

## SMAQMD BACT CLEARINGHOUSE

**ACTIVE**

CATEGORY Type: **MINING - NONMETALLIC**

BACT Category: Minor Source BACT

BACT Determination Number:	390	BACT Determination Date:	6/20/25
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### Equipment Information

**Permit Number:** N/A - Generic BACT Determination

**Equipment Description:** PORTABLE AGGREGATE PROCESSING & CONCRETE/ASPHALT RECYCLING

**Unit Size/Rating/Capacity:** > 150 TONS/HOUR

**Equipment Location:** N/A - Generic BACT Determination

### BACT Determination Information

**District Contact:** Felix Trujillo, Jr.      **Phone No.:** (279) 207-1154      **Email:** ftrujillo@airquality.org

<b>ROCs</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	
	<b>Basis:</b>	
<b>NOx</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	
	<b>Basis:</b>	
<b>SOx</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	
	<b>Basis:</b>	
<b>PM10</b>	<b>Standard:</b>	See comments section.
	<b>Technology Description:</b>	
	<b>Basis:</b>	Achieved in Practice
<b>PM2.5</b>	<b>Standard:</b>	See comments section.
	<b>Technology Description:</b>	
	<b>Basis:</b>	Achieved in Practice
<b>CO</b>	<b>Standard:</b>	
	<b>Technology</b>	

	<b>Description:</b>	
	<b>Basis:</b>	
<b>LEAD</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	
	<b>Basis:</b>	
<b>Comments:</b>	This is a generic BACT determination based on BACT determinations made, and published, by other air agencies in California and/or other States.	

Printed:

05/14/2025



## BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

<b>DETERMINATION NO.:</b>	<u>390</u>
<b>DATE:</b>	<u>2/28/25</u>
<b>ENGINEER:</b>	<u>Felix Trujillo, Jr.</u>

<b>Category/General Equip Description:</b>	<u>Portable Aggregate Processing &amp; Concrete/Asphalt Recycling</u>
<b>Equipment Specific Description:</b>	<u>Feeder, Crusher, Screen, Transfer &amp; Storage</u>
<b>Equipment Size/Rating:</b>	<u>Small Emitter BACT (&lt; 10 lb/day)/Minor Source: Capacity &gt; 150 tons/hour )</u>
<b>Previous BACT Det. No.:</b>	<u>279</u>

This BACT determination will update Determination #279 (6/23/21) for a portable concrete/asphalt recycling operation. In general, the process consist of material fed into a feed hopper and transferred via associated conveyors to a crusher and screen for separating into various sizes. The material is then conveyed to a storage pile via a stacking conveyor.

### **A. 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. 279. Also, no new technologically feasible control technologies were identified. Therefore, there is no change in requirements as was previously determined under BACT No. 279. BACT No. 279 will be attached as a reference for this BACT determination (see Appendix A).

**B. SELECTION OF BACT:**

BACT for Portable Aggregate Processing & Concrete/Asphalt Recycling (> 150 Tons/hr Capacity) operations is the following:

<b>BACT # 390 for Portable Aggregate Processing &amp; Concrete/Asphalt Recycling &gt; 150 Tons/hr Capacity</b>		
<b>Pollutant</b>	<b>Standard</b>	<b>Source</b>
VOC	No Standard	
NOx	No Standard	
SOx	No Standard	
PM10	Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%.	SMAQMD/SCAQMD/EPA
PM2.5	Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%.	SMAQMD/SCAQMD/EPA
CO	No Standard	

APPROVED BY:           *Brian F Krebs*                                DATE:           06-20-2025

# **Attachment A**

**BACT No. 279**

SMAQMD BACT CLEARINGHOUSE

**UNDER PUBLIC REVIEW**

CATEGORY Type **Portable Aggregate Processing & Concrete/Asphalt Recycling**

BACT Category: Small Emitter/Minor Source BACT

<b>BACT Determination Number:</b> 279	<b>BACT Determination Date:</b>	
<b>Equipment Information</b>		
<b>Permit Number:</b> N/A -- Generic BACT Determination		
<b>Equipment Description:</b> Feeder, Crusher, Screen, Transfer & Storage		
<b>Unit Size/Rating/Capacity:</b> > 150 Tons/Hour		
<b>Equipment Location:</b>		
<b>BACT Determination Information</b>		
<b>District Contact:</b>		
<b>ROCs</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	
	<b>Basis:</b>	
<b>NOx</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	
	<b>Basis:</b>	
<b>SOx</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	
	<b>Basis:</b>	
<b>PM10</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	See comments section.
	<b>Basis:</b>	Achieved in Practice
<b>PM2.5</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	See comments section.
	<b>Basis:</b>	Achieved in Practice
<b>CO</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	
	<b>Basis:</b>	
<b>LEAD</b>	<b>Standard:</b>	
	<b>Technology Description:</b>	
	<b>Basis:</b>	
<b>Comments:</b> Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%.		



## BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

<b>DETERMINATION NO.:</b>	279
<b>DATE:</b>	5/19/21
<b>ENGINEER:</b>	Felix Trujillo, Jr.

<b>Category/General Equip Description:</b>	Portable Aggregate Processing & Concrete/Asphalt Recycling
<b>Equipment Specific Description:</b>	Feeder, Crusher, Screen, Transfer & Storage
<b>Equipment Size/Rating:</b>	Small Emitter BACT (< 10lb/day)/Minor Source: Capacity > 150 tons/hour )
<b>Previous BACT Det. No.:</b>	171

This BACT determination will update Determination #171 (1/11/18) for a portable concrete/asphalt recycling operation. In general, the process consist of material fed into a feed hopper and transferred via associated conveyors to a crusher and screen for separating into various sizes. The material is then conveyed to a storage pile via a stacking conveyor.

### **A. 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. 171. Also, no new technologically feasible control technologies were identified. Therefore, there is no change in requirements as was previously determined under BACT No. 171. BACT No. 171 will be attached as a reference for this BACT determination (see Appendix A).

This BACT will clarify the standards for the entry feed hopper loading, stockpile loading and stockpile emissions, since these emission points are not subject to [40 CFR Part 60 Subpart OOO](#) requirements. These emission points shall default to the SCAQMD Rule 1157 standards of 20% opacity as listed under the SCAQMD section of the BACT 171 analysis (see Appendix A). Aggregate processing will also be included on the description, since the same portable equipment (i.e. trackmounted crushers, screens or conveyors on wheels) is used and would be subject to the same requirements. Also, since Subpart OOO applies to portable

operations with a rating of greater than 150 tons/hour, this BACT shall be set to this rating. The applications that have been processed so far by the District, under BACT 171, have been greater than 150 tons/hour. The District does not anticipate receiving any applications with a rating of 150 tons/hour or less. If such an application is received, the application will be processed under a separate BACT.

**B. SELECTION OF BACT:**

BACT for Portable Aggregate Processing & Concrete/Asphalt Recycling (> 150 Tons/hr Capacity) operations is the following:

<b>BACT # 279 for Portable Aggregate Processing &amp; Concrete/Asphalt Recycling &gt; 150 Tons/hr Capacity</b>		
<b>Pollutant</b>	<b>Standard</b>	<b>Source</b>
VOC	No Standard	
NOx	No Standard	
SOx	No Standard	
PM10	Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%.	SMAQMD/SCAQMD/EPA
PM2.5	Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%.	SMAQMD/SCAQMD/EPA
CO	No Standard	

**APPROVED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

# **Attachment A**

**BACT No. 171**

CATEGORY:

**PORTABLE CONCRETE/ASPHALT RECY**

BACT Size: Minor Source BACT

Crusher, Screen, Transfer &amp; Storage

<b>BACT Determination Number:</b> 171		<b>BACT Determination Date:</b> 3/8/2018	
<b>Equipment Information</b>			
<b>Permit Number:</b> 25131			
<b>Equipment Description:</b> Crusher, Screen, Transfer & Storage			
<b>Unit Size/Rating/Capacity:</b>			
<b>Equipment Location:</b> L AND D LANDFILL LIMITED PARTNERSHIP 8635 FRUITRIDGE ST SACRAMENTO, CA			
<b>BACT Determination Information</b>			
ROCs	<b>Standard:</b>		
	<b>Technology Description:</b>		
	<b>Basis:</b>		
NOx	<b>Standard:</b>		
	<b>Technology Description:</b>		
	<b>Basis:</b>		
SOx	<b>Standard:</b>		
	<b>Technology Description:</b>		
	<b>Basis:</b>		
PM10	<b>Standard:</b>		
	<b>Technology Description:</b>	Use of water sprays on crushers, screens, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart 000 opacity limitations.	
	<b>Basis:</b>	Achieved in Practice	
PM2.5	<b>Standard:</b>		
	<b>Technology Description:</b>	Use of water sprays on crushers, screens, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart 000 opacity limitations.	
	<b>Basis:</b>	Achieved in Practice	
CO	<b>Standard:</b>		
	<b>Technology Description:</b>		
	<b>Basis:</b>		
LEAD	<b>Standard:</b>		
	<b>Technology Description:</b>		
	<b>Basis:</b>		
<b>Comments:</b> This is a small emitter (< 10 lb/day) and minor source BACT. BACT for portable concrete/asphalt recycling operations.			
<b>District Contact:</b> Felix Trujillo Phone No.: (916) 874 - 7357 email: ftrujillo@airquality.org			



## BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

<b>DETERMINATION NO.:</b>	171
<b>DATE:</b>	January 11, 2018
<b>ENGINEER:</b>	Felix Trujillo, Jr.

<b>Category/General Equip Description:</b>	Portable Concrete/Asphalt Recycling
<b>Equipment Specific Description:</b>	Crusher, Screen, Transfer and Storage
<b>Equipment Size/Rating:</b>	Small Emitter BACT (< 10 lb/day)/Minor Source
<b>Previous BACT Det. No.:</b>	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:

District/Agency	Best Available Control Technology (BACT)/Requirements														
US EPA	<p><b>BACT</b>            Source: EPA RACT/BACT/LAER Clearinghouse</p> <table border="1" data-bbox="462 430 1429 751"> <tr> <td colspan="2">Portable Concrete/Asphalt Recycling Operation</td> </tr> <tr> <td><b>VOC</b></td> <td>No standard</td> </tr> <tr> <td><b>NOx</b></td> <td>No standard</td> </tr> <tr> <td><b>SOx</b></td> <td>No standard</td> </tr> <tr> <td><b>PM10</b></td> <td>No standard</td> </tr> <tr> <td><b>PM2.5</b></td> <td>No standard</td> </tr> <tr> <td><b>CO</b></td> <td>No standard</td> </tr> </table> <p><b>RULE REQUIREMENTS:</b>            40 CFR Part 60 Subpart 000 – Standards of Performance for Nonmetallic Mineral Processing Plants</p> <p>This subpart is applicable to portable nonmetallic mineral processing plants that process more than 150 tons of material per hour. This regulation includes two separate opacity limitations based on the construction, modification or reconstruction date of the equipment. Pursuant to 40 CFR Subpart A Section 60.2 (Definitions), installation is included under the definition of construction. For equipment that was installed after April 22, 2008, are subject to an opacity limit of 7% for screening and conveyor transfer points and 12% for crushers. Equipment that was installed before April 22, 2008 are subject to an opacity limit of 10% for screening and conveyor transfer points and 15% for crushers.</p> <p>Pursuant to EPA documents New Source Performance Standards Review for Nonmetallic Mineral Processing Plants; and Amendment to the Standards of Performance for Calciners and Dryers in Mineral Industries (<a href="https://www.regulations.gov/document?D=EPA-HQ-OAR-2007-1018-0001">https://www.regulations.gov/document?D=EPA-HQ-OAR-2007-1018-0001</a>), this regulation was amended in 2008 to reduce the opacity limitations to the current limits. The old limits (15% opacity for crushers and 10% opacity for other equipment) were based on 1970s data and had not been reevaluated based on actual emissions testing in over 20 years. The document states the new opacity limits were based on actual test data of 700 fugitive emissions tests. It was also noted that water sprays were often used on transfer points during dry months but are turned off during wet months when precipitation is adequate to suppress fugitive dust.</p>	Portable Concrete/Asphalt Recycling Operation		<b>VOC</b>	No standard	<b>NOx</b>	No standard	<b>SOx</b>	No standard	<b>PM10</b>	No standard	<b>PM2.5</b>	No standard	<b>CO</b>	No standard
	Portable Concrete/Asphalt Recycling Operation														
	<b>VOC</b>	No standard													
	<b>NOx</b>	No standard													
	<b>SOx</b>	No standard													
	<b>PM10</b>	No standard													
	<b>PM2.5</b>	No standard													
	<b>CO</b>	No standard													

District/Agency	Best Available Control Technology (BACT)/Requirements														
ARB	<p><b>BACT</b>            Source: ARB BACT Clearinghouse</p> <table border="1" data-bbox="464 394 1435 777"> <tr> <td colspan="2" data-bbox="464 394 1435 445">Portable Concrete/Asphalt Recycling Operation</td> </tr> <tr> <td data-bbox="464 445 574 499">VOC</td> <td data-bbox="574 445 1435 499">No standard</td> </tr> <tr> <td data-bbox="464 499 574 554">NOx</td> <td data-bbox="574 499 1435 554">No standard</td> </tr> <tr> <td data-bbox="464 554 574 609">SOx</td> <td data-bbox="574 554 1435 609">No standard</td> </tr> <tr> <td data-bbox="464 609 574 663">PM10</td> <td data-bbox="574 609 1435 663">No standard</td> </tr> <tr> <td data-bbox="464 663 574 718">PM2.5</td> <td data-bbox="574 663 1435 718">No standard</td> </tr> <tr> <td data-bbox="464 718 574 777">CO</td> <td data-bbox="574 718 1435 777">No standard</td> </tr> </table> <p><b>RULE REQUIREMENTS:</b>            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.</p> <ul style="list-style-type: none"> <li>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;</li> <li>B. there shall be no visible emissions beyond the property line on which the equipment is being operated;</li> <li>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;</li> <li>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;</li> <li>E. all conveyors shall be covered, unless the material being transferred results in no visible emissions;</li> <li>F. all stockpiled material shall be maintained at a minimum moisture content unless the stockpiled material results in no visible emissions;</li> <li>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;</li> <li>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;</li> <li>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</li> <li>J. if applicable, the operation shall comply with the requirements of 40 CFR Part 60 Subpart 000.</li> </ul>	Portable Concrete/Asphalt Recycling Operation		VOC	No standard	NOx	No standard	SOx	No standard	PM10	No standard	PM2.5	No standard	CO	No standard
Portable Concrete/Asphalt Recycling Operation															
VOC	No standard														
NOx	No standard														
SOx	No standard														
PM10	No standard														
PM2.5	No standard														
CO	No standard														
ARB	<p>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</p>														

District/Agency	Best Available Control Technology (BACT)/Requirements
	<p>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.</p> <p>The Regulation for the Statewide Reistration Program became effective on September 17, 1997. The initial language for conveyor transfer points and crushers (<a href="https://www.arb.ca.gov/regact/perp/execsum3.pdf">https://www.arb.ca.gov/regact/perp/execsum3.pdf</a>) are listed down below:</p> <ul style="list-style-type: none"> <li>• All transfer points must be ducted through a fabric or cartridge type filter dust collector, or equipped with a wet suppression system maintaining a minimum moisture content of 4 percent by weight.</li> <li>• Particulate matter emissions from each crusher must be ducted through a fabric dust collector, or ducted through a wet suppression system which maintains a minimum moisture content of 4 percent by weight.</li> </ul> <p>The regulation was amended and became effective on October 1998 (<a href="https://www.arb.ca.gov/regact/perprev/isor.pdf">https://www.arb.ca.gov/regact/perprev/isor.pdf</a>). The amendment to the regulation was to include equipment that was subject to 40 CFR Part 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. The language for transfer points and crushers was changed to the following:</p> <ul style="list-style-type: none"> <li>• All transfer points must be ducted through a fabric or cartridge type filter dust collector, or equipped with a wet suppression system maintaining a minimum moisture content to ensure there are no visible emissions.</li> <li>• Particulate matter emissions from each crusher must be ducted through a fabric dust collector, or ducted through a wet suppression system which maintains a minimum moisture content to ensure there are no visible emissions.</li> </ul> <p>The initial statement of reasons for the 1998 ammendment did not include a reason for the change in language.</p> <p>A review of current PERP registrations (#'s 141043 &amp; 16143) for crushing operations show the requirements for transfer points and crushers as follows:</p> <ul style="list-style-type: none"> <li>• All transfer points shall be equipped with water sprays to control fugitive particulate matter emissions, unless there are no visible emissions from the transfer point.</li> <li>• Each crusher shall be equipped with water sprays.</li> </ul> <p>The District contacted the PERP program on 1/1/08 and asked why there was a difference between the requirements from the regulation and what is issued. ARB stated they assume a control efficiency of 90% (as per AP42 Chapter 8 Table 8.19.2-1 (9/85)) from the use of water sprays, which should result in minimal visible emissions. So the requirement for no visible emissions from these types of equipment is not included in the registrations that are issued for equipment that is served by water sprays. Therefore, the default opacity limit that the equipment would be subject to is either the Subpart OOO opacity limits (only if the equipment is subject to this regulation) or the 20% opacity limit that are included on the registrations as conditions. Since the Air Resources Board (ARB) is not enforcing the no visible emissions limitation, this BACT will not enforce such limitation either.</p>

District/Agency	Best Available Control Technology (BACT)/Requirements														
SMAQMD	<p><b><u>BACT</u></b>            Source: <u>SMAQMD BACT Clearinghouse; BACT #101</u></p> <table border="1" data-bbox="467 401 1432 915"> <tr> <td colspan="2" data-bbox="467 401 1432 457">Portable Concrete/Asphalt Recycling Operation</td> </tr> <tr> <td data-bbox="467 457 570 506"><b>VOC</b></td> <td data-bbox="578 457 1432 506">No standard</td> </tr> <tr> <td data-bbox="467 506 570 554"><b>NOx</b></td> <td data-bbox="578 506 1432 554">No standard</td> </tr> <tr> <td data-bbox="467 554 570 602"><b>SOx</b></td> <td data-bbox="578 554 1432 602">No standard</td> </tr> <tr> <td data-bbox="467 602 570 737"><b>PM10</b></td> <td data-bbox="578 602 1432 737">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.</td> </tr> <tr> <td data-bbox="467 737 570 856"><b>PM2.5</b></td> <td data-bbox="578 737 1432 856">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.</td> </tr> <tr> <td data-bbox="467 856 570 915"><b>CO</b></td> <td data-bbox="578 856 1432 915">No standard</td> </tr> </table> <p>The above BACT requirements for no visible emissions were based on the PERP regulation requirements for these types of operations. As stated in the ARB section of this document, the District will not include the no visible emissions requirement as achieved in practice. Therefore, the no visible emissions will not be referenced for BACT purposes.</p> <p><b><u>RULE REQUIREMENTS:</u></b>            None</p>	Portable Concrete/Asphalt Recycling Operation		<b>VOC</b>	No standard	<b>NOx</b>	No standard	<b>SOx</b>	No standard	<b>PM10</b>	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.	<b>PM2.5</b>	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.	<b>CO</b>	No standard
Portable Concrete/Asphalt Recycling Operation															
<b>VOC</b>	No standard														
<b>NOx</b>	No standard														
<b>SOx</b>	No standard														
<b>PM10</b>	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.														
<b>PM2.5</b>	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.														
<b>CO</b>	No standard														
South Coast AQMD	<p><b><u>BACT</u></b>            Source: <u>SCAQMD BACT Guidelines for Non-Major Polluting Facilities, page 13.</u></p> <table border="1" data-bbox="467 1331 1432 1717"> <tr> <td colspan="2" data-bbox="467 1331 1432 1388">Portable Concrete/Asphalt Recycling Operation</td> </tr> <tr> <td data-bbox="467 1388 570 1436"><b>VOC</b></td> <td data-bbox="578 1388 1432 1436">No standard</td> </tr> <tr> <td data-bbox="467 1436 570 1484"><b>NOx</b></td> <td data-bbox="578 1436 1432 1484">No standard</td> </tr> <tr> <td data-bbox="467 1484 570 1533"><b>SOx</b></td> <td data-bbox="578 1484 1432 1533">No standard</td> </tr> <tr> <td data-bbox="467 1533 570 1581"><b>PM10</b></td> <td data-bbox="578 1533 1432 1581">No standard</td> </tr> <tr> <td data-bbox="467 1581 570 1629"><b>PM2.5</b></td> <td data-bbox="578 1581 1432 1629">No standard</td> </tr> <tr> <td data-bbox="467 1629 570 1717"><b>CO</b></td> <td data-bbox="578 1629 1432 1717">No standard</td> </tr> </table> <p><b><u>RULE REQUIREMENTS:</u></b>  <u>Rule 1157 – PM10 Emission Reductions from Aggregate and Related Operations (8/8/06)</u></p> <p>(1) General Performance Standards</p>	Portable Concrete/Asphalt Recycling Operation		<b>VOC</b>	No standard	<b>NOx</b>	No standard	<b>SOx</b>	No standard	<b>PM10</b>	No standard	<b>PM2.5</b>	No standard	<b>CO</b>	No standard
Portable Concrete/Asphalt Recycling Operation															
<b>VOC</b>	No standard														
<b>NOx</b>	No standard														
<b>SOx</b>	No standard														
<b>PM10</b>	No standard														
<b>PM2.5</b>	No standard														
<b>CO</b>	No standard														

District/Agency	Best Available Control Technology (BACT)/Requirements
	<p>(A) The operator of a facility/operation shall not cause or allow:</p> <ul style="list-style-type: none"> <li>(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</li> <li>(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</li> <li>(iii) any visible fugitive dust plume from exceeding 100 feet in any direction from any activity, equipment, storage pile, or disturbed surface area.</li> </ul> <p>(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.</p> <p>(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.</p> <p>(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).</p> <p>(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).</p> <p>(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).</p> <p>(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).</p> <p>(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).</p> <p>(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</p>

District/Agency	Best Available Control Technology (BACT)/Requirements														
	<p>during the loading and/or unloading activities. Alternatively, the operator may:</p> <ul style="list-style-type: none"> <li>(i) store materials in a silo or a bunker;</li> <li>(ii) maintain at least two feet of freeboard from the highest portion of the piles; and</li> <li>(iii) for the bunker, stabilize the sides of the pile that are not shielded by non-porous walls.</li> </ul> <p>(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.</p> <p>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 is to meet a 20% opacity standard.</p>														
San Diego County APCD	<p><b><u>BACT</u></b>          Source: <u>NSR Requirements for BACT, page 27.</u></p> <table border="1" data-bbox="459 934 1427 1304"> <thead> <tr> <th colspan="2">Portable Concrete/Asphalt Recycling Operation</th> </tr> </thead> <tbody> <tr> <td><b>VOC</b></td> <td>No standard</td> </tr> <tr> <td><b>NOx</b></td> <td>No standard</td> </tr> <tr> <td><b>SOx</b></td> <td>No standard</td> </tr> <tr> <td><b>PM10</b></td> <td>No standard</td> </tr> <tr> <td><b>PM2.5</b></td> <td>No standard</td> </tr> <tr> <td><b>CO</b></td> <td>No standard</td> </tr> </tbody> </table> <p>The SDCAPCD has a BACT trigger level of 10 lb/day.</p> <p><b><u>RULE REQUIREMENTS:</u></b>          None</p>	Portable Concrete/Asphalt Recycling Operation		<b>VOC</b>	No standard	<b>NOx</b>	No standard	<b>SOx</b>	No standard	<b>PM10</b>	No standard	<b>PM2.5</b>	No standard	<b>CO</b>	No standard
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Bay Area AQMD	<p><b><u>BACT</u></b>          Source: BAAQMD BACT</p> <table border="1" data-bbox="459 1608 1427 1881"> <thead> <tr> <th colspan="2">Portable Concrete/Asphalt Recycling Operation</th> </tr> </thead> <tbody> <tr> <td><b>VOC</b></td> <td>No standard</td> </tr> <tr> <td><b>NOx</b></td> <td>No standard</td> </tr> <tr> <td><b>SOx</b></td> <td>No standard</td> </tr> <tr> <td><b>PM10</b></td> <td>No standard</td> </tr> </tbody> </table>	Portable Concrete/Asphalt Recycling Operation		<b>VOC</b>	No standard	<b>NOx</b>	No standard	<b>SOx</b>	No standard	<b>PM10</b>	No standard				
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District/Agency	Best Available Control Technology (BACT)/Requirements	
	<b>PM2.5</b>	No standard
	<b>CO</b>	No standard
	The BAAQMD has a BACT trigger level of 10 lb/day.	
	<b><u>RULE REQUIREMENTS:</u></b> None.	
San Joaquin Valley APCD	<b><u>BACT</u></b> Source: SJVUAPCD BACT Guidelines	
	Portable Concrete/Asphalt Recycling Operation	
	<b>VOC</b>	No standard
	<b>NOx</b>	No standard
	<b>SOx</b>	No standard
	<b>PM10</b>	No standard
	<b>PM2.5</b>	No standard
	<b>CO</b>	No standard
		The SJVAPCD BACT trigger level is 2 lb/day.
	<b><u>RULE REQUIREMENTS:</u></b> None	

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

SUMMARY OF ACHIEVED IN PRACTICE CONTROL TECHNOLOGIES		
Pollutant	Standard	Source
<b>VOC</b>	No Standard	
<b>NOx</b>	No Standard	
<b>SOx</b>	No Standard	
<b>PM10</b>	<ol style="list-style-type: none"> <li>Use of water sprays on crushers, screens, conveyors, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations.</li> <li>Compliance with SCAQMD Rule 1157 – PM10 Emission reductions from Aggregate and Related Operations (8/8/05)</li> </ol>	SMAQMD, EPA  SCAQMD
<b>PM2.5</b>	<ol style="list-style-type: none"> <li>Use of water sprays on crushers, screens, conveyors, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations.</li> </ol>	SMAQMD, EPA

SUMMARY OF ACHIEVED IN PRACTICE CONTROL TECHNOLOGIES		
Pollutant	Standard	Source
	2. Compliance with SCAQMD Rule 1157 – PM10 Emission reductions from Aggregate and Related Operations (8/8/05)	SCAQMD
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	Use of water sprays on crushers, screens, conveyors, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations.	SMAQMD, EPA
PM2.5	Use of water sprays on crushers, screens, conveyors, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations.	SMAQMD, EPA
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

Pollutant	Technologically Feasible Alternatives
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	Use of water sprays on crushers, screens, conveyors, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations.	SMAQMD, EPA
PM2.5	Use of water sprays on crushers, screens, conveyors, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations.	SMAQMD, EPA
CO	No Standard	

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY:  DATE: 3/8/18

# **Appendix A**

## **Comments Recieved**

# CALCIMA

## California Construction and Industrial Materials Association

February 12, 2018

Sacramento Metro Air Quality Management District  
ATTN: Jorge DeGuzman  
777 12th Street, 3rd Floor  
Sacramento, CA 95814  
Via Email: [bactdeterminations@airquality.org](mailto:bactdeterminations@airquality.org)

RE: Opposition BACT # 171 - Portable Concrete/Asphalt Recycling

Dear Mr. DeGuzman:

CALCIMA regrettably must object to the proposed BACT determination 171 for Portable Concrete/Asphalt Recycling.

CALCIMA is a statewide trade association representing construction and industrial material producers in California. Our members supply the materials that build our state's infrastructure, including public roads, rail, and water projects; help build our homes, schools and hospitals; assist in growing crops and feeding livestock; and play a key role in manufacturing wallboard, roofing shingles, paint, low energy light bulbs, and battery technology for electric cars and windmills. Our members are both producers of construction aggregates from mined as well as recycled material sources.

### **District Proposed BACT:**

"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:**

Our first concern is that the District in proposing to adopt this Portable Concrete/Asphalt Recycling BACT is utilizing "Achieved in Practice" vs "Case-by-Case" as the basis for this BACT. Case-by-Case is the appropriate standard due to the nature of BACT review under new source review, which inherently recognizes the opportunity to demonstrate alternative achievable technology, and to demonstrate an action is un-achievable which, in our experience, zero visible emissions are at times.

District Rule 202 BACT Definition.

*205 BEST AVAILABLE CONTROL TECHNOLOGY (BACT): For any emissions unit the most stringent of:*

*205.1 The most effective emission control device, emission limit, or technique, singly or in combination, which has been required or used for the type of equipment comprising such an emissions unit unless the applicant demonstrates to the satisfaction of the Air*

# CALCIMA

## California Construction and Industrial Materials Association

*Pollution Control Officer that such limitations required on other sources have not been demonstrated to be achievable.*

*205.2 Any alternative basic equipment, fuel, process, emission control device or technique, singly or in combination, determined to be technologically feasible and cost-effective by the Air Pollution Control Officer.*

*205.3 For replacement equipment only, the emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source.*

In this particular example we disagree that zero visibility is an achievable standard. Further, as discussed below, it appears to be a mistranslation of the State's PERP controls.

### **District Proposed BACT Determination Inconsistent With Cited Source:**

The District's BACT of "no visible emissions" is inconsistent with the source cited for its creation which is the Air Resources Board's rule requirements for Portable Asphalt Concrete Recycling.

The Air Resources Board document allows up to 20% opacity and the relevant opacity limits in NSPS 000. The zero visible emissions standard is a trigger for additional controls and not the condition achieved by those controls except when applied to off-site locations. Key highlighted citations from the PERP rule included in the BACT determination are below:

- 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;

# CALCIMA

## California Construction and Industrial Materials Association

- 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 000.

The appropriate control is water to maintain process material moisture and particularly for a portable application which has unique limitations that make certain types of controls infeasible. No visible emissions is only a standard of compliance beyond the property line. At locations within the property visible emissions simply trigger the need to apply additional controls (i.e., water). Further, we note opacity lacks relevance in a discussion of emissions because there is no way to translate opacity to mass of particulates or other pollutants. However, opacity is an appropriate surrogate that addresses typical concerns expressed by the public.

### **Conclusion:**

As an industry, CalcIMA and our members have a great deal of experience crushing, conveying and piling materials, including recycled materials. At a minimum, the District should change the basis of this determination to case-by-case when, as perhaps with the permit in question, it is appropriate. Such a change would also make it clear our members could raise additional technological solutions and controls.

Further, no visible emissions standard should be excluded from the policy or clearly described to apply only at off-site locations. In our experience, it is impossible to achieve the no visible emissions standard at on-site locations near the process equipment at all times. This is why the opacity standards (e.g., EPA Method 9) require opacity standard exceedance for more than three minutes in any hour before a discharge is considered to be in violation.

Finally, we are concerned that water may be wasted on storage piles under the current language. Scaling back the language to require watering of drop points and storage pile working faces where needed could protect both water resources and air resources.

We appreciate the opportunity to comment on this proposed BACT. Please feel free to contact me with any questions at (916) 554-1000 ext. 102.

Respectfully,



Adam Harper  
Director of Policy Analysis  
CALCIMA

**Appendix B**  
**District Response**



March 8, 2018

Adam Harper  
CALCIMA  
1029 J Street, Suite 420  
Sacramento, CA 95814

RE: Opposition BACT #171 – Portable Concrete/Asphalt Recycling

Dear Mr. Harper:

The District received your comments to the proposed BACT determination #171 that applies to portable concrete/asphalt recycling operations on February 12, 2018. We appreciate your response to this new BACT determination. You have expressed concern over the District's proposal to limit the opacity for these types of operations to "no visible emissions". As stated in the BACT determination, this requirement came from the PERP regulation. The District researched this matter further and concluded that the "no visible emissions" requirement was not achieved in practice. Therefore, the BACT requirement for these types of operations has been revised to the following:

**"Use of water sprays on crushers, screens, conveyors, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart 000 opacity limitations."**

You have also expressed concern over the District's use of "Achieved in Practice" rather than "Case-by-Case" as the basis for this BACT. In general, the District determines BACT for a class and category of source as the most stringent of:

- The most effective BACT that has already been required and found to be achieved in practice for similar types of equipment.
- Any limitation or control technique contained in a State Implementation Plan as approved by the United States Environmental Protection Agency for such a class or category source.
- Any limitation or control technique contained in an applicable Federal New Source Performance standard.
- Any Alternative basic equipment, fuel, process, emission control device or technique, singly or in combination, identified by the District as technologically feasible for that type of process or equipment and cost effective.

The District has determined that the use of water sprays and compliance with the opacity limitations of 40 CFR Subpart 000 as being achieved in practice for this class and category of source. A "Case-by-Case" determination BACT would only apply to facilities where an applicant can demonstrate to the satisfaction of the Air Pollution Control Officer that such limitations are not achievable at their facility.

CALCIMA  
Page 2

If you have any further questions regarding this matter, please call me at (916)874-7357.

Sincerely,

A handwritten signature in cursive script that reads "Felix Trujillo, Jr." with a period at the end.

Felix Trujillo, Jr.  
Associate Air Quality Engineer