

**DEPARTMENT OF ENVIRONMENTAL QUALITY
TRANSMITTAL ADVICE
SW BENEFICIAL USE DETERMINATION**

CK #	TRAN AMNT	FOR THE ACCOUNT OF	INV #	REF
CHECK NAME		REASON FOR PAYMEN	PJT #	RCPT #
431070	1,000.00	MUTUAL MATERIALS COMPANY		
MUTUAL MATERIALS		2-TIER SW BENEFICIAL USE DETERMINATION	N30108	
	1,000.00	TOTAL		



Application for a
**Solid Waste
Beneficial Use
Determination**

DEQ USE ONLY - BUSINESS OFFICE	
Date Received:	APR 09 2018
Amount Received:	1,000.00
Check No.:	431070
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.)

Mutual Materials Company			
Legal name of applicant		Business name of applicant if different	
605 199th Avenue NE		Bellvue	WA 98005
Mailing address		City	State Zip
425-452-2300			
Phone	Mobile	E-mail	Fax

Mutual Materials Company			
Generator of solid waste (may be same as applicant)			
P.O. Box 2218		Gresham	OR 97030
Mailing address		City	State Zip
503-661-0100		canderson@mutual materials.com	503-492-0667
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.

Chuck Anderson Chuck Anderson Pit Manager 4/6/18
Signature of legally authorized representative 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)*

<input type="checkbox"/>	Tier 1 beneficial use determination	\$1,000
<input checked="" type="checkbox"/>	Tier 2 beneficial use determination	\$2,000
<input type="checkbox"/>	Tier 3 beneficial use determination	\$5,000

Make checks out to: **Oregon DEQ**Total fees included: **\$2,000****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 700 NE Multnomah Street, Suite 600 Portland, OR 97232 (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

ATTACHMENT B
LABORATORY ANALYTICAL REPORT

APPLICATION FOR A SOLID WASTE BENEFICIAL USE DETERMINATION
Brick and Concrete Materials
Mutual Materials Company

Farallon PN: 1162-003

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Thursday, January 11, 2018

Mark Havighorst
Farallon Consulting
4380 SW Macadam Ave #500
Portland, OR 97239

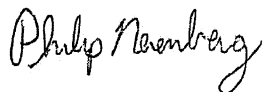
RE: Mutual Materials Audits / 1162-003

Enclosed are the results of analyses for work order A7L0802, which was received by the laboratory on 12/20/2017 at 4:15:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Farallon Consulting
4380 SW Macadam Ave #500
Portland, OR 97239

Project: **Mutual Materials Audits**
Project Number: 1162-003
Project Manager: Mark Havighorst

Reported:
01/11/18 12:13

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Brick-1-5 Composite	A7L0802-06	Solid	12/20/17 10:40	12/20/17 16:15
Clay-1-4 Composite	A7L0802-11	Solid	12/20/17 11:12	12/20/17 16:15
Kiln-1-As Processing	A7L0802-13	Solid	12/20/17 11:20	12/20/17 16:15
Concrete-1-As Processing	A7L0802-15	Solid	12/20/17 11:40	12/20/17 16:15

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Project: **Mutual Materials Audits**

Project Number: 1162-003

Project Manager: Mark Havighorst

Reported:

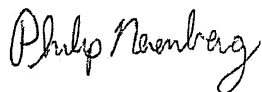
01/11/18 12:13

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Brick-1-5 Composite (A7L0802-06)			Matrix: Solid					
Batch: 8010503								
Antimony	ND	---	0.0500	mg/L	5	01/10/18 00:27	1311/6020A	
Arsenic	ND	---	0.100	"	"	"	"	
Beryllium	ND	---	0.0500	"	"	"	"	
Cadmium	ND	---	0.0500	"	"	"	"	
Copper	ND	---	0.250	"	"	"	"	
Lead	ND	---	0.0500	"	"	"	"	
Mercury	ND	---	0.00400	"	"	"	"	
Nickel	ND	---	0.100	"	"	"	"	
Selenium	ND	---	0.100	"	"	"	"	
Thallium	ND	---	0.0500	"	"	"	"	
Zinc	ND	---	0.250	"	"	"	"	
Clay-1-4 Composite (A7L0802-11)			Matrix: Solid					
Batch: 8010503								
Antimony	ND	---	0.0500	mg/L	5	01/10/18 00:46	1311/6020A	
Arsenic	ND	---	0.100	"	"	"	"	
Beryllium	ND	---	0.0500	"	"	"	"	
Cadmium	ND	---	0.0500	"	"	"	"	
Copper	ND	---	0.250	"	"	"	"	
Lead	ND	---	0.0500	"	"	"	"	
Mercury	ND	---	0.00400	"	"	"	"	
Nickel	ND	---	0.100	"	"	"	"	
Selenium	ND	---	0.100	"	"	"	"	
Thallium	ND	---	0.0500	"	"	"	"	
Zinc	ND	---	0.250	"	"	"	"	
Kiln-1-As Processing (A7L0802-13)			Matrix: Solid					
Batch: 8010503								
Antimony	ND	---	0.0500	mg/L	5	01/10/18 00:50	1311/6020A	
Arsenic	ND	---	0.100	"	"	"	"	
Beryllium	ND	---	0.0500	"	"	"	"	
Cadmium	ND	---	0.0500	"	"	"	"	
Copper	ND	---	0.250	"	"	"	"	
Lead	ND	---	0.0500	"	"	"	"	
Mercury	ND	---	0.00400	"	"	"	"	
Nickel	ND	---	0.100	"	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

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Farallon Consulting

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Portland, OR 97239

Project: **Mutual Materials Audits**

Project Number: 1162-003

Project Manager: Mark Havighorst

Reported:

01/11/18 12:13

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Kiln-1-As Processing (A7L0802-13)			Matrix: Solid					
Selenium	ND	---	0.100	mg/L	5	"	1311/6020A	
Thallium	ND	---	0.0500	"	"	"	"	
Zinc	ND	---	0.250	"	"	"	"	
Concrete-1-As Processing (A7L0802-15)			Matrix: Solid					
Batch: 8010504								
Antimony	ND	---	0.0500	mg/L	5	01/10/18 01:09	1311/6020A	
Arsenic	ND	---	0.100	"	"	"	"	
Beryllium	ND	---	0.0500	"	"	"	"	
Cadmium	ND	---	0.0500	"	"	"	"	
Copper	ND	---	0.250	"	"	"	"	
Lead	ND	---	0.0500	"	"	"	"	
Mercury	ND	---	0.00400	"	"	"	"	
Nickel	ND	---	0.100	"	"	"	"	
Selenium	ND	---	0.100	"	"	"	"	
Thallium	ND	---	0.0500	"	"	"	"	
Zinc	0.554	---	0.250	"	"	"	"	

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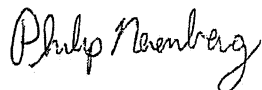
QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8010503 - EPA 1311/3015						Solid						
Blank (8010503-BLK1)						Prepared: 01/09/18 10:42 Analyzed: 01/10/18 00:04						
1311/6020A												
Antimony	ND	---	0.0500	mg/L	5	---	---	---	---	---	---	TCLP
Arsenic	ND	---	0.100	"	"	---	---	---	---	---	---	TCLP
Beryllium	ND	---	0.0500	"	"	---	---	---	---	---	---	TCLP
Cadmium	ND	---	0.0500	"	"	---	---	---	---	---	---	TCLP
Copper	ND	---	0.250	"	"	---	---	---	---	---	---	TCLP
Lead	ND	---	0.0500	"	"	---	---	---	---	---	---	TCLP
Mercury	ND	---	0.00400	"	"	---	---	---	---	---	---	TCLP
Nickel	ND	---	0.100	"	"	---	---	---	---	---	---	TCLP
Selenium	ND	---	0.100	"	"	---	---	---	---	---	---	TCLP
Thallium	ND	---	0.0500	"	"	---	---	---	---	---	---	TCLP
Zinc	ND	---	0.250	"	"	---	---	---	---	---	---	TCLP
LCS (8010503-BS1)						Prepared: 01/09/18 10:42 Analyzed: 01/10/18 00:08						
1311/6020A												
Antimony	1.22	---	0.0500	mg/L	5	1.25	---	98	80-120%	---	---	TCLP
Arsenic	2.45	---	0.100	"	"	2.51	---	98	"	---	---	TCLP
Beryllium	1.25	---	0.0500	"	"	1.25	---	99	"	---	---	TCLP
Cadmium	2.49	---	0.0500	"	"	2.51	---	99	"	---	---	TCLP
Copper	2.49	---	0.250	"	"	"	---	99	"	---	---	TCLP
Lead	2.42	---	0.0500	"	"	"	---	96	"	---	---	TCLP
Mercury	0.0504	---	0.00400	"	"	0.0500	---	101	"	---	---	TCLP
Nickel	2.47	---	0.100	"	"	2.51	---	98	"	---	---	TCLP
Selenium	1.23	---	0.100	"	"	1.25	---	98	"	---	---	TCLP
Thallium	1.17	---	0.0500	"	"	"	---	94	"	---	---	TCLP
Zinc	2.52	---	0.250	"	"	2.51	---	100	"	---	---	TCLP
Matrix Spike (8010503-MS1)						Prepared: 01/09/18 10:42 Analyzed: 01/10/18 00:40						
QC Source Sample: Brick-1-5 Composite (A7L0802-06)												
1311/6020A												
Antimony	1.16	---	0.0500	mg/L	5	1.25	ND	93	50-150%	---	---	
Arsenic	2.32	---	0.100	"	"	2.51	ND	93	"	---	---	
Beryllium	1.18	---	0.0500	"	"	1.25	ND	94	"	---	---	
Cadmium	2.34	---	0.0500	"	"	2.51	ND	93	"	---	---	
Copper	2.39	---	0.250	"	"	"	ND	95	"	---	---	
Lead	2.27	---	0.0500	"	"	"	ND	91	"	---	---	

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Project: **Mutual Materials Audits**

Project Number: 1162-003

Project Manager: Mark Havighorst

Reported:

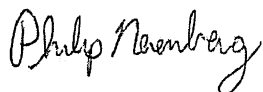
01/11/18 12:13

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8010503 - EPA 1311/3015						Solid						
Matrix Spike (8010503-MS1)						Prepared: 01/09/18 10:42 Analyzed: 01/10/18 00:40						
QC Source Sample: Brick-1-5 Composite (A7L0802-06)												
1311/6020A												
Mercury	0.0466	---	0.00400	mg/L	"	0.0500	ND	93	"	---	---	
Nickel	2.35	---	0.100	"	"	2.51	ND	94	"	---	---	
Selenium	1.15	---	0.100	"	"	1.25	ND	92	"	---	---	
Thallium	1.11	---	0.0500	"	"	"	ND	88	"	---	---	
Zinc	2.56	---	0.250	"	"	2.51	0.218	94	"	---	---	

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Portland, OR 97239Project: **Mutual Materials Audits**

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Reported:

01/11/18 12:13

QUALITY CONTROL (QC) SAMPLE RESULTS**TCLP Metals by EPA 6020 (ICPMS)**

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8010504 - EPA 1311/3015						Solid						
Blank (8010504-BLK1)						Prepared: 01/09/18 10:51 Analyzed: 01/10/18 01:03						
1311/6020A												
Antimony	ND	---	0.0500	mg/L	5	---	---	---	---	---	---	TCLPa
Arsenic	ND	---	0.100	"	"	---	---	---	---	---	---	TCLPa
Beryllium	ND	---	0.0500	"	"	---	---	---	---	---	---	TCLPa
Cadmium	ND	---	0.0500	"	"	---	---	---	---	---	---	TCLPa
Copper	ND	---	0.250	"	"	---	---	---	---	---	---	TCLPa
Lead	ND	---	0.0500	"	"	---	---	---	---	---	---	TCLPa
Mercury	ND	---	0.00400	"	"	---	---	---	---	---	---	TCLPa
Nickel	ND	---	0.100	"	"	---	---	---	---	---	---	TCLPa
Selenium	ND	---	0.100	"	"	---	---	---	---	---	---	TCLPa
Thallium	ND	---	0.0500	"	"	---	---	---	---	---	---	TCLPa
Zinc	ND	---	0.250	"	"	---	---	---	---	---	---	TCLPa
LCS (8010504-BS1)						Prepared: 01/09/18 10:51 Analyzed: 01/10/18 01:06						
1311/6020A												
Antimony	1.21	---	0.0500	mg/L	5	1.25	---	96	80-120%	---	---	TCLPa
Arsenic	2.42	---	0.100	"	"	2.51	---	96	"	---	---	TCLPa
Beryllium	1.23	---	0.0500	"	"	1.25	---	98	"	---	---	TCLPa
Cadmium	2.45	---	0.0500	"	"	2.51	---	98	"	---	---	TCLPa
Copper	2.49	---	0.250	"	"	"	---	99	"	---	---	TCLPa
Lead	2.41	---	0.0500	"	"	"	---	96	"	---	---	TCLPa
Mercury	0.0477	---	0.00400	"	"	0.0500	---	95	"	---	---	TCLPa
Nickel	2.45	---	0.100	"	"	2.51	---	98	"	---	---	TCLPa
Selenium	1.20	---	0.100	"	"	1.25	---	95	"	---	---	TCLPa
Thallium	1.16	---	0.0500	"	"	"	---	93	"	---	---	TCLPa
Zinc	2.51	---	0.250	"	"	2.51	---	100	"	---	---	TCLPa
Matrix Spike (8010504-MS1)						Prepared: 01/09/18 10:51 Analyzed: 01/10/18 01:12						
QC Source Sample: Concrete-1-As Processing (A7L0802-15)												
1311/6020A												
Antimony	1.23	---	0.0500	mg/L	5	1.25	ND	98	50-150%	---	---	
Arsenic	2.44	---	0.100	"	"	2.51	ND	98	"	---	---	
Beryllium	1.26	---	0.0500	"	"	1.25	ND	100	"	---	---	
Cadmium	2.49	---	0.0500	"	"	2.51	ND	99	"	---	---	
Copper	2.44	---	0.250	"	"	"	ND	97	"	---	---	
Lead	2.39	---	0.0500	"	"	"	ND	95	"	---	---	

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TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8010504 - EPA 1311/3015							Solid					
Matrix Spike (8010504-MS1)					Prepared: 01/09/18 10:51		Analyzed: 01/10/18 01:12					
QC Source Sample: Concrete-1-As Processing (A7L0802-15)												
1311/6020A												
Mercury	0.0505	---	0.00400	mg/L	"	0.0500	ND	101	"	---	---	
Nickel	2.48	---	0.100	"	"	2.51	0.0675	96	"	---	---	
Selenium	1.22	---	0.100	"	"	1.25	ND	97	"	---	---	
Thallium	1.17	---	0.0500	"	"	"	ND	94	"	---	---	
Zinc	2.98	---	0.250	"	"	2.51	0.554	97	"	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

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503-718-2323 Phone
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Farallon Consulting

4380 SW Macadam Ave #500
Portland, OR 97239

Project: **Mutual Materials Audits**

Project Number: 1162-003

Project Manager: Mark Havighorst

Reported:

01/11/18 12:13

SAMPLE PREPARATION INFORMATION

TCLP Metals by EPA 6020 (ICPMS)

Prep: EPA 1311/3015

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8010503							
A7L0802-06	Solid	1311/6020A	12/20/17 10:40	01/09/18 10:42	5mL/50mL	5mL/50mL	1.00
A7L0802-11	Solid	1311/6020A	12/20/17 11:12	01/09/18 10:42	5mL/50mL	5mL/50mL	1.00
A7L0802-13	Solid	1311/6020A	12/20/17 11:20	01/09/18 10:42	5mL/50mL	5mL/50mL	1.00
Batch: 8010504							
A7L0802-15	Solid	1311/6020A	12/20/17 11:40	01/09/18 10:51	5mL/50mL	5mL/50mL	1.00

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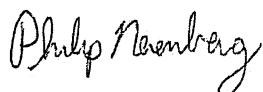
Notes and Definitions

Qualifiers:

- TCLP This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 8010447.
TCLPa This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 8010473.

Notes and Conventions:

- DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
RPD Relative Percent Difference
MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).



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Project: **Mutual Materials Audits**
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Project Manager: Mark Havighorst

Reported:
01/11/18 12:13

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Farallon Consulting Project Mgr: Mark Havighorst Project # 1162-003

Address: 4380 SW Macadam Ave, Ste 500 Phone: _____

Sampled by: M. Havighorst Fax: _____

Site Location: OR WA _____

Other: _____

CHAIN OF CUSTODY

Lab # AF1002 COC 1 of 2

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	SWTPEH-HCID	SWTPEH-DX	NWTPH-GX	8260 VOC	8260 RDM VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TIO	RCRA Metals (8)	TCLP Metals (8)	AL, CR, CU, NI, PB, SE, V, ZN	TOTAL DISS (CLP)	1200-COLS	1200-Z
Brick-1	12/17/17	10:20	5	1																
Brick-2		10:24																		
Brick-3		10:26																		
Brick-4		10:30																		
Brick-5		10:40																		
Clay-1		11:01																		
Clay-2		11:05																		
Clay-3		11:10																		
Clay-4		11:12																		
Clay-5																				

Normal Turn Around Time (TAT) = 7-10 Business Days

TAT Requested (circle) 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS: please grind and create 2 composite samples (one for Brick 1-5 and one for clay 1-5)

RELINQUISHED BY: Paul Garcia Date: 12/20/17

Signature: [Signature] Date: 12/20/17

Printed Name: Paul Garcia Time: 16:30 Printed Name/Mark: Mark Havighorst Time: 10:15

Company: Farallon Consulting Company: Farallon Labs

RECEIVED BY: _____

Signature: _____ Date: _____

Printed Name: _____ Time: _____

Company: _____

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Farallon Consulting
4380 SW Macadam Ave #500
Portland, OR 97239

Project: **Mutual Materials Audits**
Project Number: 1162-003
Project Manager: Mark Havighorst

Reported:
01/11/18 12:13

Lab # LO 802 COC 2 of 2

CHAIN OF CUSTODY

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: <u>Farallon Consulting</u>		Project Mgr: _____		Project Name: _____		Phone: _____		Fax: _____		Email: <u>mark.havighorst@farallonconsulting.com</u>		Project # <u>1162-003</u>	
Address: _____		Project Mgr: _____		Project Name: _____		Phone: _____		Fax: _____		Email: _____		Project # _____	
Supplied by: _____		Project Mgr: _____		Project Name: _____		Phone: _____		Fax: _____		Email: _____		Project # _____	
Site Location: <u>OR</u>		Project Mgr: _____		Project Name: _____		Phone: _____		Fax: _____		Email: _____		Project # _____	
Other: _____		Project Mgr: _____		Project Name: _____		Phone: _____		Fax: _____		Email: _____		Project # _____	
SAMPLE ID		DATE		TIME		MATRIX		# OF CONTAINERS		NWTFH-HCID		NWTFH-DX	
1 <u>kiln - 1</u>		12/24/17		11:20		5		1					
2 <u>Concrete - 1</u>		12/24/17		11:40		5		1					
3 <u>Asphalt</u>													
4													
5													
6													
7													
8													
9													
10													
LAB ID #		DATE		TIME		MATRIX		# OF CONTAINERS		NWTFH-HCID		NWTFH-DX	
1200-Z													
TOTAL DISC (CLP)													
AL													
AS													
BC													
BR													
CA													
CB													
CC													
CD													
CE													
CF													
CG													
CH													
CI													
CJ													
CK													
CL													
CM													
CN													
CO													
CP													
CQ													
CR													
CS													
CT													
CU													
CV													
CW													
CX													
CY													
CZ													
RCRA Metals (8)													
TCLP Metals (8)													
600 TTO													
8082 PCBs													
8170 SIM PATH													
8170 SVOC													
8260 BTEX VOCs													
8260 HVOCS													
8260 RBDN VOCs													
8260 VOCs Full List													
NWTFH-CX													
NWTFH-DX													
NWTFH-HCID													
Normal Turn Around Time (TAT) = 10 Business Days													
TAT Requested (circle)		1 Day		2 Day		3 Day		4 DAY		5 DAY		Other: _____	
SPECIAL INSTRUCTIONS:		Please contact PM before analyzing											
RELINQUISHED BY:		Signature: <u>Paul Goren</u> Date: <u>12/24/17</u> Signature: <u>Mark Havighorst</u> Date: <u>12/24/17</u>											
RECEIVED BY:		Signature: <u>Paul Goren</u> Date: <u>12/24/17</u> Signature: <u>Mark Havighorst</u> Date: <u>12/24/17</u>											
Company: <u>Farallon Consulting</u>		Company: <u>Apex Labs</u>											

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Farallon Consulting

4380 SW Macadam Ave #500
Portland, OR 97239

Project: Mutual Materials Audits

Project Number: 1162-003
Project Manager: Mark Havighorst

Reported:

01/11/18 12:13

APEX LABS COOLER RECEIPT FORM

Client: Farallon Element WO#: A7 L0802

Project/Project #: Mutual Materials Audits / 1162-003

Delivery info:
Date/Time Received: 12-20-17 @ 1615 By: MH
Delivered by: Apex ☒ Client ☐ ESS ☐ FedEx ☐ UPS ☐ Swift ☐ Senvoy ☐ SDS ☐ Other ☐

Cooler Inspection Inspected by: MH : 12-20-17 @ 1820

Chain of Custody Included? Yes ☒ No ☐ Custody Seals? Yes ☐ No ☒

Signed/Dated by Client? Yes ☒ No ☐

Signed/Dated by Apex? Yes ☒ No ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (deg. C)	<u>5.2</u>						
Received on Ice? (Y/N)							
Temp. Blanks? (Y/N)							
Ice Type: (Gel/Real/Other)							
Condition:	<u>good</u>						
Cooler out of temp? (Y/N) Possible reason why:							
If some coolers are in temp and some out, were green dot applied to out of temperature samples? Yes/No/NA							<u>NA</u>

Samples Inspection: Inspected by: MH : 12/26/17 @ 15:33

All Samples Intact? Yes ☒ No ☐ Comments: _____

Bottle Labels/COCs agree? Yes ☒ No ☐ Comments: No T/D on labels

Containers/Volumes Received Appropriate for Analysis? Yes ☒ No ☐ Comments: _____

Do VOA Vials have Visible Headspace? Yes ☐ No ☐ NA ☒

Comments: _____

Water Samples: pH Checked and Appropriate (except VOAs): Yes ☐ No ☐ NA ☒

Comments: _____

Additional Information: _____

Labeled by: Wj Witness: (P) Cooler Inspected by: MH See Project Contact Form: Y

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Washington
Issaquah | Bellingham | Seattle
Oregon
Portland | Bend | Baker City
California
Oakland | Sacramento | Irvine

April 6, 2018

Ms. Heather Kuoppamaki
Oregon Department of Environmental Quality
Northwest Region
Solid Waste Programs
700 Northeast Multnomah Street, Suite 600
Portland, Oregon 97232

BY EMAIL ONLY

**RE: APPLICATION FOR TIER II SOLID WASTE BENEFICIAL USE
DETERMINATION
BRICK AND CONCRETE MATERIALS FACILITIES
MUTUAL MATERIALS COMPANY
FARALLON PN: 1162-003**

Dear Ms. Kuoppamaki:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter on behalf of Mutual Materials Company (Mutual Materials) as part of the application for a Tier II Solid Waste Beneficial Use Determination (BUD) for the Mutual Materials facilities at 2300 Southeast Hogan Road in Gresham, Oregon (Gresham Facility) and 16800 Southeast 130th Avenue in Clackamas, Oregon (Empire Plant). The Gresham Facility and the Empire Plant manufacture clay and concrete brick for use as construction materials. Mutual Materials is seeking a Tier II BUD that would allow reuse of raw clay, clay and concrete brick, clay grog, and concrete brick debris as road base courses or construction backfill materials, and in the production of aggregate material that then can be reused for road base courses, construction backfill materials, and other engineering applications. An application and fee, paid by check 430359 dated March 7, 2018, for a Tier I Solid Waste BUD for these materials previously was submitted by Farallon to the Oregon Department of Environmental Quality (DEQ). Subsequently, DEQ indicated that a Tier II and not a Tier I Solid Waste BUD would be necessary for the materials. A completed DEQ application for a Tier II BUD is provided as Attachment A. Included with this letter is a check for the additional fees for a Tier II Solid Waste BUD application.

This letter includes additional information required by the application to provide:

1. A description of the material, manner of generation, and estimated quantity to be used each year;
2. A description of the proposed use;
3. A comparison of the chemical and physical characteristics of the material proposed for use with the material it will replace;



4. A demonstration of compliance with the performance criteria in Rule 0280 of Division 093 of Chapter 340 of the Oregon Administrative Rules (OAR 340-093-0280) based on knowledge of the process that generated the material, properties of the finished product, or testing;
5. 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;
6. 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;
7. Location or type of land use where the material will be applied, consistent with the risk scenarios used to evaluate risk;
8. Contact information of property owner(s) if this is a site-specific land application proposal, including name, address, phone number, email, site address, and site coordinates (in latitude and longitude);
9. A description of how the material will be managed to minimize potential adverse impacts to public health, safety, welfare, or the environment; and
10. Other information that DEQ may require for evaluating the application.

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

The material consists of raw clay mined; clay and concrete brick manufactured; and clay, grog, and concrete brick debris stockpiled at the Gresham Facility and the Empire Plant. The clay brick manufacturing process consists of forming clay materials and firing the forms in a kiln. Concrete bricks are formed by mixing raw materials, placing the mixed concrete in a form, and allowing the concrete to cure.

The estimated quantity to be used each year likely will depend on demand from off-site users. Based on inquiries from potential off-site users, the estimated quantity reused annually could range from 10,000 to 100,000 cubic yards.

2. A DESCRIPTION OF THE PROPOSED USE

The materials typically will be used unmodified as road base course and/or construction backfill materials. In some cases, the materials may be modified off the site by mechanical methods such as crushing and then combined with other materials to produce aggregate material, which can then be reused for road base courses or construction backfill materials; as a raw material in the production of concrete, mortar, or wall materials; or as a raw material or an additive in the production of recyclable cement.



The clay and concrete materials will replace a number of other common construction materials, depending on their application, specifically:

- Where used as road base course, the clay and concrete materials will replace common base course materials, including crushed rock and sand. Where used as backfill, the clay and concrete materials will replace common backfill materials such as clean soil and pit run.
- Where used in concrete materials, the clay and concrete materials will replace common components of concrete such as broken stone, gravel, and sand. Clay materials also may be combined with calcined lime for the projection of cement.
- Where used for other engineering applications, the clay and concrete materials will replace other organic and inorganic materials that are commonly used for surface applications (e.g., landscaping, hardscaping) or are intended for burial beneath landscaped and hardscaped surfaces.

It is anticipated that the clay and concrete materials will not be used in waterways, but may come into contact with stormwater and shallow groundwater.

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

The raw clay used at the Gresham Facility and the Empire Plant is obtained from mines proximate to the production facilities, and it is anticipated that clay materials reused off the sites will be placed at nearby or regional properties as an inexpensive alternative to other locally sourced, naturally occurring materials. Composite samples formed from raw clay from the Gresham Facility (sample Clay-1-4 Composite) and fired clay brick from the Gresham Facility (sample Brick-1-5 Composite) were analyzed for metals, including antimony, arsenic, beryllium, cadmium, copper, lead, mercury, nickel, selenium, thallium, and zinc, using the Toxicity Characteristics Leaching Procedure (TCLP) and U.S. Environmental Protection Agency (EPA) Method 6020. Leachable metals and metals were not detected in the composite samples. The laboratory analytical report is provided in Attachment B.

The concrete materials manufactured the Gresham Facility and the Empire Plant are made from locally sourced aggregate, sand, clay, and water. It is anticipated that concrete materials reused off the sites will be placed at nearby or regional properties as an inexpensive alternative to other locally sourced materials. Composite samples were formed from manufactured concrete bricks from the Gresham Facility (sample Concrete-1-As Processing) and concrete debris inside kilns at the Gresham Facility (sample Kiln-1-As Processing) and analyzed for metals, including antimony, arsenic, beryllium, cadmium, copper, lead, mercury, nickel, selenium, thallium, and zinc, using TCLP and EPA Method 6020. Metals were not detected in either sample, with the exception of zinc in Concrete-1-As Processing. The laboratory analytical report is provided in Attachment B.

When used in applications where structural engineering properties are a concern, it is assumed that the use of clay and concrete materials will be evaluated appropriately by the user.



4. 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

The information below demonstrates compliance with the performance criteria in OAR 340-093-0280. Performance criteria are presented in italics.

- (1) The applicant has characterized the solid waste and use sufficiently to demonstrate compliance with this rule.*

Attached to this letter are the results of laboratory analysis performed to characterize the clay and brick materials as solid waste.

- (2) The use is productive, including: (a) There is an identified or reasonably likely use for the material that is not speculative; (b) 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 the Department and does not constitute disposal; and (c) The use is in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices.*

The clay and concrete materials will be used as road base courses or construction backfill materials; as a raw material in the production of concrete, mortar, or wall materials; or as a raw material or an additive in the production of recyclable cement. The clay and concrete materials will replace virgin raw materials and, when necessary to meet published performance standards, will be used only in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices.

- (3) The use will not create an adverse impact to public health, safety, welfare, or the environment, including:*

- (a) The clay and concrete materials are not hazardous wastes under Oregon Revised Statute (ORS) 466.005*

The materials do not meet the requirements for hazardous waste under ORS 466.005.

The materials are not the result of any substance or combination of substances intended for the purpose of defoliating plants or for the preventing, destroying, repelling, or mitigating of insects, fungi, weeds, rodents, or predatory animals, including but not limited to defoliants, desiccants, fungicides, herbicides, insecticides, nematocides, and rodenticides.

The materials are not residues classified as hazardous and resulting from any process of industry, manufacturing, trade or business, or government; or from the development or recovery of any natural resources, if such residues are by order of the commission, after notice and public hearing.



- (b) Until the time a material is used according to a beneficial use determination, the material must be managed, including any storage, transportation, or processing, to prevent releases to the environment or nuisance conditions*

The clay and concrete materials will be stored at the Gresham Facility and the Empire Plant under cover and/or in a manner to limit the potential for releases to stormwater pursuant to the requirements of the industrial stormwater permits issued for Mutual Materials under the National Pollutant Discharge Elimination System. The clay and concrete materials will be stored in solid form in a manner that limits the generation of nuisance dust, and there are no nuisance odors associated with the materials.

- (c) Hazardous substances in the material meet one of the criteria in this subsection, (i) Do not significantly exceed the concentration in a comparable raw material or commercial product, (ii) Do not exceed naturally occurring background concentrations, or (iii) Will not exceed acceptable risk levels, including evaluation of persistence and potential bioaccumulation, when managed according to a beneficial use determination*

The clay materials are naturally occurring and are directly comparable to raw material and commercial products.

- (d) The use will not result in the increase of a hazardous substance in a sensitive environment*

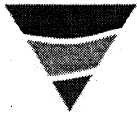
It is anticipated that the clay and brick materials will not be reused in sensitive environments, but will be used for construction of civil infrastructure or as raw materials for finished products. Therefore, the use will not result in the increase of a hazardous substance in a sensitive environment.

- (e) The use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions*

It is anticipated that the clay and brick materials will be used for construction of civil infrastructure or as raw materials for finished products. The use of clay and brick materials will be subject to applicable local regulations and permits obtained by the user (i.e., National Pollutant Discharge Elimination System 1200-C permits for construction). As such, the use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions.

- (f) The use must comply with applicable federal, state, and local regulations*

The use of clay and brick materials will comply with applicable federal, state, and local regulations, and will be subject to applicable industry standards, permits, and codes as defined by the user and permitting authorities.



5. 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

The chemical and physical characterization of the materials was discussed at Item 3, above. Laboratory analytical data are provided in Attachment B. The materials consist of locally sourced clay, aggregate, sand, and water, some of which has been fired to form bricks. Biological activity is not expected in these materials; therefore, no biological sampling has been performed on the materials.

6. 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

The chemical characterization of the material was discussed at Item 3, above. Laboratory analytical data are provided in Attachment B. The chemical characterization was consistent with common practices for evaluating waste streams and included laboratory analysis for leachable metals using TCLP and EPA Method 6020. DEQ has developed screening levels, including risk-based concentrations for human receptors and Level II Screening Level Values (SLVs) for ecological receptors, for total metals in soil and not for total metals in brick or concrete, or for leachable metals. Therefore, a direct comparison of laboratory results with risk-based concentrations and SLVs is not practicable.

Leachable metals were not detected in composite samples formed from raw clay (sample Clay-1-4 Composite), fired clay brick (sample Brick-1-5 Composite), concrete debris inside kilns (sample Kiln-1-As Processing), or manufactured concrete bricks (sample Concrete-1-As Processing), with the exception of zinc in manufactured concrete bricks. Therefore, it is reasonable to conclude that only zinc in manufactured concrete bricks may pose a potential risk for human and/or ecological receptors.

In the absence of DEQ screening levels for concrete, TCLP concentrations for zinc in manufactured concrete bricks were compared with DEQ screening levels for soil. TCLP concentrations for the manufactured concrete blocks were reported as milligrams per liter (mg/l), whereas DEQ screening levels for soil are established in milligrams per kilogram (mg/kg). Therefore, a direct comparison of TCLP concentrations with DEQ screening levels for soil is not possible. However, EPA allows for evaluation of a waste consisting of 100 percent solids using total metals concentrations instead of TCLP, and assuming a 20 to 1 ratio of total metals to TCLP metals measured in parts per million (ppm).¹ The manufactured concrete bricks typically contain less than 5 percent water; therefore, it is reasonable to estimate total zinc in concrete bricks as 20 times the TCLP concentration of zinc. The TCLP concentration of zinc in sample Concrete-1-As

¹ <https://waste.zendesk.com/hc/en-us/articles/217452377-Can-totals-analysis-be-used-in-lieu-of-the-TCLP-for-determining-the-toxicity-characteristic->



Processing was 0.544 milligram per liter (ppm). Using the 20 to 1 ratio, the estimated concentration of total zinc in sample Concrete-1-As Processing is 10.9 milligrams per kilogram (ppm).

An RBC has not been established for zinc in soil; therefore, the estimated concentration of total zinc in manufactured concrete bricks does not pose an unacceptable risk for potential human receptors.

The estimated concentration of zinc in manufactured concrete bricks is less than SLVs for zinc in soil, which range from 50 mg/kg for plants to 20,000 mg/kg for mammals; therefore, the estimated concentration of total zinc in manufactured concrete bricks does not pose an unacceptable risk for potential ecological receptors.

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

The location and types of use were discussed at Item 2, above, and no restrictions are proposed for the use of the material based upon the risk evaluation presented in Item 5, above.

8. CONTACT INFORMATION OF PROPERTY OWNER(S) IF THIS IS A SITE-SPECIFIC LAND APPLICATION PROPOSAL, INCLUDING NAME, ADDRESS, PHONE NUMBER, EMAIL, SITE ADDRESS, AND SITE COORDINATES (IN LATITUDE AND LONGITUDE)

The material will not be used at a specific location. The location and types of use were discussed at Item 2, above, and no restrictions are proposed for the use of the material based upon the risk evaluation presented in Item 5, above.

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

Based on the risk evaluation presented in Item 5, above, the materials do not pose an unacceptable risk for potential human or ecological receptors; therefore, no special material management practices will be followed at the site or location of end use other than those practices that may be required under relevant permits issued for the site or location of end use.

10. OTHER INFORMATION THAT DEQ MAY REQUIRE FOR EVALUATING THE APPLICATION

No additional information has been requested by DEQ to evaluate these materials.



CLOSING

Please contact the undersigned at (503) 280-4635 if you have questions or need additional information.

Sincerely,

Farallon Consulting, L.L.C.

Mark Havighorst, P.E.
Senior Engineer

Sarah Glathar, CHMM
Senior Compliance Specialist

Attachments: Attachment A, Application for Solid Waste Beneficial Use Determination
Attachment B, Laboratory Analytical Report

cc: Joe Bowen and Chuck Anderson, Mutual Materials (by email)

MH/SG:tlc

**ATTACHMENT A
APPLICATION FOR A SOLID WASTE BENEFICIAL USE
DETERMINATION**

APPLICATION FOR A SOLID WASTE BENEFICIAL USE DETERMINATION
Brick and Concrete Materials
Mutual Materials Company

Farallon PN: 1162-003