State of Oregon
Department of
Environmental
Quality

Application for a

Solid Waste Beneficial Use Determination

DEQ USE ONLY – BUSINESS OFFICE
Date Received: 2/11/2015
Amount Received: 2000.00
Check No.: 214885
Deposit No.: 31055
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.)*

Georgia Pacific, Toledo LLC.			
Legal name of applicant		Business name of applicant if different	
1400 SE Butler Bridge Road		Toledo	Oregon	97391
Mailing address		City	State	Zip
541-336-8318	541-270-4362	Mark.Mammenga@gapac.com	541-336-5044
Phone	Mobile	E-mail	Fax

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.

Signature of legally authorized representative	Mark L. Mammenga	Environmental Engineer	2/3/15
	Print name	Title	Date

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.

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: $2000

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

SECTION E. REQUIRED ATTACHMENTS TO THE APPLICATION

February 3, 2015
Applicant – Georgia Pacific, Toledo Inc.,
1400 SW Butler Bridge Road, Toledo, OR 97341

TIER 1

1. A DESCRIPTION OF THE MATERIAL, MANNER OF GENERATION, AND ESTIMATED QUANTITY TO BE USED EACH YEAR.

Georgia-Pacific, Toledo will be capturing approximately 10,000 BDT per year of solid by-product from the recausticising process that consists of inert material and unreactive calcium compounds (primarily CaO and CaCO3). The majority of these lime soils (8,000 BDT) will come from a new dregs filter which is currently being installed with the left over consisting of grit and other lime residuals (AgriLime). AgriLime has a CCE of 92% and an Oregon Lime Score of 39.2. Farmers in the surrounding areas would like to apply AgriLime to their fields as a cost effective replacement to traditional Agricultural Lime. This lime product has been approved through the DOA and has a lime label that will accompany every outbound load. Once the dregs filter is installed, the residual will be analyzed and results sent to Bill Mason to be added to the BUD of the existing lime soils.

2. A DESCRIPTION OF THE PROPOSED USE.

Because of the high amount of rainfall in the Pacific Northwest, soils tend to become acidic due to leaching effects. Agricultural Lime raises pH in these soils by increasing alkalinity and will also provide Ca and Mg to crops. Raising the pH of these soils will improve water penetration and plant nutrient uptake.

3. COMPARISON OF THE CHEMICAL AND PHYSICAL CHARACTERISTICS OF THE MATERIAL PROPOSED FOR USE WITH THE MATERIAL IT WILL REPLACE.

The Lime Label attached shows AgriLime to contain 90% $CaCO_3$, 0.57 % $MgCO_3$, 53.7% Oregon Fineness Factor, and a Moisture Content not to exceed 26.3%. These are similar to characteristics of other Agricultural Limes.

4. 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.

Residual lime from paper mills has been a cheap alternative to agricultural lime for many decades. Georgia-Pacific has thoroughly 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.

5. ANY OTHER INFORMATION THAT DEQ MAY REQUIRE TO EVALUATE THE PROPOSAL.

There is no additional information required at this time for the Teir 1.

TIER 2

1. 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.

Appendix A provides data on all required transportation data for the lime material. Appendix B shows relatively low concentrations of leachable metals, volatiles, and semi-volatiles.

2. 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.

Product has been approved through the DOA and has gone through extensive examination including Volatile and Semi-Volatile analysis. See Appendix A and B.

3. LOCATION OR TYPE OF LAND USE WHERE THE MATERIAL WILL BE APPLIED, CONSISTENT WITH THE RISK SCENARIOS USED TO EVALUATE RISK.

Locations consist of several Exclusive Farm Use (EFU) areas. These areas are low population density lands within Lincoln, Benton, Polk, Marion, and Linn counties.

4. 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).

Product will be land applied on land within Lincoln, Benton, Polk, Marion, and Linn counties but the staging area information is:

Facility Contact: Jay Horner 541-979-2099
Manning Farms
29900 Manning Rd
541-936-1722
Site Address: Plainview Rd, Lebanon, OR;
Site Coordinates: 44-28-58.7 N, 123-00-27.82 W

5. A DESCRIPTION OF HOW THE MATERIAL WILL BE MANAGED TO MINIMIZE POTENTIAL ADVERSE IMPACTS TO PUBLIC HEALTH, SAFETY, WELFARE, OR THE ENVIRONMENT.

The stockpile/storage location is in a rural area outside of Lebanon, OR. 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. There are drainage ditches around the site for the purpose of diverting water away from the lime. The transporter and land applier have been stockpiling lime there for close to 10 years with no adverse impacts to the environment or 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 and the testing that the farmer has completed on his soil as well as the guidelines from OSU for soil pH needs for the crop the farmer is planting. Over application has not been a problem in those ten years of management.

SECTION F. PERFORMANCE CRITERIA

THE USE IS PRODUCTIVE, INCLUDING:

1. THERE IS AN IDENTIFIED OR REASONABLY LIKELY USE FOR THE MATERIAL THAT IS NOT SPECULATIVE.

The Lime residual has a calcium carbonate equivalent (CCE) that will help neutralize farmer's fields within the Willamette Valley. Most crops grow best when soils are between 6.0 and 8.2. Restoring pH within this range with lime will increase yields and maintain healthy soils.

2. 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.

Since the residual lime material has a CCE, it can be used in place of manufactured lime. This will reduce the amount of raw materials such as limestone that would need to be mined.

3. THE USE IS IN ACCORDANCE WITH APPLICABLE ENGINEERING STANDARDS, COMMERCIAL STANDARDS, AND AGRICULTURAL OR HORTICULTURAL PRACTICES.

This Lime residual has already been approved for use by the Department of Agriculture. The required lime score, bio-accumulative metals, and bulk distribution product label were provided to register this lime product.

THE USE WILL NOT CREATE AN ADVERSE IMPACT TO PUBLIC HEALTH, SAFETY, WELFARE OR THE ENVIRONMENT, INCLUDING:

1. THE USE IS NOT A HAZARDOUS WASTE UNDER ORS 466.005.

This material is not considered a hazardous waste under 466.005.

2. UNTIL THE TIME THE MATERIAL IS USED IN ACCORDANCE WITH A BENEFICIAL USE DETERMINATION, THE MATERIAL WILL BE MANAGED, INCLUDING AND STORAGE, TRANSPORTATION, OR PROCESSING, TO PREVENT RELEASES TO THE ENVIRONMENT OR NUISANCE CONDITIONS.

See Tier 2 Question #5

3. 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 RICK LEVELS, INCLUDING EVALUATION OF PERSISTENCE AND POTENTIAL BIOACCUMULATION, WHEN THE MATERIAL IS MANAGED ACCORDING TO A BENEFICIAL USE DETERMINATION.

Based upon the analytics of the lime, it is comparable to agricultural lime.

THE USE WILL NOT RESULT IN THE INCREASE OF A HAZARDOUS SUBSTANCE IN A SENSITIVE ENVIRONMENT.

There will not be an increase in hazardous substances as long as management practices are followed.

THE USE WILL NOT CREATE OBJECTIONABLE ODORS, DUST, UNSIGHTLINESS, FIRE, OR OTHER NUISANCE CONDITIONS.

Lime will be tilled into the soil so there will not be odor, dust, unsightliness, or any of nuisances created by turning this product into an agricultural lime. This product contains no hydrated lime, decreasing the chance of an exothermic reaction that could cause a fire.

THE USE WILL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

Product will only be used for DEQ and DOA approved procedures. All conditions and reporting will be followed in accordance with local, state, and federal laws.

APPENDIX A

AgriLime

Guaranteed Analysis

Calcium Carbonate ($CaCO_3$)	90.0%
Calcium Carbonate Equivalent (CCE)	92.0%
Magnesium Carbonate ($MgCO_3$)	0.57%
Sieve Analysis (% passing)	
>#10	92.7%
#10	83.4%
#20	67.0%
#40	21.5%
#100	4.1%
Oregon Fineness Factor	53.7%
Moisture Content does not exceed	26.3%
Oregon Lime Score	39.2
Derived from:	Residual Lime

Information regarding the contents and levels of metals in this product is available on the internet at http://www.aapfco.org/metals.htm

Source:
Georgia-Pacific, Toledo LLC.
1400 SE Butler Bridge Rd.
Toledo, OR 97391

Bulk Application Only

Total Weight _____ Tons
Tare Weight _____ Tons
Solid Weight _____ Tons

APPENDIX B

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Georgia-Pacific West, Incorporated	**Service Request:**	K1412911
Project:	Lime BUD	**Date Collected:**	04/28/2014
Sample Matrix:	Soil	**Date Received:**	05/02/2014

Volatile Organic Compounds

Sample Name:	Lime	**Units:**	ug/Kg
Lab Code:	K1412911-001	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*
1,1-Dichloroethene	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*
2-Butanone (MEK)	ND	U	28	1	12/03/14	12/03/14	KWG1415892	*
Chloroform	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*
Carbon Tetrachloride	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*
Benzene	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*
1,2-Dichloroethane (EDC)	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*
Trichloroethene (TCE)	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*
Tetrachloroethene (PCE)	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*
Chlorobenzene	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*
1,4-Dichlorobenzene	ND	U	7.0	1	12/03/14	12/03/14	KWG1415892	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	26	82-146	12/03/14	Outside Control Limits
Toluene-d8	97	90-142	12/03/14	Acceptable
4-Bromofluorobenzene	94	88-127	12/03/14	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Georgia-Pacific West, Incorporated	**Service Request:**	K1412911
Project:	Lime BUD	**Date Collected:**	04/28/2014
Sample Matrix:	Soil	**Date Received:**	05/02/2014

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Lime	**Units:**	mg/Kg
Lab Code:	K1412911-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Pyridine	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
2-Methylphenol	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
Hexachloroethane	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
4-Methylphenol†	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
Nitrobenzene	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
Hexachlorobutadiene	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
2,4,6-Trichlorophenol	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
2,4,5-Trichlorophenol	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
2,4-Dinitrotoluene	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
Hexachlorobenzene	ND	U	1.4	1	11/25/14	12/09/14	KWG1415386	*
Pentachlorophenol	ND	U	8.3	1	11/25/14	12/09/14	KWG1415386	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	4	20-83	12/09/14	Outside Control Limits
Phenol-d6	19	26-106	12/09/14	Outside Control Limits
Nitrobenzene-d5	43	29-116	12/09/14	Acceptable
2-Fluorobiphenyl	42	32-104	12/09/14	Acceptable
2,4,6-Tribromophenol	1	20-123	12/09/14	Outside Control Limits
Terphenyl-d14	56	37-133	12/09/14	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client :	Georgia-Pacific West, Incorporated	**Service Request :**	K1404412
Project Name :	GP Toledo-Arcadis	**Date Collected :**	04/28/14
Project No. :	NA	**Date Received :**	05/02/14
Matrix :	Sludge	**Date Extracted :**	05/12-28/14

Total Metals

Sample Name :	Lime	**Units :**	mg/Kg (ppm)
Lab Code :	K1404412-003	**Basis :**	Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Aluminum	6010C	2.6	05/24/14	5170	
Antimony	6020A	0.07	05/16/14	0.21	
Arsenic	6020A	0.7	05/16/14	1.5	
Barium	6020A	0.07	05/16/14	463	
Beryllium	6020A	0.03	05/16/14	0.07	
Boron	6010C	5.2	05/24/14	ND	
Cadmium	6020A	0.03	05/16/14	0.18	
Calcium	6010C	200	05/29/14	389000	
Chromium	6020A	0.3	05/16/14	27.1	
Cobalt	6020A	0.03	05/16/14	1.10	
Copper	6020A	0.1	05/16/14	10.3	
Iron	6010C	5.2	05/24/14	2220	
Lead	6020A	0.07	05/16/14	29.0	
Magnesium	6010C	2.6	05/24/14	6970	
Manganese	6010C	0.3	05/24/14	223	
Mercury	7471B	0.02	05/15/14	ND	
Molybdenum	6020A	0.07	05/16/14	0.4	
Nickel	6020A	0.3	05/16/14	20.3	
Potassium	6010C	300	05/24/14	ND	
Selenium	6020A	1.3	05/16/14	ND	
Silver	6020A	0.03	05/16/14	0.07	
Sodium	6010C	54	05/24/14	7200	
Strontium	6010C	0.3	05/24/14	503	
Thallium	6020A	0.03	05/16/14	ND	
Tin	6010C	5.2	05/24/14	ND	
Titanium	6010C	0.5	05/24/14	300	
Uranium	6020A	0.03	05/16/14	0.26	
Vanadium	6020A	0.3	05/16/14	5.7	
Zinc	6010C	1.3	05/24/14	2190	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Georgia-Pacific West, Incorporated	**Service Request:**	K1408482
Project:	Lime Labeling	**Date Collected:**	08/8/14
Sample Matrix:	Soil	**Date Received:**	08/12/14
Analysis Method:	OSU	**Units:**	Percent
Prep Method:	None	**Basis:**	Dry, per Method

CaCO3 Equivalency

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
Lime Residuals	K1408482-001	92.0	2.0	1	08/25/14 09:30	
Method Blank	K1408482-MB	ND U	2.0	1	08/25/14 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Georgia-Pacific West, Inc.
Project: Lime Labeling
Sample Matrix: Solid

Date Collected: 8/8/2014
Date Received: 8/12/2014
Service Request: K1408482

Dry Sieve Analysis
ASTM D-422
Units: Percent Passing

Client ID:	Lime Residuals
Sample #:	K1408482-001
Wet Weight	10.83
Tare	1.27
Dry Weight +	11.16
% Solids	91.3

Client ID:	Lime Residuals
Sample #:	K1408482-001 Duplicate
Wet Weight	10.37
Tare	1.25
Dry Weight +	10.73
% Solids	91.4

Sieve Size	Dry Weight	% Passing
>No10		7.3
No.10	4.8665	9.3
No.20	6.2364	16.4
No.40	10.9754	45.5
No.100	30.4222	17.4
Pan	11.6627	--

Sieve Size	Dry Weight	% Passing
>No10		8.7
No.10	5.8388	9.0
No.20	5.9375	18.2
No.40	11.9592	45.1
No.100	29.7045	14.7
Pan	9.7154	--

Total Weight = 66.92
% Recovered = 96

Total Weight = 65.88
% Recovered = 96

Revision 1-R:/WET/ANALYSIS/GRAINSIZE/ASTMD-422 DRY SIEVE

Instrument ID

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Georgia-Pacific West, Incorporated	**Service Request:**	K1408482
Project:	Lime Labeling	**Date Collected:**	08/08/14
Sample Matrix:	Misc. Solid	**Date Received:**	08/12/14
		Date Extracted:	08/15/14

Total Metals
Units: Percent (%)
Dry Weight Basis

		Sample Name:	Lime Residuals	Method Blank
		Lab Code:	K1408482-001	K1408482-MB
		Date Analyzed:	08/15/14	08/15/14
Analyte	**Method**	**MRL**		
Magnesium, as MgO	ICP-OES	0.004	0.568	ND

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Georgia-Pacific West, Incorporated	**Service Request:**	K1404412
Project:	GP Toledo-Arcadis	**Date Collected:**	04/28/14
Sample Matrix:	Sludge, Solid	**Date Received:**	05/2/14
Analysis Method:	ASTM D513-02 B Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	Dry

Carbonate

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
Lime	K1404412-003	34.9	0.0068	1	05/27/14 13:15	
Method Blank	K1404412-MB	ND U	0.0050	1	05/27/14 13:15	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Georgia-Pacific West, Incorporated	**Service Request:**	K1404412
Project:	GP Toledo-Arcadis	**Date Collected:**	04/28/14
Sample Matrix:	Sludge, Solid	**Date Received:**	05/2/14
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	As Received

Solids, Total

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
[redacted]	[redacted]	[redacted]	-	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	-	[redacted]	[redacted]	
Lime	K1404412-003	73.7	-	1	05/12/14 14:25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Georgia-Pacific West, Incorporated	**Service Request:**	K1404412
Project:	GP Toledo-Arcadis	**Date Collected:**	04/28/14
Sample Matrix:	Sludge, Solid	**Date Received:**	05/2/14
Analysis Method:	365.3M	**Units:**	mg/Kg
Prep Method:	Method	**Basis:**	Dry

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*
Lime	K1404412-003	1270	170	25	05/28/14 12:12	5/27/14	*
Method Blank	K1404412-MB	ND U	10	1	05/28/14 12:12	5/27/14	