

SMAQMD BACT CLEARINGHOUSE

CATEGORY Type:

GRINDER

BACT Category: MINOR SOURCE

BACT Determination Number: 258	BACT Determination Date: 3/31/2020
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Equipment Information

Permit Number: N/A -- Generic BACT Determination
Equipment Description: PORTABLE WOODWASTE/GREENWASTE GRINDER
Unit Size/Rating/Capacity: ALL
Equipment Location:

EXPIRED

BACT Determination Information

District Contact: Felix Trujillo, Jr. Phone No.: (916) 874-7357 email: ftrujillo@airquality.org

ROCs	Standard:	
	Technology Description:	Green waste with a moisture content of 30% or more must not remain at the site for longer than 48 hours after is has been ground
	Basis:	Achieved in Practice
NOx	Standard:	
	Technology Description:	
	Basis:	
SOx	Standard:	
	Technology Description:	
	Basis:	
PM10	Standard:	VEE < or equal to 5% Opacity
	Technology Description:	Water spray or adequate moisture content of process materials
	Basis:	Achieved in Practice
PM2.5	Standard:	VEE < or equal to 5% Opacity
	Technology Description:	Water spray or adequate moisture content of process materials
	Basis:	Achieved in Practice
CO	Standard:	
	Technology Description:	
	Basis:	
LEAD	Standard:	
	Technology Description:	
	Basis:	

Comments: This is a generic BACT determination based on BACT determinations made, and published, by other air agencies in California and/or other States.



BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

EXPIRED

DETERMINATION NO.: 258
DATE: 3/31/20
ENGINEER: Felix Trujillo, Jr.

Category/General Equip Description: Grinder

Equipment Specific Description: Portable Woodwaste/Greenwaste Grinder

Equipment Size/Rating: Minor Source BACT

Previous BACT Det. No.: 166

This BACT determination will update Determination #166 (9/12/17) for portable woodwaste/greenwaste grinders.

BACT ANALYSIS

Pursuant to the District's BACT Guidelines (2016), a review of the EPA, CARB, SCAQMD, SJVAPCD, BAAQMD and SDAPCD BACT Clearinghouses was performed. The District also reviewed any applicable rules from the aforementioned air districts that apply to this type of operation. The review of these sources showed no change in the rules or BACTs that were previously evaluated for minor sources under BACT No. 166. Therefore, there is no change in requirements as was previously determined under BACT No. 166. BACT No. 166 (Appendix A) will be attached as a reference for this BACT determination (see Attachment A).

This BACT will clarify that it applies to woodwaste and greenwaste grinding. The reason for this differentiating is because SCAQMD's Chipping and Grinding Rule (1133.1) only requires green waste with a moisture content greater than or equal to 30% moisture to be removed with 48 hours after been ground from the facility. Greenwaste is any organic waste material generated from gardening, agriculture, or landscaping activities including, but not limited to, grass clippings, leaves, tree and shrub trimmings, and plant remains.

C. SELECTION OF BACT:

BACT FOR PORTABLE WOODWASTE/GREENWASTE GRINDER		
Pollutant	Standard	Source
VOC	Greenwaste with a moisture content of 30% or more must not remain at the site for longer than 48 hours after it has been ground	SCAQMD
NOx	No Standard	
SOx	No Standard	
PM10	VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials	SMAQMD, SJVAPCD
PM2.5	VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials	SMAQMD, SJVAPCD
CO	No Standard	

APPROVED BY: *Brian F Krebs* **DATE:** 3/31/20

Attachment A

BACT No. 166

CATEGORY:

IC ENGINE COMPRESSION-PRIME

BACT Size: Minor Source BACT

IC ENGINE PRIME POWER

BACT Determination Number: 166	BACT Determination Date: 9/12/2017
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Equipment Information

Permit Number: 25331
Equipment Description: IC ENGINE PRIME POWER
Unit Size/Rating/Capacity: Portable Greenwaste Grinder
Equipment Location: ZANKER ROAD RESOURCE MGMT, LTD DBA FLORIN PERKINS
 4201 FLORIN PERKINS RD
 SACRAMENTO, CA

BACT Determination Information

ROCs	Standard:	
	Technology Description:	The wood waste must not remain at the site for longer than 48 hours after is has been ground
	Basis:	Achieved in Practice
NOx	Standard:	
	Technology Description:	
	Basis:	
SOx	Standard:	
	Technology Description:	
	Basis:	
PM10	Standard:	VEE < or equal to 5% Opacity
	Technology Description:	Water spray or adequate moisture content of process materials
	Basis:	Achieved in Practice
PM2.5	Standard:	VEE < or equal to 5% Opacity
	Technology Description:	Water spray or adequate moisture content of process materials
	Basis:	Achieved in Practice
CO	Standard:	
	Technology Description:	
	Basis:	
LEAD	Standard:	
	Technology Description:	
	Basis:	

Comments: Minor Source/Small Emitter BACT (< 10 lb/day)

District Contact: Felix Trujillo, Jr. Phone No.: (916) 874 - 7357 email: smosunic@airquality.org



BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

DETERMINATION NO.: 166
DATE: 9/12/17
ENGINEER: Felix Trujillo, Jr.

Category/General Equip Description: Grinder
Equipment Specific Description: Portable Greenwaste Grinder
Equipment Size/Rating: Small Emitter BACT (< 10 lb/day)/Minor Source
Previous BACT Det. No.: 96

This BACT was determined under the project for A/C's 25331 and 25332 (Zanker Road Resource Management, Ltd.).

BACT ANALYSIS

A: ACHIEVED IN PRACTICE (Rule 202, §205.1a)

The following control technologies are currently employed as BACT for portable woodwaste grinding (i.e. tub grinders, horizontal grinders) operations:

District/Agency	Best Available Control Technology (BACT)/Requirements
US EPA	<u>BACT</u> Source: EPA RACT/BACT/LAER Clearinghouse
	Portable Greenwaste Grinder
	VOC No standard
	NOx No standard
	SOx No standard
	PM10 No standard
	PM2.5 No standard
	CO No standard
<u>RULE REQUIREMENTS:</u> None	

District/Agency	Best Available Control Technology (BACT)/Requirements														
ARB	<p>BACT Source: ARB BACT Clearinghouse</p> <table border="1"> <tr> <td colspan="2">Portable Greenwaste Grinder</td> </tr> <tr> <td>VOC</td> <td>No standard</td> </tr> <tr> <td>NOx</td> <td>No standard</td> </tr> <tr> <td>SOx</td> <td>No standard</td> </tr> <tr> <td>PM10</td> <td>No standard</td> </tr> <tr> <td>PM2.5</td> <td>No standard</td> </tr> <tr> <td>CO</td> <td>No standard</td> </tr> </table> <p>RULE REQUIREMENTS: Regulation to Establish a Statewide Portable Equipment Registration Program (Title 13, CCR, Article 5 Sections 2450-2465) sets the following requirements for portable grinders registered in the PERP program.</p> <ol style="list-style-type: none"> 1. There shall be no visible emissions beyond the property line on which the equipment is being operated; 2. No air contaminants shall be discharged into the atmosphere for a period of periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann 1 or equivalent 20 percent opacity; and 3. Water suppression or chemical palliatives shall be used to control fugitive particulate emissions from the tub grinder whenever the tub grinder is in operation, unless there are no visible emissions. 	Portable Greenwaste Grinder		VOC	No standard	NOx	No standard	SOx	No standard	PM10	No standard	PM2.5	No standard	CO	No standard
Portable Greenwaste Grinder															
VOC	No standard														
NOx	No standard														
SOx	No standard														
PM10	No standard														
PM2.5	No standard														
CO	No standard														
SMAQMD	<p>BACT Source: SMAQMD BACT Clearinghouse; BACT #96</p> <table border="1"> <tr> <td colspan="2">Portable Greenwaste Grinder</td> </tr> <tr> <td>VOC</td> <td>No standard</td> </tr> <tr> <td>NOx</td> <td>No standard</td> </tr> <tr> <td>SOx</td> <td>No standard</td> </tr> <tr> <td>PM10</td> <td>VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials</td> </tr> <tr> <td>PM2.5</td> <td>VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials</td> </tr> <tr> <td>CO</td> <td>No standard</td> </tr> </table> <p>RULE REQUIREMENTS: None</p>	Portable Greenwaste Grinder		VOC	No standard	NOx	No standard	SOx	No standard	PM10	VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials	PM2.5	VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials	CO	No standard
Portable Greenwaste Grinder															
VOC	No standard														
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PM10	VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials														
PM2.5	VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials														
CO	No standard														

District/Agency	Best Available Control Technology (BACT)/Requirements														
South Coast AQMD	<p>BACT Source: SCAQMD BACT Guidelines for Non-Major Polluting Facilities, page 13.</p> <table border="1"> <tr> <td colspan="2">Portable Greenwaste Grinder</td> </tr> <tr> <td>VOC</td> <td>No standard</td> </tr> <tr> <td>NOx</td> <td>No standard</td> </tr> <tr> <td>SOx</td> <td>No standard</td> </tr> <tr> <td>PM10</td> <td>No standard</td> </tr> <tr> <td>PM2.5</td> <td>No standard</td> </tr> <tr> <td>CO</td> <td>No standard</td> </tr> </table> <p>RULE REQUIREMENTS: SCAQMD Rule 1133.1 Chipping and Grinding Activities (7/8/11)</p> <p>The purpose of this rule is to prevent inadvertent decomposition occurring during chipping and grinding activities, including stockpile operations. Section (d)(2) requires the operator of a chipping and grinding activity to chip and grind and utilize on site or remove curbside, non-curbside or mixed greenwaste from the site within 48 hours of receipt. The purpose of this rule is to reduce VOC emissions. Pursuant to the Proposed Amended Rule 1133.1 – Chipping and Grinding Activities (6/11) Staff Report, page 12, once greenwaste materials are chipped or ground, air emissions begin to occur immediately and spike within 3 to 7 days of being chipped or ground. The facility does not accept food waste or yard trimmings (as listed on their website http://www.zankerrecycling.com/florin-perkins/recycling-services/materials-not-accepted/), which decompose at a higher rate than non-curbside greenwaste. The facility does not compost at the site. The facility proposes to store the stockpiles up to 48 hours prior to removal from off-site. Therefore, it is assumed that VOC emissions are negligible and would not trigger BACT requirements.</p>	Portable Greenwaste Grinder		VOC	No standard	NOx	No standard	SOx	No standard	PM10	No standard	PM2.5	No standard	CO	No standard
Portable Greenwaste Grinder															
VOC	No standard														
NOx	No standard														
SOx	No standard														
PM10	No standard														
PM2.5	No standard														
CO	No standard														
San Diego County APCD	<p>BACT Source: NSR Requirements for BACT, page 27.</p> <table border="1"> <tr> <td colspan="2">Portable Greewaste Grinder</td> </tr> <tr> <td>VOC</td> <td>No standard</td> </tr> <tr> <td>NOx</td> <td>No standard</td> </tr> <tr> <td>SOx</td> <td>No standard</td> </tr> <tr> <td>PM10</td> <td>No standard</td> </tr> <tr> <td>PM2.5</td> <td>No standard</td> </tr> <tr> <td>CO</td> <td>No standard</td> </tr> </table> <p>The SDCAPCD has a BACT trigger level of 10 lb/day.</p> <p>RULE REQUIREMENTS: None</p>	Portable Greewaste Grinder		VOC	No standard	NOx	No standard	SOx	No standard	PM10	No standard	PM2.5	No standard	CO	No standard
Portable Greewaste Grinder															
VOC	No standard														
NOx	No standard														
SOx	No standard														
PM10	No standard														
PM2.5	No standard														
CO	No standard														

District/Agency	Best Available Control Technology (BACT)/Requirements														
Bay Area AQMD	<p>BACT Source: BAAQMD BACT Guideline Document 180.1 (8/5/91)</p> <table border="1"> <tr> <td colspan="2">Wood Processing Equipment</td> </tr> <tr> <td>VOC</td> <td>No standard</td> </tr> <tr> <td>NOx</td> <td>No standard</td> </tr> <tr> <td>SOx</td> <td>No standard</td> </tr> <tr> <td>PM10</td> <td>Water Spray w/ > 50% control efficiency</td> </tr> <tr> <td>PM2.5</td> <td>No standard</td> </tr> <tr> <td>CO</td> <td>No standard</td> </tr> </table> <p>The BAAQMD has a BACT trigger level of 10 lb/day.</p> <p><u>RULE REQUIREMENTS:</u> None.</p>	Wood Processing Equipment		VOC	No standard	NOx	No standard	SOx	No standard	PM10	Water Spray w/ > 50% control efficiency	PM2.5	No standard	CO	No standard
Wood Processing Equipment															
VOC	No standard														
NOx	No standard														
SOx	No standard														
PM10	Water Spray w/ > 50% control efficiency														
PM2.5	No standard														
CO	No standard														
San Joaquin Valley APCD	<p>BACT Source: SJVUAPCD BACT Guideline 6.4.2</p> <table border="1"> <tr> <td colspan="2">Tub Grinder – Transportable, Wood Waste Processing</td> </tr> <tr> <td>VOC</td> <td>No standard</td> </tr> <tr> <td>NOx</td> <td>No standard</td> </tr> <tr> <td>SOx</td> <td>No standard</td> </tr> <tr> <td>PM10</td> <td>Use of a water sprinkler system or maintaining moisture content of the process materials to prevent visible emissions in excess of 5% opacity.</td> </tr> <tr> <td>PM2.5</td> <td>No standard</td> </tr> <tr> <td>CO</td> <td>No standard</td> </tr> </table> <p>The SJVAPCD BACT trigger level is 2 lb/day.</p> <p><u>RULE REQUIREMENTS:</u> None</p>	Tub Grinder – Transportable, Wood Waste Processing		VOC	No standard	NOx	No standard	SOx	No standard	PM10	Use of a water sprinkler system or maintaining moisture content of the process materials to prevent visible emissions in excess of 5% opacity.	PM2.5	No standard	CO	No standard
Tub Grinder – Transportable, Wood Waste Processing															
VOC	No standard														
NOx	No standard														
SOx	No standard														
PM10	Use of a water sprinkler system or maintaining moisture content of the process materials to prevent visible emissions in excess of 5% opacity.														
PM2.5	No standard														
CO	No standard														

The following control technologies have been identified and are ranked based on stringency:

SUMMARY OF ACHIEVED IN PRACTICE CONTROL TECHNOLOGIES		
Pollutant	Standard	Source
VOC	1. The wood waste must not remain at the site for longer than 48 hours after it has been ground.	SCAQMD
NOx	No Standard	
SOx	No Standard	
PM10	1. VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials 2. Water Spray w/ > 50% control efficiency	SMAQMD, SJVAPCD BAAQMD
PM2.5	No Standard	
CO	No Standard	

The following control technologies have been identified as the most stringent, achieved in practice control technologies:

BEST CONTROL TECHNOLOGIES ACHIEVED		
Pollutant	Standard	Source
VOC	The wood waste must not remain at the site for longer than 48 hours after it has been ground.	SCAQMD
NOx	No Standard	
SOx	No Standard	
PM10	VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials	SMAQMD, SJVAPCD
PM2.5	No standard	
CO	No Standard	

B. TECHNOLOGICALLY FEASIBLE AND COST EFFECTIVE (Rule 202, §205.1.b.):

Technologically Feasible Alternatives:

Any alternative basic equipment, fuel, process, emission control device or technique, singly or in combination, determined to be technologically feasible by the Air Pollution Control Officer. The table below shows the technologically feasible alternatives identified as capable of reducing emissions beyond the levels determined to be "Achieved in Practice" as per Rule 202, §205.1.a.

Pollutant	Technologically Feasible Alternatives
VOC	None identified
NOx	None identified
SOx	None identified
PM10	Baghouse
PM2.5	Baghouse
CO	None identified

This operation is a portable greenwaste grinder that will be moved throughout the processing area. The use of a baghouse requires electrical power. According to the grinder manufacturer (Peterson Corporation), while the equipment is operating at 100% capacity, the engine cannot provide additional power to other pieces of equipment such as a baghouse. This BACT will also apply to facilities that don't own their own equipment. These facilities would be issued flex permits, that will allow them to use equipment from various third party contractors. The requirement of a baghouse would put the burden on the operator or facility to obtain an additional permit for the baghouse. The greenwaste grinder is on tracks and can be easily moved from one location to another. The use of a baghouse would reduce the mobility of the equipment. There would also be a variation in the hp rating of the equipment, which may require a specific baghouse to be used with specific equipment. Therefore, it is not technologically feasible to use a baghouse with this type of portable equipment.

Using the PM10 BACT standard for PM2.5:

Since both, PM10 and PM2.5 trigger BACT at >0 lb/day and PM2.5 is a subset of PM10, BACT for PM2.5 will be triggered whenever BACT is triggered for PM10. Therefore, BACT for PM2.5 will be set to be the same as for PM10.

C. SELECTION OF BACT:

Small emitter BACT (< 10 lb/day) & Minor Source BACT for a portable greenwaste grinder is the following:

BACT FOR PORTABLE GREENWASTE GRINDER		
Pollutant	Standard	Source
VOC	The wood waste must not remain at the site for longer than 48 hours after it has been ground.	SCAQMD
NOx	No Standard	
SOx	No Standard	
PM10	VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials	SMAQMD, SJVAPCD
PM2.5	VEE < or equal to 5% Opacity; Water spray or adequate moisture of process materials	SMAQMD, SJVAPCD
CO	No Standard	

REVIEWED BY: _____ DATE: _____

APPROVED BY:  DATE: 9/12/17

Attachment A

Review of BACT Determinations

SMAQMD BACT CLEARINGHOUSE

CATEGORY:

MISCELLANEOUS

BACT Size: SMALL EMITTER (<10 LB/DAY) AND MIN

GRINDER

BACT Determination Number: 96		BACT Determination Date: 12/1/2014
Equipment Information		
Permit Number: N/A -- Generic BACT Determination		
Equipment Description: GRINDER		
Unit Size/Rating/Capacity: Portable Greenwaste Grinder		
Equipment Location:		
BACT Determination Information		
ROCs	Standard:	
	Technology Description:	
	Basis:	
NOx	Standard:	
	Technology Description:	
	Basis:	
SOx	Standard:	
	Technology Description:	
	Basis:	
PM10	Standard:	VEE < or equal to 5% Opacity
	Technology Description:	Water spray or adequate moisture content of process materials
	Basis:	Achieved in Practice
PM2.5	Standard:	VEE < or equal to 5% Opacity
	Technology Description:	Water spray or adequate moisture content of process materials
	Basis:	Achieved in Practice
CO	Standard:	
	Technology Description:	
	Basis:	
LEAD	Standard:	
	Technology Description:	
	Basis:	
Comments: All PM10 is assumed to be PM2.5.		
District Contact: Michelle Joe Phone No.: (916) 874 - 4853 email: mjoe@airquality.org		

Printed: 5/30/2017

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 6.4.2*

Last Update: 04/03/1998

Tub Grinder - Transportable, Wood Waste Processing

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
PM10	Use of a water sprinkler system or maintaining adequate moisture content of the process materials to prevent visible emissions in excess of 5% opacity		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Best Available Control Technology (BACT) Guideline

Source Category

Source:	<i>Wood Processing Equipment</i>	Revision:	<i>1</i>
Class:	<i>All</i>	Document #:	<i>180.1</i>
		Date:	<i>08/05/91</i>

Determination

POLLUTANT	BACT	TYPICAL TECHNOLOGY
	1. Technologically Feasible/ Cost Effective 2. Achieved in Practice	
POC	1. <i>n/a</i> 2. <i>n/a</i>	1. <i>n/a</i> 2. <i>n/a</i>
NO _x	1. <i>n/a</i> 2. <i>n/a</i>	1. <i>n/a</i> 2. <i>n/a</i>
SO ₂	1. <i>n/a</i> 2. <i>n/a</i>	1. <i>n/a</i> 2. <i>n/a</i>
CO	1. <i>n/a</i> 2. <i>n/a</i>	1. <i>n/a</i> 2. <i>n/a</i>
PM ₁₀	1. <i>Enclosure and vent to a baghouse w/ ≤0.01 gr/dscf^a</i> 2. <i>Water mist spray w/ >50% control efficiency^a</i>	1. <i>BAAQMD Approved Design and Operation^a</i> 2. <i>BAAQMD Approved Design and Operation^a</i>
NPOC	1. <i>n/a</i> 2. <i>n/a</i>	1. <i>n/a</i> 2. <i>n/a</i>

References

^a <i>BAAQMD</i>
