UNDER PUBLIC REVIEW SMAQMD BACT CLEARINGHOUSE

CATEGORY: **PORTABLE CONCRETE/ASPHALT RECY**

BACT Size: Minor Source BACT **Crusher, Screen, Transfer & Storage**

BACT Determination Number: 171	**BACT Determination Date:**

Equipment Information

Permit Number: 25131
Equipment Description: Crusher, Screen, Transfer & Storage
Unit Size/Rating/Capacity:
Equipment Location: L AND D LANDFILL LIMITED PARTNERSHIP
8635 FRUITRIDGE ST
SACRAMENTO, CA

BACT Determination Information

ROCs	**Standard:**	
	Technology Description:	
	Basis:	
NOx	**Standard:**	
	Technology Description:	
	Basis:	
SOx	**Standard:**	
	Technology Description:	
	Basis:	
PM10	**Standard:**	
	Technology Description:	Water sprays on crushers/screen with no visible emissions, covered conveyors or water sprays with no visible emissions, water sprays on transfer points and water sprays on storage piles.
	Basis:	Achieved in Practice
PM2.5	**Standard:**	
	Technology Description:	Water sprays on crushers/screen with no visible emissions, covered conveyors or water sprays with no visible emissions, water sprays on transfer points and water sprays on storage piles.
	Basis:	Achieved in Practice
CO	**Standard:**	
	Technology Description:	
	Basis:	
LEAD	**Standard:**	
	Technology Description:	
	Basis:	

Comments: This is a small emitter (< 10 lb/day) and minor source BACT. BACT for portable concrete/asphalt recycling operation.

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

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777 12th Street, Third Floor

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Sacramento, CA 95814

BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

DETERMINATION NO.: 171

DATE: January 11, 2018

ENGINEER: Felix Trujillo, Jr.

Category/General Equip Description: Portable Concrete/Asphalt Recycling

Equipment Specific Description: Crusher, Screen, Transfer and Storage

Equipment Size/Rating: Small Emitter BACT (< 10 lb/day)/Minor Source

Previous BACT Det. No.: 101

SMAQMD's BACT Clearinghouse does not have a current BACT guideline for portable concrete/asphalt recycling operations. The last BACT determination (BACT # 101) for this type of operation was determined on 2/27/15 and expired on 2/27/16, based on the District's prior BACT determination practice. BACT determinations that are determined under the new practice are active for a period of two years. Under the new practice, new BACT determinations must go through a 30 day public notice. Since more than two years has passed since the last determination, a new BACT determination had to be determined. Therefore, a new BACT determination was performed under the project for A/C's 25131, 25132 and 25133 (L&D Landfill Limited Partnership).

BACT ANALYSIS

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

The following control technologies are currently employed as BACT for portable crushers in concrete/asphalt recycling operations:

<table>
<tr><th>District/Agency</th><th>Best Available Control Technology (BACT)/Requirements</th></tr>
<tr><td>US EPA</td><td>
<u>BACT</u>
Source: EPA RACT/BACT/LAER Clearinghouse
<table>
<tr><td colspan="2">Portable Concrete/Asphalt Recycling Operation</td></tr>
<tr><td>VOC</td><td>No standard</td></tr>
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<tr><td>PM2.5</td><td>No standard</td></tr>
<tr><td>CO</td><td>No standard</td></tr>
</table>
<u>RULE REQUIREMENTS</u>:
40 CFR Part 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants
This subpart is applicable to portable nonmetallic mineral processing plants that process more than 150 tons of material per hour. This regulation sets the following requirements for portable crushers.

A. 7% opacity for fugitive emissions from grinding mills, screening operations, bucket elevators, transfer points on belt conveyors (except where the nonmetallic mineral is being transferred to a stockpile), bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility.
B. 12% opacity for fugitive emissions from crushers.
</td></tr>
<tr><td>ARB</td><td>
<u>BACT</u>
Source: ARB BACT Clearinghouse
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<u>RULE REQUIREMENTS</u>:
Regulation to Establish a Statewide Portable Equipment Registration Program (Title 13, CCR, Article 5 Sections 2450-2465) sets the following requirements for portable crushers registered in the PERP program.
</td></tr>
</table>

District/Agency	Best Available Control Technology (BACT)/Requirements
ARB	A. no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as or darker than Ringelmann 1 or equivalent 20 percent opacity; B. there shall be no visible emissions beyond the property line on which the equipment is being operated; C. all transfer points shall be ducted through a fabric or cartridge type filter dust collector, or shall be equipped with a wet suppression system maintaining a minimum moisture content unless there are no visible emissions; D. particulate matter emissions from each crusher shall be ducted through a fabric dust collector, or shall be equipped with a wet suppression system which maintains a minimum moisture content to ensure there are no visible emissions; E. all conveyors shall be covered, unless the material being transferred results in no visible emissions; F. all stockpiled material shall be maintained at a minimum moisture content unless the stockpiled material results in no visible emissions; G. as a part of application for registration, the applicant shall provide manufacturer's specifications or engineering data to demonstrate a minimum particulate matter control of 99 percent for the fabric dust collection equipment; H. except for vent filters, each fabric dust collector shall be equipped with an operational pressure differential gauge to measure the pressure drop across the filters; I. open areas and all roads subject to vehicular traffic shall be paved, watered, or chemical palliatives applied to prevent fugitive emissions in excess of 20 percent opacity or Ringelmann 1; and J. if applicable, the operation shall comply with the requirements of 40 CFR Part 60 Subpart OOO. Although the use of a baghouse has been identified as a control technology, it is not technologically feasible to install a baghouse on this type of portable equipment, which has been manufactured as a portable compact unit (as explained in the technologically feasible section of this document). This equipment will be from a third party contractor and moved around the facility. So it would be difficult to power the baghouse through line power. A generator would be required to run the baghouse.

<table>
<tr><th>District/Agency</th><th>Best Available Control Technology (BACT)/Requirements</th></tr>
<tr><td>SMAQMD</td><td>
<u>BACT</u>
Source: SMAQMD BACT Clearinghouse; BACT #101
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<tr><td>CO</td><td>No standard</td></tr>
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<u>RULE REQUIREMENTS</u>:
None
</td></tr>
<tr><td>South Coast AQMD</td><td>
<u>BACT</u>
Source: SCAQMD BACT Guidelines for Non-Major Polluting Facilities, page 13.
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<u>RULE REQUIREMENTS</u>:
Rule 1157 – PM10 Emission Reductions from Aggregate and Related Operations (8/8/06)

(1) General Performance Standards
(A) The operator of a facility/operation shall not cause or allow:
(i) a discharge into the atmosphere of, fugitive dust emissions exceeding 20 percent opacity from any activity, equipment, storage pile, or disturbed surface area, based on an average of 12 consecutive readings, using the SCAQMD Opacity Test Method No. 9B; or
</td></tr>
</table>

District/Agency	Best Available Control Technology (BACT)/Requirements
	(ii) discharges into the atmosphere of, fugitive dust emissions exceeding 50 percent opacity from any activity, equipment, storage pile, or disturbed surface area, based on five individual, consecutive readings, using the SCAQMD Opacity Test Method No. 9B, effective December 3, 2005; or (iii) any visible fugitive dust plume from exceeding 100 feet in any direction from any activity, equipment, storage pile, or disturbed surface area. (B) The operator of a facility/operation shall promptly remove any pile of material spillage on any internal paved roads. Alternatively, the operator shall maintain in a stabilized condition the pile of material spillage with dust suppressants and remove it by the end of each day. (C) The operator of a facility/operation shall maintain in a stabilized condition all other piles of material spillage and carry-back with dust suppressants until removal. (D) The operator of a facility/operation shall use sufficient dust suppressants or other dust control methods as necessary to meet the performance standards in subparagraph (d)(1)(A). (2) Loading, Unloading, and Transferring The operator of an existing permanent or temporary facility/operation shall use dust suppressants or other dust control methods at each emission source during loading, unloading, or transferring activities of materials as necessary to meet the performance standards in subparagraph (d)(1)(A). (3) Conveyor The operator of a facility/operation using a conveyor shall apply dust suppressants or other dust control methods at the conveyor including all transfer points where materials are released as necessary to meet the performance standards in subparagraph (d)(1)(A). (4) Crushing Equipment The operator of a facility/operation conducting crushing activities of materials shall use baghouses to control PM10 emissions. Alternatively, the operator may apply dust suppressants or other dust control methods at the crusher including all discharge points as necessary to meet the performance standards in subparagraph (d)(1)(A). (5) Screening Equipment The operator of a facility/operation conducting outdoor screening activities of materials shall use enclosed screening equipment that is equipped with a baghouse. Alternatively, the operator may apply dust suppressants or other dust control methods at the screening equipment including all discharge points during such activities as necessary to meet the performance standards in subparagraph (d)(1)(A). (6) Storage Piles (A)The operator of a facility/operation shall maintain in a stabilized condition the entire surface area of the open storage piles of materials, except for areas of the piles that are actively disturbed during the loading and/or unloading activities. Alternatively, the operator may: (i) store materials in a silo or a bunker; (ii) maintain at least two feet of freeboard from the highest portion of the piles; and (iii) for the bunker, stabilize the sides of the pile that are not

<table>
<tr><th>District/Agency</th><th>Best Available Control Technology (BACT)/Requirements</th></tr>
<tr><td></td><td>shielded by non-porous walls.
(B) At the end of each work day in which loading or unloading activities of materials were performed, the operator of a facility/operation shall re-apply dust suppressants to re-stabilize disturbed areas of the piles.

This rule applies to stationary and portable equipment. Although, a baghouse is listed as a control option, it is not feasible for this type of portable equipment as explained in the technologically feasible section of this document. This strictest performance standard is for the equipment to meet a 20% opacity standard.</td></tr>
<tr><td>San Diego County APCD</td><td><u>BACT</u>
Source: NSR Requirements for BACT, page 27.

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The SDCAPCD has a BACT trigger level of 10 lb/day.

<u>RULE REQUIREMENTS</u>:
None</td></tr>
<tr><td>Bay Area AQMD</td><td><u>BACT</u>
Source: BAAQMD BACT

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The BAAQMD has a BACT trigger level of 10 lb/day.</td></tr>
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<tr><td></td><td><u>RULE REQUIREMENTS</u>:
None.</td></tr>
<tr><td>San Joaquin Valley APCD</td><td><u>BACT</u>
Source: SJVUAPCD BACT Guidelines

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<tr><td>CO</td><td>No standard</td></tr>
</table>
The SJVAPCD BACT trigger level is 2 lb/day.

<u>RULE REQUIREMENTS</u>:
None</td></tr>
</table>

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

SUMMARY OF ACHIEVED IN PRACTICE CONTROL TECHNOLOGIES		
Pollutant	**Standard**	**Source**
VOC	No Standard	
NOx	No Standard	
SOx	No Standard	
PM10	1. Water sprays on crushers/screen with no visible emissions, covered conveyors or water sprays with no visible emissions, water sprays on transfer points and water sprays on storage piles. 2. Compliance with 40 CFR Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants 3. Compliance with SCAQMD Rule 1157 – PM10 Emission reductions from Aggregate and Related Operations (8/8/05)	SMAQMD, ARB, EPA SCAQMD
PM2.5	Water sprays on crushers/screen with no visible emissions, covered conveyors or water sprays with no visible emissions, water sprays on transfer points and water sprays on storage piles.	SMAQMD, ARB, SCAQMD

SUMMARY OF ACHIEVED IN PRACTICE CONTROL TECHNOLOGIES		
Pollutant	**Standard**	**Source**
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	No Standard	
NOx	No Standard	
SOx	No Standard	
PM10	Water sprays on crushers/screen with no visible emissions, covered conveyors or water sprays with no visible emissions, water sprays on transfer points and water sprays on storage piles.	SMAQMD, ARB
PM2.5	Water sprays on crushers/screen with no visible emissions, covered conveyors or water sprays with no visible emissions, water sprays on transfer points and water sprays on storage piles.	SMAQMD, ARB
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 concrete/asphalt crusher that will be moved throughout the processing area. The use of a baghouse requires electrical power. Most of these units are manufactured as part of one compact self-propelling unit, which does not include a baghouse. The engines that are the power source for these compact units are designed to power only the equipment of the unit and would not be able to handle any further load. 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 portable crusher 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 concrete/asphalt recycling operation is the following:

BACT FOR PORTABLE CONCRETE/ASPHALT RECYCLING OPERATION		
Pollutant	**Standard**	**Source**
VOC	No Standard	
NOx	No Standard	
SOx	No Standard	
PM10	Water sprays on crushers/screen with no visible emissions, covered conveyors or water sprays with no visible emissions, water sprays on transfer points and water sprays on storage piles.	SMAQMD, ARB
PM2.5	Water sprays on crushers/screen with no visible emissions, covered conveyors or water sprays with no visible emissions, water sprays on transfer points and water sprays on storage piles.	SMAQMD, ARB
CO	No Standard	

REVIEWED BY: _____ **DATE:** _____

APPROVED BY: _____ **DATE:** _____