for the Director's approval, a written Pond Rehabilitation Plan, signed by an independent third-party qualified professional currently registered with APEGGA, excluding all employees of any corporation of which Ms. Kirstin Castro-Wunsch is a director.
12. In the Pond Rehabilitation Plan, the Parties shall include, at minimum, all of the following information:
- a. A complete chemical assessment of the liquid contents of the surface water storage pond, as compared to the Surface Water Quality Guidelines for use in Alberta (Agricultural Uses) (November 1999, Alberta Environment) and the *Canadian Environmental Quality Guidelines* (Canadian Council of Ministers of the Environment, 1999, as amended), including by not limited to:
 - i. major ions,
 - ii. nitrate,

- iii. nitrite,
 - iv. phosphate,
 - v. trace metals,
 - vi. hydrocarbons, and
 - vii. phenol;
- b. The total volume of liquid in the surface water storage pond;
 - c. A complete
 - i. chemical and
 - ii. physicalassessment of all of the sediments at the bottom of the surface water storage pond, from the top of the sediment to the clay liner of the surface water storage pond;
 - d. The volume of sediments at the bottom of the surface water storage pond;
 - e. The manner in which all:
 - i. Liquid; and
 - ii. Sedimentwill be removed from the surface water storage pond;
 - f. The legal land location(s) to which all contents of the surface water storage pond will be disposed;
 - g. A detailed assessment of the integrity of the liner of the surface water storage pond; and
 - h. A schedule of implementation for the Pond Rehabilitation Plan, which has a completion date of no later than **June 29, 2012**.
13. The Parties shall implement each part the Site Rehabilitation Plan in accordance with the Director's written authorization.

Soil

14. The Parties shall, by **March 16, 2012** submit to the Director a written detailed Soil Impact Delineation Report, signed by an independent third-party qualified professional currently registered with APEGGA, excluding all employees of any corporation of which Ms. Kirstin Castro-Wunsch is a director.
15. In the Soil Impact Delineation Report, the Parties shall include at minimum, all of the following:
- a. The results of a complete delineation of impacts to soils
 - i. under the Lands; and
 - ii. all areas adjacent to the Lands to which soil contamination may have migrated;
 - b. The raw analytical results of all sampling and analyses done (which analyses must include chromatograms for hydrocarbon analyses) and a comparison of those results to

- i. at least one off-site control; and
 - ii. the applicable guidelines in the Alberta Tier 1 Soil and Groundwater Remediation Guidelines (December 2010, Alberta Environment) and Alberta Tier 2 Soil and Groundwater Remediation Guidelines (December 2010, Alberta Environment); and
- c. Recommendations for remedying all soil contamination that exceeds Alberta Tier 1 Soil and Groundwater Remediation Guidelines (December 2010, Alberta Environment) and Alberta Tier 2 Soil and Groundwater Remediation Guidelines (December 2010, Alberta Environment).

Updated Operations Plan

16. The Parties shall, by **May 21, 2012** submit to the Director, for the Director's approval, a written detailed Updated Operation Plan, signed by a third party qualified professional currently registered with APEGGA, excluding all employees of any corporation of which Ms. Kirstin Castro-Wunsch is a director.
17. In the Updated Operation Plan, the Parties shall include, at minimum, all of the following:
- a. A plan to accept no more than a total of 20,000 tonnes of Waste annually;
 - b. Installation of a scale that is capable of weighing loads of any size, including loads that weigh less than 1 tonne;
 - c. Written commitment to and procedure for at least annual calibration of Cleanit Greenit's scale by a person accredited by Measurement Canada;
 - d. Written commitment to and procedure for weighing and recording all Waste brought onto the composting site, including all feedstock, bulking material and amendments;
 - e. A detailed Facility Design Plan and Specifications, including all of those items described in sections:
 - i. 1.2(b)(i);
 - ii. 1.2(b)(ii)b.;
 - iii. 1.2(b)(ii)g. and
 - iv. 1.2(b)(iii)of the Standards for Composting Facilities (Alberta Environment July 2007 – draft);
 - f. A written commitment and plan to maintain total volume of material at the site of no more than the calculated total volumetric operational capacity pursuant to paragraph 8(a) in this Order;
 - g. A plan to maintain physical separation among feedstock batches;
 - h. A plan to keep recipes for each batch of Waste being composted;

- i. Detailed recipe characterizations;
 - j. A detailed surface water management plan, including but not limited to those items described in sections:
 - i. 1.2(b)(ii)h.; and
 - ii. 1.2(b)(ii)i.of the Standards for Composting Facilities (Alberta Environment July 2007 – draft);
 - k. A detailed surface water storage pond management plan, including but not limited to:
 - i. Written procedures for monitoring the:
 - (a) Volume of liquid in the pond immediately prior to release;
 - (b) Chemical components of liquid in the pond immediately prior to release;
 - ii. Written procedures for continuous monitoring of:
 - (a) Volume of liquid released from the pond during a release; and
 - (b) Chemical components of liquid being released from the pond;compared to the Surface Water Quality Guidelines for Use in Alberta (Agriculture Uses) (November, 1999 Alberta Environment); and
 - l. Each of those items described in section 1.3 of the Standards for Composting Facilities (Alberta Environment July 2007 – draft);
18. In the Updated Operation Plan, the Parties shall also include:
- a. An updated written Odour Management Plan, including each of those items described in section 1.4 of the Standards for Composting Facilities (Alberta Environment July 2007 – draft);
 - b. Written Standard Operating Procedures for all material
 - i. sampling; and
 - ii. monitoringevents proposed in the Updated Operations Plan;
 - c. Written Standard Operating Procedures for all
 - i. material handling; and
 - ii. material processingoutlined in the Updated Operations Plan.

19. The Parties shall implement the Updated Operations Plan in accordance with the Director's written authorization.

DATED at the City of Edmonton in the Province of Alberta, this 13 day of December, 2011.

Original signed by: _____

Jeff Toering
District Compliance Manager

Northern Region

Section 91 of the *Environmental Protection and Enhancement Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 91 is enclosed. For further information, please contact the Board Secretary at #306 Peace Hills Trust Tower, 10011 - 109 Street, Edmonton, Alberta, T5J 3S8; telephone (780) 427-6207; fax (780) 427-4693.

Notwithstanding the above requirements, the Party(ies) shall obtain all necessary approvals in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation.