


## Beneficial Use of Solid Waste Determination Evaluation Form

 <p style="font-size: small; margin: 0;">State of Oregon Department of Environmental Quality</p>	<b>Applicant:</b>	Georgia Pacific, Toledo LLC.			
	<b>BUD#:</b>	BUD-20150203			
	<b>Solid Waste:</b>	Lime soil from recausticising process			
	<b>Summary of Proposed Beneficial Use:</b>				
	<b>Proposed uses:</b> replacement for traditional agriculture lime				
	<b>Reviewer:</b>	Bill Mason, Brian Fuller, Hugh Gao	<b>Date:</b>	May 07, 2015	
	<b>Tier:</b>	<input type="checkbox"/> One <input checked="" type="checkbox"/> Two <input type="checkbox"/> Three			

### Beneficial Use of Solid Waste

Beneficial use of solid waste is a sustainability practice that may involve using an industrial waste in a manufacturing process to make another product or using a waste as a substitute for construction materials.

The environmental benefits of substituting industrial waste materials for virgin materials includes conserving energy, reducing the need to extract natural resources and reducing demand for disposal facilities.

Oregon Administrative Rules 340-093-0280 - 0290 establish standing beneficial uses and a process for DEQ review of case-specific beneficial use proposals. Under these rules, DEQ may issue a beneficial use determination as an alternative to a disposal permit for proposals that meet the rule criteria. If approved, once a beneficial use determination is issued, DEQ no longer regulates the waste as a solid waste as long as the waste is used in accordance with the approved beneficial use determination.

### Beneficial Use Determination Evaluation Summary

- Yes, the Beneficial Use of this solid waste meets all the case-specific performance criteria listed below and is approved.
- No, the Beneficial Use of this solid waste does not meet all the case-specific performance criteria listed below and is not approved.

*Identify if the applicant met the three performance criteria (OAR 340-093-0280, Case-Specific Beneficial Use Performance Criteria), or identify any deficiencies in the application and any DEQ recommendations for further action for the beneficial use application.*

**Notes:**

*Based on analytical results of the material, the concentrations of non-nutritive metals are below Oregon Department of Agricultural limits, and it is appropriate to use this material as a waste-derived agricultural amendment.*

*It is concluded that the material's beneficial use as an agriculture soil amendment does not pose a significant impact to the environment or public health.*

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**Case-Specific Beneficial Use Performance Criteria:**

DEQ may approve an application for a case-specific beneficial use of solid waste only if all the following performance criteria are addressed: 1) Characterization of the Solid Waste; 2) Productive Beneficial Use of the Solid Waste; and, 3) The affect of the Proposed Beneficial Use on Public Health, Safety, Welfare and/or the Environment.

1) Characterization of the Solid Waste

Did the applicant characterize the solid waste and proposed beneficial use sufficiently to demonstrate compliance with the rules for case-specific beneficial use determinations (OAR 340-093-0280) by submitting required information for the appropriate tier? (See tier sections below for detailed characterization information.)

Yes  No

**Notes:**

*According to the application, the label shows that AgriLime contains 90% CaCO<sub>3</sub>, 0.57% MgCO<sub>3</sub>, 53.7% Oregon Fineness Factor, and a moisture content not to exceed 26.3%. This material is similar in character to other agriculture lime products.*

Was the following information submitted for DEQ review and how adequate was it?

**Tier 1**  Applicable  Not applicable

- Did the applicant provide an adequate description of the material proposed for beneficial use, the manner of generation and the estimated quantity to be used beneficially each year?

Yes  No

**Notes:**

*As stated in the application, the mill generates 10,000 Bone Dry Tons (BDT) per year of solids (lime soils) by-product from the recausticising process that consists of inert and reactive calcium compounds (primarily CaO and CaCO<sub>3</sub>). The majority of these lime soils (8,000 BDT) comes from a new dregs filter which is currently being installed with the left over consisting of grit and other lime residuals (ArgiLime).*

- Did the applicant provide an adequate description of the proposed beneficial use and justify how the proposed use is beneficial?

Yes  No

**Notes:**

*ArgiLime has a CCE (Calcium Carbonate Equivalent) of 92% and an Oregon Lime Score of 39.2. Farmers in the surrounding areas would apply the ArgiLime to the fields as a replacement for traditional agriculture lime. The lime product has been approved through the Oregon Department of Agriculture (ODA), and has a lime label that will accompany every outbound load, as stated in the application.*

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- Did the applicant provide a sufficient comparison of the chemical and physical characteristics of the material proposed for beneficial use with the material it will replace?

Yes  No

**Notes:**

*As stated in the application, AgriLime contains 90% CaCO<sub>3</sub>, 0.57% MgCO<sub>3</sub>, 53.7% Oregon Fineness Factor, and a moisture content not to exceed 26.3%. This material is similar in character to other agriculture lime products.*

- Did the applicant successfully demonstrate compliance of the proposed beneficial use 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?

Yes  No

**Notes:**

*Residual lime from paper mills has been a cheap alternative to agriculture lime for many decades. The applicant has analyzed its lime residual. There are limited leachable metals, and the product exhibits beneficial characteristics that will not adversely affect human health or the environment. The Department of Agriculture has approved it for land application based on these characteristics.*

- If required, did the applicant provide any other DEQ required information to evaluate the proposal?

Yes  No

**Notes:**

*No other information is needed. The applicant provided sufficient information for DEQ to make the determination.*

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Tier 2     Applicable     Not applicable

- Did the applicant submit all the information required for a Tier 1 application?

Yes     No

**Notes:**

*The applicant provided sufficient information for a Tier I application.*

- Did the applicant submit adequate sampling and analysis to make a determination of suitability for beneficial use? (Note: The analysis must provide chemical, physical, and biological characterization of the material proposed for beneficial use and identify potential contaminants in the material or the end product, as applicable.)

Yes     No

**Notes:**

*The applicant provided analytical results for the lime residual. Based on the review of the analytical data for the lime residual, it is concluded that concentrations of non-nutritive metals are below Oregon Department of Agricultural limits and it is appropriate to use this material as a waste-derived agricultural amendment.*

- When applicable, did the applicant provide a risk screening comparing the concentration of hazardous substances in the material to existing, DEQ approved, risk-based screening level values, and demonstrate compliance with acceptable risk levels?

Yes     No

**Notes:**

*According to the application, the material has been approved through ODA and has gone through extensive examination including volatile and semi-volatile analysis. DEQ also reviewed the analytical data, and concludes that concentrations of non-nutritive metals are below Oregon Department of Agricultural limits and it is appropriate to use this material as a waste-derived agricultural amendment.*

- When applicable, did the applicant supply the location or type of land use where the material will be applied, consistent with the risk scenarios used to evaluate risk?  Yes     No

**Notes:**

*The material will be applied at the locations consisting of several exclusive farm use (EFU) areas. These areas are low population density lands within Lincoln, Benton, Polk, Marion, and Linn counties.*

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- When applicable, did the applicant supply 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)?  Yes  No

**Notes:**

*The staging area information:  
 Facility Contact: Jay Horner (541)979-2099  
 Manning farms (541)936-1722  
 29900 Manning Road  
 Site Address: Plainview Road, Lebanon, Oregon  
 Site Coordinates: 44-28-58.7 N, 123-00-27.82 W*

- Did the applicant supply an adequate description of how the material will be managed to minimize potential adverse impacts to public health, safety, welfare, or the environment?  Yes  No

**Notes:**

*The stockpile/storage location is in rural area outside of the Lebanon, Oregon. It has an asphalt pad for unloading while the lime is stored on a rock pad. The site is a couple of acres in size with drainage ditches around the site to divert water away from the lime storage area. The transporter and land applier have been stockpiling lime for about 10 years with no significant impacts to the environment and to the public.*

*The application rates are determined by the farmer who purchases the lime based on the lime score testing that will be perform on a yearly basis. The farmer tests his soil and applies at rates based on guidelines from Oregon State University for the crop that farmer is planting. Over application has not been a problem in those ten years of management.*

**Tier 3**  Applicable  Not applicable

**2) Productive Beneficial Use of the Solid Waste**

Has the applicant demonstrated that the proposed beneficial use is a productive use of the material by providing information substantiating the criteria listed below?  Yes  No

**Notes:**

*The lime residual contains CCE that will help neutralize farmer's fields within Willamette Valley to adjust soil pH between 6.0 and 8.2 for the crop's best growth. Restoring soil within this pH range will increase yield and maintain healthy soil.*

- Did the applicant successfully identify or demonstrate a reasonably likely proposed beneficial use for the material that is not speculative?  Yes  No

This criterion consists of three parts.

1. Identified Use:

Has the applicant clearly stated what the waste is going to be used for, that the waste is compatible with that use and the proposed quantity is necessary?

Yes  No

2. Reasonably Likely Use:

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Has the applicant identified, with supporting documentation, the timeframe within which this use is likely to occur (e.g., zoning info, master plan for development, letters from local jurisdictions, etc)?

Yes  No

3. Not Speculative:

For Land application - has this material been used at other sites for the same purpose, is the material feasible for use at this site for this purpose, or has the applicant identified a known potential for this use at this site?

Yes  No  N/A

For uses other than land application - has the material been used in a product before, is the material feasible for use in a product, or has the applicant identified a known potential for use in this product?

Yes  No  N/A

**Notes:**

- Is the use a valuable part of a manufacturing process, an effective substitute for a valuable raw material or commercial product, or otherwise authorized by the Department and does not constitute disposal?

Yes  No

**Notes:**

*The lime solids are an effective substitute for agricultural lime.*

- Is the use in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices?

Yes  No

**Notes:**

*The applicant has registered the product with the Oregon Department of Agriculture as a waste-derived soil amendment, and explained how the material can benefit agricultural and horticultural operations.*

**3) Effect of Proposed Beneficial Use on Public Health, Safety, Welfare and/or the Environment**

Has the applicant demonstrated the proposed beneficial use will **not** create an adverse impact to public health, safety, welfare, or the environment, by providing information substantiating compliance with the criteria listed in the bullet list below?

Yes  No

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**Notes:**

*DEQ reviewed the analytical data, and concludes that concentrations of non-nutritive metals are below Oregon Department of Agricultural limits and it is appropriate to use this material as a waste-derived agricultural amendment.*

- Has the applicant demonstrated that the material is not a hazardous waste under ORS 466.00?  Yes  No

**Notes:**

*The applicant has determined that the material is not a hazardous waste under ORS 466.005.*

- Has the applicant demonstrated that until the time this material is used according to a beneficial use determination, the material will be managed, including any storage, transportation, or processing, to prevent releases to the environment or nuisance conditions?  Yes  No

**Notes:**

*The stockpile/storage location is in rural area outside of Lebanon, Oregon. It has an asphalt pad for unloading and the lime is stored on a rock pad. The site is a couple of acres in size with drainage ditches around the site to divert water away from the lime storage area. The transporter and land applier have been stockpiling lime for about 10 years with no significant impacts to the environment and to the public.*

- Has the applicant demonstrated that hazardous substances in the material, if any, meet one of the criteria in the bulleted list below?  Yes  No
  - Hazardous substances do not significantly exceed the concentration in a comparable raw material or commercial product;
  - Hazardous substances do not exceed naturally occurring background concentrations; or
  - Hazardous substances will not exceed acceptable risk levels, including persistence and potential bioaccumulation, when the material is managed according to a beneficial use determination.

**Notes:**

*As stated in the application, AgriLime contains 90% CaCO<sub>3</sub>, 0.57% MgCO<sub>3</sub>, 53.7% Oregon Fineness Factor, and a moisture content not to exceed 26.3%. There are similar to characteristic of other agriculture lime. DEQ reviews the analysis data, and concludes that concentrations of non-nutritive metals are below Oregon Department of Agricultural limits and it is appropriate to use this material as a waste-derived agricultural amendment.*

- Has the applicant demonstrated that the proposed beneficial use will not result in the increase of a hazardous substance in a sensitive environment, such as a park, wildlife refuge or wetland?  Yes  No

**Notes:**

*DEQ reviews the analysis data, and concludes that concentrations of non-nutritive metals are below Oregon Department of Agricultural limits and it is appropriate to use this material as a waste-derived agricultural amendment.*

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- Has the applicant demonstrated that the proposed beneficial use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions?  Yes  No

**Notes:**

*The stockpile/storage location is in rural area outside of the Lebanon, Oregon. It has an asphalt pad for unloading while the lime is stored on a rock pad. The site is a couple of acres in size with drainage ditches around the site to divert water away from the lime storage area. The transporter and land applier have been stockpiling lime for about 10 years with no significant impacts to the environment and to the public.*

- Has the applicant indicated that the proposed beneficial use will comply with any other applicable federal, state, and local regulations?  Yes  No

**Notes:**

*The applicant has also registered the product with the Oregon Department of Agriculture as a waste-derived soil amendment, and explained how the material can benefit agricultural and horticultural operations.*

**4) Public Involvement Evaluation (Note: this is not a Beneficial Use evaluation criterion)**

Determine a public involvement recommendation using the current, **Guidance to DEQ Solid Waste Program Staff and Managers on Public Notice & Participation.**

- Is public notice and participation being recommended for this application?  Yes  No

Notes: Agricultural lime is applied regularly on farm fields in the Willamette Valley. Because the lime solids are similar in nature to agricultural lime and do not pose a threat to human health or the environment, DEQ staff recommend that public involvement is not necessary for this material.