Fisher Sand and Gravel NM, Inc.

HMA Plant
Air Quality Construction Permit Application

Roswell, NM
Chaves County

November 2022

Prepared for:

Fisher Sand and Gravel
30A Frontage Road East
Placitas, NM 87043

Prepared by:

Alliant Environmental, LLC
7804 Pan American Fwy. NE
Albuquerque, NM 87109

Air Permit Application
Compliance History Disclosure Form

Pursuant to Subsection 74-2-7(S) of the New Mexico Air Quality Control Act ("AQCA"), NMSA §§ 74-2-1 to -17, the New Mexico Environment Department ("Department") may deny any permit application or revoke any permit issued pursuant to the AQCA if, within ten years immediately preceding the date of submission of the permit application, the applicant met any one of the criteria outlined below. In order for the Department to deem an air permit application administratively complete, or issue an air permit for those permits without an administrative completeness determination process, the applicant must complete this Compliance History Disclosure Form as specified in Subsection 74-2-7(P). An existing permit holder (permit issued prior to June 18, 2021) shall provide this Compliance History Disclosure Form to the Department upon request.

Permittee/Applicant Company Name		**Expected Application Submittal Date**
Fisher Sand & Gravel, NM Inc.		11/21/2022
Permittee/Company Contact	**Phone**	**Email**
Brian Gambrel	505-867-2600	bgambrel@fisherind.com

	Within the 10 years preceding the expected date of submittal of the application, has the permittee or applicant:	
1	Knowingly misrepresented a material fact in an application for a permit?	☐ Yes ☒ No
2	Refused to disclose information required by the provisions of the New Mexico Air Quality Control Act?	☐ Yes ☒ No
3	Been convicted of a felony related to environmental crime in any court of any state or the United States?	☐ Yes ☒ No
4	Been convicted of a crime defined by state or federal statute as involving or being in restraint of trade, price fixing, bribery, or fraud in any court of any state or the United States?	☐ Yes ☒ No
5a	Constructed or operated any facility for which a permit was sought, including the current facility, without the required air quality permit(s) under 20.2.70 NMAC, 20.2.72 NMAC, 20.2.74 NMAC, 20.2.79 NMAC, or 20.2.84 NMAC?	☐ Yes ☒ No
5b	If "No" to question 5a, go to question 6. If "Yes" to question 5a, state whether each facility that was constructed or operated without the required air quality permit met at least one of the following exceptions: a. The unpermitted facility was discovered after acquisition during a timely environmental audit that was authorized by the Department; or b. The operator of the facility estimated that the facility's emissions would not require an air permit, **and** the operator applied for an air permit within 30 calendar days of discovering that an air permit was required for the facility.	☐ Yes ☐ No
6	Had any permit revoked or permanently suspended for cause under the environmental laws of any state or the United States?	☐ Yes ☒ No
7	For each "yes" answer, please provide an explanation and documentation.	

Mail Application To:		**For Department use only:**
New Mexico Environment Department Air Quality Bureau Permits Section 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505 Phone: (505) 476-4300 Fax: (505) 476-4375 www.env.nm.gov/aqb		

Universal Air Quality Permit Application

Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well.

This application is submitted as (check all that apply)**:** ☐ Request for a No Permit Required Determination (no fee)
☐ **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).
Construction Status: ☒ Not Constructed ☐ Existing Permitted (or NOI) Facility ☐ Existing Non-permitted (or NOI) Facility
Minor Source: ☐ a NOI 20.2.73 NMAC ☒ 20.2.72 NMAC application or revision ☐ 20.2.72.300 NMAC Streamline application
Title V Source: ☐ Title V (new) ☐ Title V renewal ☐ TV minor mod. ☐ TV significant mod. TV Acid Rain: ☐ New ☐ Renewal
PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements:

☒ I acknowledge that a pre-application meeting is available to me upon request. ☐ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.

☒ $500 NSR application Filing Fee enclosed OR ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).

☒ Check No.: 2293 in the amount of $500.00

☒ I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.

☒ I acknowledge there is an annual fee for permits in addition to the permit review fee: www.env.nm.gov/air-quality/permit-fees-2/.

☐ This facility qualifies for the small business fee reduction per 20.2.75.11.C. NMAC. The full $500.00 filing fee is included with this application and I understand the fee reduction will be calculated in the balance due invoice. The Small Business Certification Form has been previously submitted or is included with this application. (Small Business Environmental Assistance Program Information: www.env.nm.gov/air-quality/small-biz-eap-2/.)

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.72.200.A NMAC**
(e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known (see 1st 3 to 5 #s of permit IDEA ID No.): **N/A**	Updating Permit/NOI #: **N/A**
1	Facility Name: **HMA Plant**	Plant primary SIC Code (4 digits): **2951**	
		Plant NAIC code (6 digits): **324121**	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): **From the intersection of US Hwy 285 and the highway relief route, north of Roswell, NM travel 12.1 miles north on Hwy 285. Turn left onto Verbena Rd and travel 1.3 miles to the plant's haul road on the right.**		
2	Plant Operator Company Name: **Fisher Sand & Gravel NM Inc.**	Phone/Fax: **505-867-2600 / 505-867-1609**	
a	Plant Operator Address: **30A Frontage Road East, Placitas, NM 87043**		

b	Plant Operator's New Mexico Corporate ID or Tax ID: **13-4290880**	
3	Plant Owner(s) name(s): **Fisher Sand & Gravel NM Inc.**	Phone/Fax: **505-867-2600 / 505-867-1609**
a	Plant Owner(s) Mailing Address(s): **PO Box 2340 Placitas, NM 87043**	
4	Bill To (Company): **Fisher Sand & Gravel NM Inc.**	Phone/Fax: **505-867-2600 / 505-867-1609**
a	Mailing Address: **PO Box 2340 Placitas, NM 87043**	E-mail: **bgambrel@fisherind.com**
5	☒ Preparer: **Martin R. Schluep** ☒ Consultant: **Alliant Environmental, LLC**	Phone/Fax: **505-205-4819**
a	Mailing Address: **7804 Pan American Fwy., Suite 5, Albuquerque, NM 87109**	E-mail: **mschluep@alliantenv.com**
6	Plant Operator Contact: **Brian Gambrel**	Phone/Fax: **505-867-2600 / 505-867-1609**
a	Address: **30A Frontage Road East, Placitas, NM 87043**	E-mail: **bgambrel@fisherind.com**
7	Air Permit Contact: **Brian Gambrel**	Title: **Project Manager**
a	E-mail: **bgambrel@fisherind.com**	Phone/Fax: **505-867-2600 / 505-867-1609**
b	Mailing Address: **PO Box 2340 Placitas, NM 87043**	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? ☐ Yes ☒ No	1.b If yes to question 1.a, is it currently operating in New Mexico? ☐ Yes ☐ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? ☐ Yes ☐ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☐ Yes ☐ No
3	Is the facility currently shut down? ☐ Yes ☒ No	If yes, give month and year of shut down (MM/YY): **N/A**
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☐ Yes ☒ No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐Yes ☐No ☒N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☐ Yes ☒ No	If yes, the permit No. is: P-
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☒ No	If yes, the NPR No. is:
8	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☒ No	If yes, the NOI No. is:
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☐ Yes ☒ No	If yes, the permit No. is:
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ☒ No	If yes, the register No. is:

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**
b	Proposed	Hourly: **300 Tons**	Daily: **7,200 Tons**	Annually: **200,000 Tons**
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**

b	Proposed	Hourly: **300 Tons**	Daily: **7,200 Tons**	Annually: **200,000 Tons**

Section 1-D: Facility Location Information

1	Section: **2**	Range: **23E**	Township: **8S**	County: **Chaves**	Elevation (ft): **3850**
2	UTM Zone: ☐ 12 or ☒ 13			Datum: ☐ NAD 27 ☐ NAD 83 ☒ WGS 84	
a	UTM E (in meters, to nearest 10 meters): **538,689**			UTM N (in meters, to nearest 10 meters): **3,722,935**	
b	**AND** Latitude (deg., min., sec.): **33° 38' 44.0"**			Longitude (deg., min., sec.): **104° 34' 58.0"**	
3	Name and zip code of nearest New Mexico town: **Roswell, NM 88203**				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): **From the intersection of US Hwy 285 and the highway relief route, north of Roswell, NM travel 12.1 miles north on Hwy 285. Turn left onto Verbena Rd and travel 1.3 miles to the plant's haul road on the right.**				
5	The facility is **17 miles northwest of Roswell, NM 88203**.				
6	Status of land at facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☐ Other (specify)				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: : **Municipalities: None; Indian Tribes: None; Counties: Chaves**				
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/air-quality/modeling-publications/)? ☒ Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: **Salt Creek Wilderness Area - 12.6 km**				
9	Name nearest Class I area: **Salt Creek Wilderness Area**				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): **12.6 km**				
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: **Residence - 1,764 meters**				
12	Method(s) used to delineate the Restricted Area: **The restricted area is surrounded by fencing, signage, and/or rugged physical terrain with steep grades that would require special equipment to traverse.** "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.				
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? ☒ Yes ☐ No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.				
14	Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility? **N/A**				

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

1	Facility **maximum** operating ($\frac{\text{hours}}{\text{day}}$): **24**	($\frac{\text{days}}{\text{week}}$): **7**	($\frac{\text{weeks}}{\text{year}}$): **52**	($\frac{\text{hours}}{\text{year}}$): **8760**		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start: **N/A**		☐AM ☐PM	End: **N/A**	☐AM ☐PM	
3	Month and year of anticipated start of construction: **As soon as permit is issued**					
4	Month and year of anticipated construction completion: **As soon as permit is issued**					
5	Month and year of anticipated startup of new or modified facility: **As soon as permit is issued**					
6	Will this facility operate at this site for more than one year? ☐ Yes ☐ No **Not certain at this time.**					

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☒ No If yes, specify:		
a	If yes, NOV date or description of issue:		NOV Tracking No:
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes ☒ No If Yes, provide the 1c & 1d info below:		
c	Document Title:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		
2	Is air quality dispersion modeling or modeling waiver being submitted with this application? ☒ Yes ☐ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes ☒ No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☒ Yes ☐ No		
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☒ **Minor** (☒ <10 tpy of any single HAP **AND** ☒ <25 tpy of any combination of HAPS)		
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? ☐ Yes ☒ No		
a	If yes, include the name of company providing commercial electric power to the facility: _____ Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.		

Section 1-G: Streamline Application (This section applies to 20.2.72.300 NMAC Streamline applications only)

1	☐ I have filled out Section 18, "Addendum for Streamline Applications." ☒ N/A (This is not a Streamline application.)

Section 1-H: Current Title V Information - Required for all applications from TV Sources

(Title V-source required information for all applications submitted pursuant to 20.2.72 NMAC (Minor Construction Permits), or 20.2.74/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMAC (Title V))

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC):m **N/A**	Phone: **N/A**
a	R.O. Title: **N/A**	R.O. e-mail: **N/A**
b	R. O. Address: **N/A**	
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): **N/A**	Phone: **N/A**
a	A. R.O. Title: **N/A**	A. R.O. e-mail: **N/A**
b	A. R. O. Address: **N/A**	
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): **N/A**	
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): **N/A**	
a	Address of Parent Company: **N/A**	
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): **N/A**	
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: **N/A**	

7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers: **N/A**

Section 1-I – Submittal Requirements

Each 20.2.73 NMAC (**NOI**), a 20.2.70 NMAC (**Title V**), a 20.2.72 NMAC (**NSR** minor source), or 20.2.74 NMAC (**PSD**) application package shall consist of the following:

Hard Copy Submittal Requirements:

1) One hard copy **original signed and notarized application package** **printed double sided** **'head-to-toe'** **2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. Please include a copy of the check on a separate page.

2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This copy should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-to 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two** CD copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a single CD submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB's secure file transfer service.

Electronic files sent by (check one):

☒ CD/DVD attached to paper application

☐ secure electronic transfer. Air Permit Contact Name_____, Email_____ Phone number _____.

a. If the file transfer service is chosen by the applicant, after receipt of the application, the Bureau will email the applicant with instructions for submitting the electronic files through a secure file transfer service. Submission of the electronic files through the file transfer service needs to be completed within 3 business days after the invitation is received, so the applicant should ensure that the files are ready when sending the hard copy of the application. The applicant will not need a password to complete the transfer. **Do not use the file transfer service for NOIs, any type of GCP, or technical revisions to NSR permits.**

4) Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD) following the instructions above and the instructions in 5 for applications subject to PSD review.

5) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** and/or electronic air dispersion modeling report, input, and output files. The dispersion modeling ***summary report only*** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.

6) If the applicant submits the electronic files on CD and the application is subject to PSD review under 20.2.74 NMAC (PSD) or NNSR under 20.2.79 NMC include,
   a. one additional CD copy for US EPA,
   b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
   c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

   If the application is submitted electronically through the secure file transfer service, these extra CDs do not need to be submitted.

Electronic Submittal Requirements [in addition to the required hard copy(ies)]:

1) All required electronic documents shall be submitted as 2 separate CDs or submitted through the AQB secure file transfer service. Submit a single PDF document of the entire application as submitted and the individual documents comprising the application.

2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.

3) It is preferred that this application form be submitted as 4 electronic files (3 MSWord docs: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and 1 Excel file of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

4) The electronic file names shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the core permit number (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the section # (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the header information throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision number (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. Do not use special symbols (#, @, etc.) in file names. The footer information should not be modified by the applicant.

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Change Log – Do **not** submit this page with your application.

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Make	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
1	Hot Mix Plant Drum	Cedarapids	100x48	N/A	300 TPH	300 TPH	1995 1995	2 2	30500298	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
2	Hot Mix Plant Baghouse	Cedarapids	542BRC2	N/A	64,000 CFM	64,000 CFM	1995 1995	2 2	30500298	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
3	Generator	Caterpillar	C27 DITA	CAT00CT7C T4Z00294	1207 hp	1207 hp	2014 2014	N/A 3	20200102	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	CI	
4	Generator	Cummins	6BT-5.9	44407981	135 hp	135 hp	1989 1989	N/A 4	20200102	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	CI	
5	Generator	Caterpillar/Eagle	C-9 DITA	CLJ05091	300 hp	300 hp	2003 2003	N/A 5	20200102	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	CI	
6	Generator	JD/Duo Vibe	4039T	TBD	92 hp	92 hp	1995 1995	N/A 6	20200102	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	CI	
7	Drum Heater (Drier)	Cedarapids/Hauck	N/A	TBD	120 MMBtu/hr	120 MMBtu/hr	1993 1993	N/A 7	30500208	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
8	AC Heater	CEI 1500	CR2-00-20	TBD	1.5 Mmbtu/hr	1.5 Mmbtu/hr	1993 1993	N/A 8	30500208	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
9	Rap Bin, Grinder with four (4) Conveyors	Comanco, Gentec, Cedarapids, Fisher GSS	N/A	N/A	300 TPH	300 TPH	1993 1993	9 N/A	30500208	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
10	Rap Bin and Screen with four (4) Conveyors	Comanco, Cedarapids, Fisher GSS	N/A	N/A	300 TPH	300 TPH	1993 1993	10 N/A	30500208	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
11	Five-Bin Feeder with Six (6) Conveyors	Comanco, Cedarapids, Fisher GSS	N/A	N/A	300 TPH	300 TPH	1993 1993	11 N/A	30500216, 30500217	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
12	Conveyor/Screen	Comanco, Cedarapids, Fisher GSS	N/A	N/A	300 TPH	300 TPH	1993 1993	12 N/A	30500216, 30500217	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
13	Hot Mix Storage & Conveyor	Cedarapids	89SE500	N/A	300 TPH	300 TPH	1993 1993	13 N/A	30500216, 30500217	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
14	Loaded Truck Trips per hour	N/A	N/A	N/A	14 Trucks/hr	14 Trucks/hr	1993 1993	14 N/A	30500217	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
15	Storage Pile 1 (Rap)	N/A	N/A	N/A	300 TPH	300 TPH	N/A N/A	15 N/A	30500213, 30500217	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
16	Storage Pile 2	N/A	N/A	N/A	300 TPH	300 TPH	N/A N/A	16 N/A	30500203	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
17	Storage Pile 3	N/A	N/A	N/A	300 TPH	300 TPH	N/A N/A	17 N/A	30500290	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
18	Storage Pile 4	N/A	N/A	N/A	300 TPH	300 TPH	N/A N/A	18 N/A	30500203	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
19	Storage Pile 5	N/A	N/A	N/A	300 TPH	300 TPH	N/A N/A	19 N/A	30500203	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
20	Bin Loading (Five-Bin/Rap Feeder)	N/A	N/A	N/A	300 TPH	300 TPH	N/A N/A	20 N/A	30500203	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.
[2] Specify dates required to determine regulatory applicability.
[3] To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.
[4] "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Insignificant Activities[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf . TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Once
T1	Diesel Fuel Tank for Asphalt Equipment	N/A	N/A N/A	270 Barrels	20.2.72.202.B.2.a #1.a.	1992 1992	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T2	Asphalt Cement Tank	N/A	N/A N/A	810 Barrels	20.2.72.202.B.2.a #1.a.	1992 1992	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T3	Diesel Fuel Tank for Asphalt Equipment	N/A	N/A N/A	50 Barrels	20.2.72.202.B.2.a #1.a.	1992 1992	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T4	Water Tank	N/A	N/A N/A	270 Barrels	20.2.72.202.B.2.a #1.a.	1992 1992	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T5	Burner Fuel Tank	N/A	N/A N/A	540 Barrels	20.2.72.202.B.2.a #1.a.	1992 1992	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T6	Evotherm Tank	N/A	N/A N/A	Gallons TBD	20.2.72.202.B.2.a #1.a.	Unknown Unknown	☐ Existing (unchanged) ☐ To be Removed x New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

[1] Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.

[2] Specify date(s) required to determine regulatory applicability.

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B. In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
2	Baghouse for Hot Mix Plant	2022	PM	1	99.88%	AP-42 Table 11.1-3
9	Water Spray/moisture carryover	2022	PM	9	95.33%	AP-42 Table 11.19.2-2
10	Water Spray/moisture carryover	2022	PM	10	95.33%	AP-42 Table 11.19.2-2
11	Water Spray/moisture carryover	2022	PM	11	95.33%	AP-42 Table 11.19.2-2
12	Water Spray/moisture carryover	2022	PM	12	95.33%	AP-42 Table 11.19.2-2
13	Water Spray/moisture carryover	2022	PM	13	95.33%	AP-42 Table 11.19.2-2
14	Base Course and Water Spray (Watering)	2022	PM	14	80%	AP-42 13.2-2 and NMED Policy
15	Water Spray	2022	PM	15	77.78%	AP-42 Table 11.19.2-2
16	Water Spray	2022	PM	16	77.78%	AP-42 Table 11.19.2-2
17	Water Spray	2022	PM	17	77.78%	AP-42 Table 11.19.2-2
18	Water Spray	2022	PM	18	77.78%	AP-42 Table 11.19.2-2
19	Water Spray	2022	PM	19	77.78%	AP-42 Table 11.19.2-2
20	Water Spray/moisture carryover	2022	PM	20	95.33%	AP-42 Table 11.19.2-2

[1] List each control device on a separate line. For each control device, list all emission units controlled by the control device.

Table 2-D: Maximum Emissions (under normal operating conditions)

☐ **This Table was intentionally left blank because it would be identical to Table 2-E.**

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
1	--	--	0.43	1.87	1.17	5.14	--	--	1,950.26	8,542.13	450.26	1,972.13	--	--	0.005	0.002
3	6.94	30.42	6.94	30.42	0.79	3.48	0.49	2.14	0.20	0.87	0.20	0.87	--	--	--	--
4	4.19	18.33	0.90	3.95	0.33	1.46	0.28	1.21	0.30	1.30	0.30	1.30	--	--	--	--
5	2.28	9.99	1.73	7.57	0.98	4.28	0.62	2.6937	0.10	0.43	0.10	0.43	--	--	--	--
6	2.20	9.66	0.49	2.12	0.05	0.21	0.19	0.82607	0.20	0.89	0.20	0.89	--	--	--	--
7	10.80	47.30	2.25	9.86	0.09	0.39	3.20	13.99	0.90	3.94	0.90	3.94	--	--	--	--
8	0.06	0.25	0.01	0.05	0.0005	0.002	0.02	0.08	0.005	0.02	0.005	0.02	--	--	--	--
9	--	--	--	--	--	--	--	--	0.71	3.13	0.71	3.13	--	--	--	--
10	--	--	--	--	--	--	--	--	1.38	6.02	1.38	6.02	--	--	--	--
11	--	--	--	--	--	--	--	--	4.59	20.10	4.59	20.10	--	--	--	--
12	--	--	--	--	--	--	--	--	2.94	12.88	2.94	12.88	--	--	--	--
13	--	--	0.35	1.55	3.66	16.01	--	--	0.58	2.55	0.58	2.55	--	--	--	--
14	--	--	--	--	--	--	--	--	7.10	25.13	0.71	2.51	--	--	--	--
15	--	--	--	--	--	--	--	--	0.67	2.93	0.10	0.44	--	--	--	--
16	--	--	--	--	--	--	--	--	0.67	2.93	0.10	0.44	--	--	--	--
17	--	--	--	--	--	--	--	--	0.67	2.93	0.10	0.44	--	--	--	--
18	--	--	--	--	--	--	--	--	0.67	2.93	0.10	0.44	--	--	--	--
19	--	--	--	--	--	--	--	--	0.67	2.93	0.10	0.44	--	--	--	--
20	--	--	--	--	--	--	--	--	0.67	2.93	0.10	0.44	--	--	--	--
Totals	26.5	116.0	13.1	57.4	7.1	31.0	4.8	20.9	1,973.3	8,637.0	463.5	2,029.4	0.0	0.0	0.0	0.0

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality stadnard, but PM is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or $1.41E^{-4}$).

Unit No.	NOx		CO		VOC		SOx		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
1	--	--	0.43	0.14	1.17	0.39	--	--	7.06	0.05	0.16	0.05	--	--	0.005	0.002
3	6.94	8.68	6.94	8.68	0.79	0.99	0.49	0.61	0.20	0.25	0.20	0.25	--	--	--	--
4	4.19	5.23	0.90	1.13	0.33	0.42	0.28	0.35	0.30	0.37	0.30	0.37	--	--	--	--
5	2.28	2.85	1.73	2.16	0.98	1.22	0.62	0.77	0.10	0.12	0.10	0.12	--	--	--	--
6	2.20	2.76	0.49	0.61	0.05	0.06	0.19	0.24	0.20	0.25	0.20	0.25	--	--	--	--
7	10.80	13.50	2.25	2.81	0.09	0.1125	3.20	3.99	0.90	1.13	0.90	1.13	--	--	--	--
8	0.06	0.07	0.01	0.02	0.00	0.00	0.02	0.02	0.005	0.01	0.005	0.01	--	--	--	--
9	--	--	--	--	--	--	--	--	0.08	0.33	0.02	0.07	--	--	--	--
10	--	--	--	--	--	--	--	--	0.10	0.42	0.01	0.05	--	--	--	--
11	--	--	--	--	--	--	--	--	0.30	1.34	0.04	0.17	--	--	--	--
12	--	--	--	--	--	--	--	--	0.24	1.03	0.02	0.08	--	--	--	--
13	--	--	0.35	0.12	3.66	1.22	--	--	0.27	0.14	0.26	0.10	--	--	--	--
14	--	--	--	--	--	--	--	--	1.42	5.03	0.14	0.50	--	--	--	--
15	--	--	--	--	--	--	--	--	0.07	0.29	0.01	0.04	--	--	--	--
16	--	--	--	--	--	--	--	--	0.07	0.29	0.01	0.04	--	--	--	--
17	--	--	--	--	--	--	--	--	0.07	0.29	0.01	0.04	--	--	--	--
18	--	--	--	--	--	--	--	--	0.07	0.29	0.01	0.04	--	--	--	--
19	--	--	--	--	--	--	--	--	0.07	0.29	0.01	0.04	--	--	--	--
20	--	--	--	--	--	--	--	--	0.07	0.29	0.01	0.04	--	--	--	--
Totals	26.47	33.09	13.10	15.66	7.07	4.41	4.78	5.98	11.56	12.23	2.40	3.42	0.00	0.00	0.005	0.002

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air qaulity standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-G: Stack Exit and Fugitive Emission Rates for Special Stacks

☒ I have elected to leave this table blank because this facility does not have any stacks/vents that split emissions from a single source or combine emissions from more than one source listed in table 2-A. Additionally, the emission rates of all stacks match the Requested allowable emission rates stated in Table 2-E.

Use this table to list stack emissions (requested allowable) from split and combined stacks. List Toxic Air Pollutants (TAPs) and Hazardous Air Pollutants (HAPs) in Table 2-I. List all fugitives that are associated with the normal, routine, and non-emergency operation of the facility. Unit and stack numbering must correspond throughout the application package. Refer to Table 2-E for instructions on use of the "-" symbol and on significant figures.

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		PM		PM10		PM2.5		☐ H_2S or ☐ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals:																	

Table 2-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

☒ This table is intentionally left blank since all emissions at this facility due to routine or predictable startup, shutdown, or scehduled maintenance are no higher than those listed in Table 2-E and a malfunction emission limit is not already permitted or requested. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanations of SSM emissions in Section 6 and 6a.

All applications for facilities that have emissions during routine our predictable startup, shutdown or scheduled maintenance (SSM)[1], including NOI applications, must include in this table the Maximum Emissions during routine or predictable startup, shutdown and scheduled maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). In Section 6 and 6a, provide emissions calculations for all SSM emissions reported in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (https://www.env.nm.gov/aqb/permit/aqb_pol.html) for more detailed instructions. Numbers shall be expressed to at least 2 decimal points

Unit No.	NOx		CO		VOC		SOx		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals																

[1] **For instance**, if the short term steady-state Table 2-E emissions are 5 lb/hr and the SSM rate is 12 lb/hr, enter 7 lb/hr in this table. If the annual steady-state Table 2-E emissions are 21.9 TPY, and the number of scheduled SSM events result in annual emissions of 31.9 TPY, enter 10.0 TPY in the table below.

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-H: Stack Exit Conditions

Unit and stack numbering must correspond throughout the application package. Include the stack exit conditions for each unit that emits from a stack, including blowdown venting parameters and tank emissions. If the facility has multiple operating scenarios, complete a separate Table 2-H for each scenario and, for each, type scenario name here:

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfm)	(dscfm)			
2	1/2	V	No	41.0	275		26549	N/A	60	4.00
3	3	V	No	15.0	1011.7		10145	N/A	313	0.83
4	4	V	No	15.0	990		466	N/A	160	0.25
5	5	V	No	15.0	990		466	N/A	160	0.25
6	6	V	No	15.0	989.6		466	N/A	160	0.25
7	7	V	No	41.0	275		26549	N/A	60	4.00
8	8	V	No	15.0	500		6230	N/A	192	0.83

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde √ HAP or □ TAP		Benzene √ HAP or □ TAP		Hexane √ HAP or □ TAP		Naphthalene √ HAP or □ TAP		Toluene √ HAP or □ TAP		Asphalt Fumes □ HAP or √ TAP		Provide Pollutant Name Here □ HAP or □ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
1	1, 2	2.63	0.88	0.93	0.31	0.12	0.04	0.28	0.09	0.20	0.07	0.87	0.29	3.60	1.20		
3	3	0.01	0.01	0.0004	0.0004	0.003	0.004	--	--	--	--	0.001	0.002	--	--		
4	4	0.003	0.004	0.001	0.001	0.001	0.001	--	--	0.0001	0.0001	0.0003	0.0004	--	--		
5	5	0.01	0.009	0.002	0.003	0.002	0.002	--	--	0.0002	0.0002	0.001	0.0010	--	--		
6	6	0.00	0.003	0.001	0.001	0.001	0.001	--	--	0.0000	0.0001	0.000	0.0003	--	--		
7	7	0.02	0.02	0.01	0.02	0.00	0.00	--	--	0.00	0.00	0.00	0.00	--	--		
8	8	0.06	0.08	0.05	0.06	0.0003	0.0004	--	--	0.002	0.002	0.01	0.01	--	--		
13	13	0.01	0.004	0.001	0.0002	0.00002	0.00001	0.0001	0.0000	0.001	0.0005	0.00005	0.00002	0.08	0.03		
Totals:		2.73	1.00	1.00	0.40	0.12	0.05	0.28	0.09	0.20	0.07	0.88	0.31	3.68	1.23		

Table 2-J: Fuel

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, …)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
3	Diesel	Purchased	128,000 Btu/gallon	35 Gallons	87,500 Gallons	0.05	
4	Diesel	Purchased	128,000 Btu/gallon	6 Gallons	15,000 Gallons	0.05	
5	Diesel	Purchased	128,000 Btu/gallon	15 Gallons	37,500 Gallons	0.05	
6	Diesel	Purchased	128,000 Btu/gallon	4.5 Gallons	11,320 Gallons	0.05	
7	Fuel Oil	Purchased	128,000 Btu/gallon	450 Gallons	1,125,000 Gallons	0.05	
8	Fuel Oil	Purchased	128,000 Btu/gallon	2.4 Gallons	6,042 Gallons	0.05	

Table 2-K: Liquid Data for Tanks Listed in Table 2-L

For each tank, list the liquid(s) to be stored in each tank. If it is expected that a tank may store a variety of hydrocarbon liquids, enter "mixed hydrocarbons" in the Composition column for that tank and enter the corresponding data of the most volatile liquid to be stored in the tank. If tank is to be used for storage of different materials, list all the materials in the "All Calculations" attachment, run the newest version of TANKS on each, and use the material with the highest emission rate to determine maximum uncontrolled and requested allowable emissions rate. The permit will specify the most volatile category of liquids that may be stored in each tank. Include appropriate tank-flashing modeling input data. Use additional sheets if necessary. Unit and stack numbering must correspond throughout the application package.

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
T1	30500298	Diesel Fuel	Diesel Fuel	6.9	130	60	0.006	73	0.008
T2	30500212	Asphalt Cement	Asphalt Cement	19.0	105	60	< 0.2	73	< 0.2
T3	30500298	Diesel Fuel	Burner Fuel	7.9	130	60	0.006	73	0.008
T4	30500298	Water	Water	8.34	0.04	N/A	N/A	N/A	N/A
T5	30500298	Burner Fuel	Burner Fuel	7.9	130	60	0.006	73	0.008
T6	30500298	Evotherm	Liquid Additive	8.32	0.04	60	N/A	73	N/A

Table 2-L: Tank Data

Include appropriate tank-flashing modeling input data. Use an addendum to this table for unlisted data categories. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.
See reference Table 2-L2. Note: 1.00 bbl = 10.159 M3 = 42.0 gal

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
T1	2022	Diesel Fuel	N/A	FX	240	38	3	0.2	OT (tan)	OT (tan)	Good	60,000	6
T2	2022	Asphalt Cement	N/A	FX	830	132	9	0.2	OT (tan)	OT (tan)	Good	1,120,000	32
T3	2022	Diesel Fuel	N/A	FX	550	87	6	0.2	OT (tan)	OT (tan)	Good	184,000	8
T4	2022	Water	N/A	FX	285	45	3	0.2	OT (tan)	OT (tan)	Good	N/A	N/A
T5	2022	Burner Fuel	N/A	FX	70	11	2.44	0.2	OT (tan)	OT (tan)	Good	220,000	75
T6	2022	Evotherm	N/A	FX	70	11	2.1	0.2	OT (tan)	OT (tan)	Good	N/A	N/A

Table 2-L2: Liquid Storage Tank Data Codes Reference Table

Roof Type	Seal Type, Welded Tank Seal Type		Seal Type, Riveted Tank Seal Type		Roof, Shell Color	Paint Condition
FX: Fixed Roof	**Mechanical Shoe Seal**	**Liquid-mounted resilient seal**	**Vapor-mounted resilient seal**	**Seal Type**	**WH**: White	Good
IF: Internal Floating Roof	**A**: Primary only	**A**: Primary only	**A**: Primary only	**A**: Mechanical shoe, primary only	**AS**: Aluminum (specular)	Poor
EF: External Floating Roof	**B**: Shoe-mounted secondary	**B**: Weather shield	**B**: Weather shield	**B**: Shoe-mounted secondary	**AD**: Aluminum (diffuse)	
P: Pressure	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**LG**: Light Gray	
					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

Note: 1.00 bbl = 0.159 M^3 = 42.0 gal

Table 2-M: Materials Processed and Produced (Use additional sheets as necessary.)

Material Processed				Material Produced			
Description	**Chemical Composition**	**Phase (Gas, Liquid, or Solid)**	**Quantity (specify units)**	**Description**	**Chemical Composition**	**Phase**	**Quantity (specify units)**
RAP	Recycled Asphalt Products	Solid	0-300 TPH	Asphalt	Aggregate, RAP, Asphalt Cement	Solid	300 TPH
Asphalt Cement	Asphalt Cement	Liquid	300 TPH				

Table 2-N: CEM Equipment

Enter Continuous Emissions Measurement (CEM) Data in this table. If CEM data will be used as part of a federally enforceable permit condition, or used to satisfy the requirements of a state or federal regulation, include a copy of the CEM's manufacturer specification sheet in the Information Used to Determine Emissions attachment. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Stack No.	Pollutant(s)	Manufacturer	Model No.	Serial No.	Sample Frequency	Averaging Time	Range	Sensitivity	Accuracy
Not applicable									

Table 2-O: Parametric Emissions Measurement Equipment

Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Unit No.	Parameter/Pollutant Measured	Location of Measurement	Unit of Measure	Acceptable Range	Frequency of Maintenance	Nature of Maintenance	Method of Recording	Averaging Time
Not applicable								

Table 2-P: Greenhouse Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box ☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									**Total GHG** Mass Basis ton/yr[4]	**Total CO_2e** ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
1	**mass GHG**	12,543.75	--	0.03	--	--									12,543.8	
	CO_2e	12,543.75	--	0.73	--	--										12,544.5
3	**mass GHG**	3,702.73	0.03	0.15	--	--									3,702.9	
	CO_2e	3,702.73	8.82	3.70	--	--										3,715.2
4	**mass GHG**	634.75	0.01	0.03	--	--									634.8	
	CO_2e	634.75	1.51	0.63	--	--										636.9
5	**mass GHG**	1,586.88	0.01	0.06	--	--									1,587.0	
	CO_2e	1,586.88	3.78	1.59	--	--										1,592.2
6	**mass GHG**	479.02	0.00	0.02	--	--									479.0	
	CO_2e	479.02	1.14	0.48	--	--										480.6
7	**mass GHG**	12,543.75	0.15	0.03	--	--									12,543.9	
	CO_2e	12,543.75	43.58	0.73	--	--										12,588.1
8	**mass GHG**	41.81	0.0005	0.0001	--	--									41.81	
	CO_2e	41.81	0.15	0.002	--	--										41.96
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
Total	**mass GHG**	31,532.7	0.2	0.3	--	--									31,533.2	
	CO_2e	31,532.7	59.0	7.9	--	--										31,599.5

[1] **GWP** (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

[2] For **HFCs** or **PFCs** describe the specific HFC or PFC compound and use a separate column for each individual compound.

[3] For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

[4] Green house gas emissions on a **mass basis** is the ton per year green house gas emission before adjustment with its GWP.

[5] **CO_2e** means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

Section 3

Application Summary

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will affect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

The **Process Summary** shall include a brief description of the facility and its process.

Startup, Shutdown, and Maintenance (SSM) routine or predictable emissions: Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

Fisher Sand & Gravel NM Inc. (Fisher) will own and operate the HMA Plant (Hot Mix Asphalt Plant). Fisher Sand & Gravel NM Inc. is submitting this application to the New Mexico Environment Department (NMED) as an air quality New Source Review (NSR) permit application under 20.2.72.200 NMAC.

The HMA Plant will produce asphalt concrete by mixing aggregate, liquid additive, and asphalt cement. The facility will be a drum mix asphalt plant which dries the aggregate stored in piles and liquid additive stored in a tank in a drum dryer/mixer, then heated liquid asphalt cement is added to create asphalt concrete. This process is a continuous mixing type process, using proportioning cold feed controls for the process materials. Aggregate, which has been proportioned by size gradations, is introduced to the drum at the burner end. As the drum rotates, the aggregates, as well as the combustion products, move toward the other end of the drum. Liquid asphalt cement will be controlled by a variable flow pump that is linked to the aggregate weigh scales. The asphalt cement and liquid additive will be introduced in the drum in a lower temperature zone. The mixture is discharged at the end of the drum and is conveyed to hot mix storage silos, where it is loaded into transport trucks. The exhaust gases also exit the drum dryer/mixer and pass on to the dust collection system.

Plant operating hours will include operating during any 24-hour period throughout the year. The annual asphalt production limit will be 200,000 tons per year.

A NMED UA2 Form and air dispersion modeling has been completed for the proposed site. The location of the equipment presented in the modeling is presented as the general/worst case scenario. Fisher Sand & Gravel NM Inc. is requesting the ability to locate any place on the facility property meeting similar conditions represented in the dispersion modeling. Relocation setback modeling has also been completed to allow Fisher the ability to relocate the plants as projects may arise throughout New Mexico.

Recycled asphalt products (RAP) will be included in the asphalt production. The % weight of RAP used in asphalt production will range from 10 to 35%. To determine worst case emission rates input into the model, a RAP percentage of 35% was used.

The location of the equipment will slightly vary over time to different locations within the restricted boundary. The location of the equipment presented in the modeling is presented as the general/worst case scenario. Fisher is requesting the ability to locate any place on the facility property meeting similar conditions represented in the dispersion modeling and relocation setback modeling. The HMA Plant was input into dispersion models along with significant neighbors (surrounding sources) per NMED's current Air Dispersion Modeling Guidelines, to show compliance with the National and New Mexico Ambient Air Quality Standards (N/NMAAQS) in the final cumulative impacts analysis modeling.

Haul truck traffic (haul road emissions) will be controlled by watering unpaved haul road.

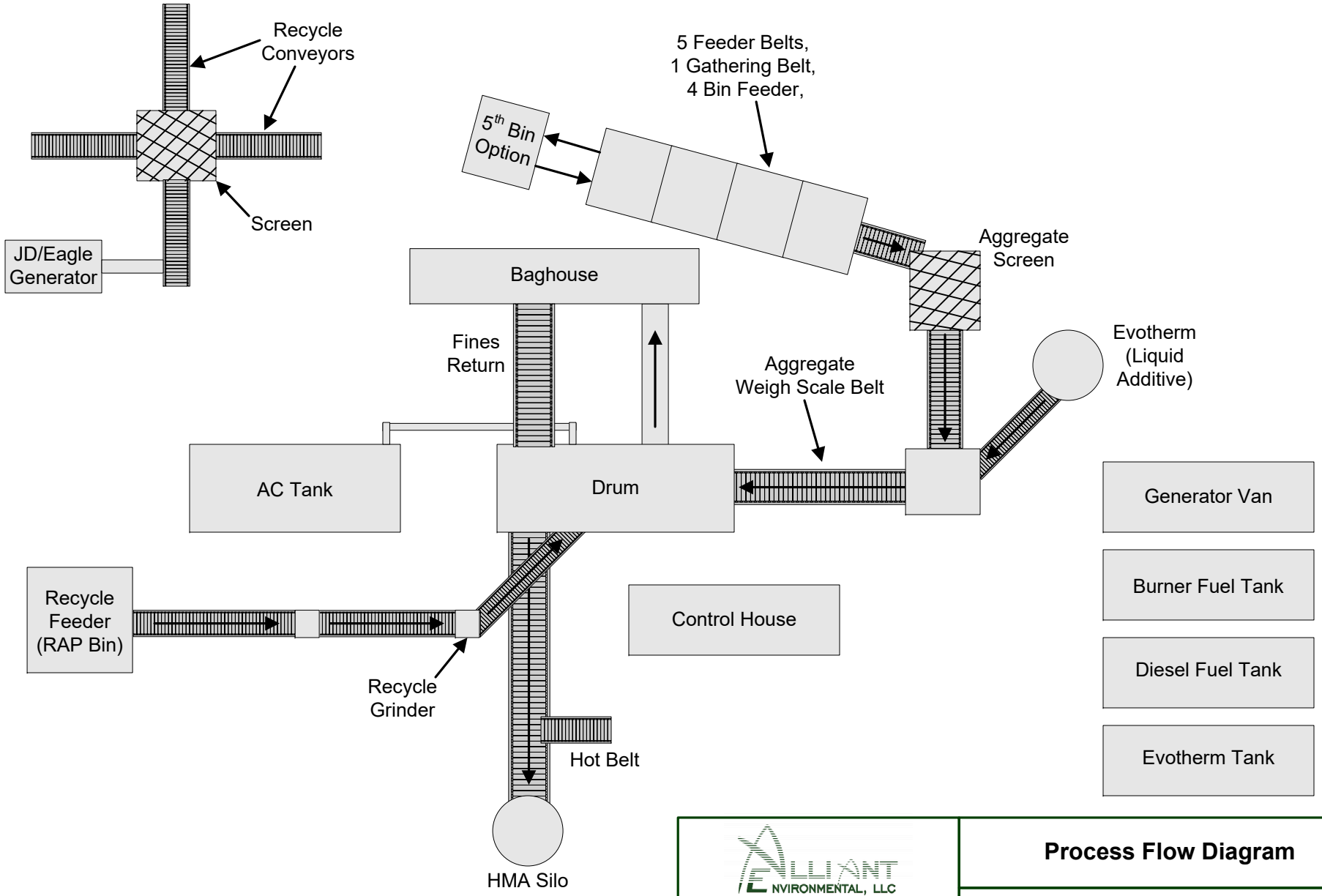
No SSM emissions are proposed or submitted for this facility. For equipment at the HMA Plant, Fisher Sand & Gravel NM Inc. will follow normal industry practices in minimizing emissions during start-up, shutdown, and maintenance to not exceed the maximum hourly or annual emission rates submitted in Table 2-E. All control equipment and methods will be functioning correctly prior to processing.

Section 4

Process Flow Sheet

A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.

See attached.



ALLIANT ENVIRONMENTAL, LLC

7804 Pan American Fwy., Suite 5
Albuquerque, NM 87109

Process Flow Diagram

HMA Plant
NSR Construction Permit Application

Fisher Sand & Gravel NM Inc.

Scale:	Drawn by:	Date:	Project No.:	File Name:	Figure:
Drawing Not to Scale	MDF	9/3/2022	067-004		
	Chk'd by: MRS	Date: 9/29/2022			

Section 5

Plot Plan Drawn To Scale

A **plot plan drawn to scale** showing emissions points, roads, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. This plot plan must clearly designate the restricted area as defined in UA1, Section 1-D.12. The unit numbering system should be consistent throughout this application.

See attached.

Fisher Sand & Gravel-NM, Inc.
P.O. Box 2340
30A Frontage Road East
Placitas, NM 87043

Figure 5-1
Facility Plot Plan – HMA Plant
Chaves County , New Mexico

Fisher Sand & Gravel-NM, INC.

Date: November 2022

Section 6

All Calculations

Show all calculations used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

Tank Flashing Calculations: The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

SSM Calculations: It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM and/or Section 22 GHG Tables and the rational for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

Glycol Dehydrator Calculations: The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

Road Calculations: Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

Significant Figures:
A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.
B. At least 5 significant figures shall be retained in all intermediate calculations.
C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

(1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;
(2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**
(3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.
(4) The final result of the calculation shall be expressed in the units of the standard.

Control Devices: In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device

regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

Fisher Sand & Gravel NM Inc. (Fisher) is proposing this application with the possibility to move the plant within the plant site, as long as the determined minimum setback from the fenceline is kept. Fisher would like to be able to use the proposed asphalt plant included in this application at the HMA Plant site or at any relocation site. Emission calculations are included in this section and provided on Form UA2 (excel spreadsheet).

Hot mix plant dryer and plant load-out emissions were estimated using emission factors from AP-42, Section 11.1 (03/04) "Hot Mix Asphalt Plants" (drum mix plant factors).

To estimate material handling particulate ($PM_{10}/PM_{2.5}$) emission rates for the crushing, screening, and conveyor transfer operations, emission factors were obtained from EPA's Compilations of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42), Aug. 2004, Section 11.19.2 "Crushed Stone Processing", Table 11.19.2-2.

Storage pile emissions were calculated using AP-42, Section 13.2.4 (11/06), equation (1) for "Aggregate Handling and Storage Piles."

Haul road emissions were calculated using the AP-42, Section 13.2.2 (11/06) "Unpaved Roads" emission equation.

The asphalt plant will be powered by diesel-fired generator engines. Generator emissions were estimated using EPA emission standards for Tier 1-Tier 4 engines, AP-42 Section 3 emission factors, and manufacturer emissions data (Unit No. 6). Greenhouse gas emissions (GHG) were estimated based on 40 CFR 98, Subpart C – General Stationary Fuel Combustion – Tier 1 Calculations Methodology using Equations C-1 and C-8.

Maximum hourly asphalt production will be 300 tons per hour (TPH). Virgin aggregate/RAP/Asphalt cement ratios used in estimating material handling particulate emission rates is equal to 58-100/35/6.0. This ratio is used to represent the worst-case scenario for particulate emissions calculation by processing a high ratio of RAP over cold feed aggregate. These ratios are estimates and ratios may change with mix requirements, these are not requested permit conditions. Uncontrolled annual emissions for tons per year (tpy) were calculated assuming operation for 8,760 hours per year. Detailed emission calculations are provided at the end of this Section.

Estimates for State Toxic Air Pollutants Under 20.2.72.502

Asphalt Fumes:

The Hot Mix Asphalt (HMA) Plant drum dryer/mixer (Unit 1) is a sources of asphalt fumes (listed in the NMED's 20.2.72 NMAC, 502 "Toxic Air Pollutants and Emissions", Table A). Emissions of asphalt fumes from the drum dryer/mixer are based on condensable organic PM emission factors found in AP-42 Section 11.1, Table 11.1-3.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO_2e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO_2e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO_2e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO2e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following ☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at http://www.epa.gov/ttn/chief/ap42/index.html
- EPA's Internet emission factor database WebFIRE at http://cfpub.epa.gov/webfire/
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases:

Global Warming Potentials (GWP):
Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period.

"Greenhouse gas" for the purpose of air permit regulations is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7 NMAC, 20.2.74.7 NMAC).** You may also find GHGs defined in 40 CFR 86.1818-12(a).

Metric to Short Ton Conversion:
Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.
1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

Greenhouse gas emissions were estimated for the equipment included in this application, as applicable.

Site-wide Total Emissions

	NOx	CO	VOC	PM_{10}	$PM_{2.5}$	SO_2	Total HAP	Formaldehyde
Hourly Emissions (lb/hr)	26.47	13.10	7.07	11.56	2.40	4.78	2.73	1.00
Annual Emissions (tpy)	33.09	15.66	4.41	12.23	3.42	5.98	1.00	0.40

Process Equipment Information

Unit Number	Component Description (or unit's function)[1]	Manufacturer	Manufacture Date.	Model Number	Equipment Size, Capacity or Maximum Process Rate	Emission Factors for Regulated Air Pollutants	Emission Factors (lb/ton) UNCONTROLLED		Emission Factors (lb/ton) CONTROLLED	
							PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
1	Hot Mix Plant Drum	Cedarapids	1993	100x48	300 TPH	AP-42, Section 11.1	Emissions listed below. Controlled by Unit No. 2			
2	Hot Mix Plant Baghouse	Cedarapids	1993	542BRC2	64,000 CFM	AP-42, Section 11.1	Emissions listed below.			
3	Generator	Caterpillar	2014	C27 DITA	1207 hp	AP-42 and EPA Emission Standards	Emissions listed below.			
4	Generator	Cummins	1989	6BT-5.9	135 hp	AP-42 and EPA Emission Standards	Emissions listed below.			
5	Generator	Caterpillar/Eagle	2003	C-9 DITA	300 hp	AP-42 and EPA Emission Standards	Emissions listed below.			
6	Generator	JD/Duo Vibe	1995	4039T	92 hp	AP-42 and EPA Emission Standards	Emissions listed below.			
7	Drum Heater (Drier)	Cedarapids/Hauck	1993	N/A	120 MMBtu/hr	AP-42	Emissions listed below.			
8	AC Heater	CEI 1500	1993	CR2-00-20	1.5 Mmbtu/hr	AP-42	Emissions listed below.			
9	Rap Bin, Grinder with four (4) Conveyors	Comanco, Gentec, Cedarapids, Fisher GSS	1993	N/A	300 TPH	AP-42, Table 11.19.2-2	0.0068	0.0068	0.000724	0.000152
10	Rap Bin and Screen with four (4) Conveyors	Comanco, Cedarapids, Fisher GSS	1993	N/A	300 TPH	AP-42, Table 11.19.2-2	0.0131	0.0131	0.000924	0.000102
11	Five-Bin Feeder with Six (6) Conveyors	Comanco, Cedarapids, Fisher GSS	1993	N/A	300 TPH	AP-42, Table 11.19.2-2	0.0153	0.0153	0.001016	0.000128
12	Conveyor/Screen	Comanco, Cedarapids, Fisher GSS	1993	N/A	300 TPH	AP-42, Table 11.19.2-2	0.0098	0.0098	0.000786	0.000063
13	Hot Mix Storage & Conveyor	Cedarapids	1993	89SE500	300 TPH	AP-42, Section 11.1	Emissions listed below.			
14	Loaded Truck Trips per hour	N/A	N/A	14	Trucks/hr	24 hours/day	=	336 Truck trips per Day (maximum)		
15	Storage Pile 1 (Rap)	N/A	N/A	N/A	300 TPH	AP-42, Table 13.2.4	0.0022	0.0003	0.000223	0.000034
16	Storage Pile 2	N/A	N/A	N/A	300 TPH	AP-42, Table 13.2.4	0.0022	0.0003	0.000223	0.000034
17	Storage Pile 3	N/A	N/A	N/A	300 TPH	AP-42, Table 13.2.4	0.0022	0.0003	0.000223	0.000034
18	Storage Pile 4	N/A	N/A	N/A	300 TPH	AP-42, Table 13.2.4	0.0022	0.0003	0.000223	0.000034
19	Storage Pile 5	N/A	N/A	N/A	300 TPH	AP-42, Table 13.2.4	0.0022	0.0003	0.000223	0.000034
20	Bin Loading (Five-Bin/Rap Feeder)	N/A	N/A	N/A	300 TPH	AP-42, Table 13.2.4	0.0022	0.0003	0.000223	0.000034

Emissions (lb/hr)							UNCONTROLLED (lb/hr)		CONTROLLED (lb/hr)	
							PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Unit No	**Equipment**	**Manufacture**	**Year**	**Model**	**Estimated Process Rate (TPH)**	**Emission Factor Source**				
9	Rap Bin, Grinder with four (4) Conveyors	Comanco, Gentec, Cedarapids, Fisher GSS	1993	N/A	105	AP-42	0.71	0.71	0.08	0.02
10	Rap Bin and Screen with four (4) Conveyors	Comanco, Cedarapids, Fisher GSS	1993	N/A	105	AP-42	1.38	1.38	0.10	0.01
11	Five-Bin Feeder with Six (6) Conveyors	Comanco, Cedarapids, Fisher GSS	1993	N/A	300	AP-42	4.59	4.59	0.30	0.04
12	Conveyor/Screen	Comanco, Cedarapids, Fisher GSS	1993	N/A	300	AP-42	2.94	2.94	0.24	0.02
13	Hot Mix Storage & Conveyor	Cedarapids	1993	89SE500	300	AP-42	Emissions listed below.			
14	Truck Traffic Haul Roads Using Dust Control Percent of				80%	AP-42	7.1	0.7	1.42	0.14
15	Storage Pile 1 (Rap)	N/A	N/A	N/A	300	AP-42	0.7	0.1	0.07	0.01
16	Storage Pile 2	N/A	N/A	N/A	300	AP-42	0.7	0.1	0.07	0.01
17	Storage Pile 3	N/A	N/A	N/A	300	AP-42	0.7	0.1	0.07	0.01
18	Storage Pile 4	N/A	N/A	N/A	300	AP-42	0.7	0.1	0.07	0.01
19	Storage Pile 5	N/A	N/A	N/A	300	AP-42	0.7	0.1	0.07	0.01
20	Bin Loading (Five-Bin/Rap Feeder)	N/A	N/A	N/A	300	AP-42	0.7	0.1	0.07	0.01
Note: Virgin aggregate/RAP/Asphalt cement ratios used in estimating material handling particulate emission rates is equal to up to 100% virgin aggregate, up to 35% RAP, and up to 6% asphalt cement. This ratio is used to represent the worst-case scenario for particulate emissions calculation by processing a high ratio of RAP over cold feed aggregate.						**TOTAL EMISSIONS**	20.74	10.94	**2.54**	**0.29**

Emissions (tpy)							UNCONTROLLED (tpy)		CONTROLLED (tpy)	
Unit No	Equipment	Manufacture	Year	Model	Estimated Process Rate	Emission Factor Source	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
9	Rap Bin, Grinder with four (4) Conveyors	Comanco, Gentec, Cedarapids, Fisher GSS	1993	N/A	105	AP-42	3.13	3.13	0.33	0.070
10	Rap Bin and Screen with four (4) Conveyors	Comanco, Cedarapids, Fisher GSS	1993	N/A	105	AP-42	6.02	6.02	0.42	0.047
11	Five-Bin Feeder with Six (6) Conveyors	Comanco, Cedarapids, Fisher GSS	1993	N/A	300	AP-42	20.10	20.10	1.34	0.168
12	Conveyor/Screen	Comanco, Cedarapids, Fisher GSS	1993	N/A	300	AP-42	12.88	12.88	1.03	0.083
13	Hot Mix Storage & Conveyor	Cedarapids	1993	89SE500	300	AP-42	Emissions listed below.			
14	Truck Traffic Haul Roads Using Dust Control Percent of				80%	AP-42	25.1	2.5	5.03	0.50
15	Storage Pile 1 (Rap)	N/A	N/A	N/A	300	AP-42	2.93	0.44	0.29	0.04
16	Storage Pile 2	N/A	N/A	N/A	300	AP-42	2.93	0.44	0.29	0.04
17	Storage Pile 3	N/A	N/A	N/A	300	AP-42	2.93	0.44	0.29	0.04
18	Storage Pile 4	N/A	N/A	N/A	300	AP-42	2.93	0.44	0.29	0.04
19	Storage Pile 5	N/A	N/A	N/A	300	AP-42	2.93	0.44	0.29	0.04
20	Bin Loading (Five-Bin/Rap Feeder)	N/A	N/A	N/A	300	AP-42	2.93	0.44	0.29	0.04
NOTE: Annual emissions based on maximum of 24 hrs/day, 7 day/wk, 52 wk/yr (8,760 hours/year)						**TOTAL EMISSIONS**	84.9	47.3	**9.91**	**1.14**

Drum Mix Hot Mix Asphalt Plant Emissions

Unit No.	Equipment	NOx	CO	VOC	TOC	TSP	PM_{10}	$PM_{2.5}$	SO_2	CO_2e (uncontrolled)	Total HAP	Max. Single HAP (formaldehyde)	Units
1 / 2	Hot Mix Plant Drum	--	0.43	1.17	1.17	10.16	7.06	0.16	--	--	2.63	0.93	lb/hr
		--	0.14	0.39	0.39	0.09	0.05	0.05	--	--	0.88	0.31	tpy

Hot Mix Silo Emissions

Unit No.	Equipment	NOx	CO	VOC	TOC	TSP	PM_{10}	$PM_{2.5}$	SO_2	Total HAP	Units
13	Hot Mix Storage & Conveyor	--	0.35	3.66	3.66	0.29	0.27	0.26	--	0.01	lb/hr
		--	0.12	1.22	1.22	0.27	0.14	0.10	--	0.004	tpy

Generator Engine Emissions

Unit No.	Equipment	NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Total HAP	Max. Single HAP (formaldehyde)	CO_2e (uncontrolled)	Units
3	Caterpillar C27 DITA	6.94	6.94	0.79	0.49	0.20	0.01	0.00	--	lb/hr
		8.68	8.68	0.99	0.61	0.25	0.01	0.00	3,715.2	tpy
4	Cummins 6BT-5.9	4.19	0.90	0.33	0.28	0.30	0.00	0.00	--	lb/hr
		5.23	1.13	0.42	0.35	0.37	0.00	0.00	636.9	tpy
5	Caterpillar/Eagle C-9 DITA	2.28	1.73	0.98	0.62	0.10	0.01	0.00	--	lb/hr
		2.85	2.16	1.22	0.77	0.12	0.01	0.00	1,592.2	tpy
6	JD/Duo Vibe 4039T	2.20	0.49	0.05	0.19	0.20	0.00	0.00	--	lb/hr
		2.76	0.61	0.06	0.24	0.25	0.00	0.00	480.6	tpy
TOTAL EMISSIONS		**15.62**	**10.06**	**2.15**	**1.57**	**0.80**	**0.02**	**0.00**	**--**	**lb/hr**
		19.52	**12.57**	**2.69**	**1.96**	**1.00**	**0.02**	**0.01**	**6,425.04**	**tpy**

Heater Emissions

Unit No.	Equipment	NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Total HAP	Max. Single HAP (formaldehyde)	Units
7	Cedarapids/Hauck	10.80	2.25	0.090	3.20	0.90	0.02	0.01	lb/hr
		13.50	2.81	0.113	3.99	1.13	0.02	0.02	tpy
8	CEI 1500	0.06	0.01	0.00	0.02	0.005	0.06	0.05	lb/hr
		0.07	0.02	0.00	0.02	0.01	0.08	0.06	tpy
TOTAL EMISSIONS		**10.86**	**2.26**	**0.09**	**3.21**	**0.90**	**0.08**	**0.06**	**lb/hr**
		13.57	**2.83**	**0.11**	**4.02**	**1.13**	**0.10**	**0.08**	**tpy**

Hot Mix Plant Calculations

Unit No. 1
Emission Point No. 1
Source Description: Drum Mix Hot Mix Asphalt Plant

Equipment Maximum Production Rate
(for hourly emissions): 300 TPH
Maximum Annual Production Rate: 200,000 TPY

Drier Emission Calculations:
Uncontrolled Emission Rates

NOx	CO	VOC	TOC	PM	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	Asphalt Fumes	Units	Comments
				28	6.5	1.5				0.058	lb/ton	AP-42 Table 11.1-3 and Table 11.1-4
10.80	2.25	0.09	0.09				3.20	10,035.00	0.02		lb/hr	Hot Mix Drier Heater (Unit No. 7)
10.80	2.25	0.09	0.09	8,400.00	1,950.00	450.00	3.20	10,035.00	0.02	17.40	lb/hr	Calculated
47.30	9.86	0.39	0.39	36,792.00	8,541.00	1,971.00	13.99	43,953.30	0.10	5.80	tpy	Annual emission rate (8760 hrs/yr)

Note: Asphalt Fumes emission factor is based on the Condensable Organic PM factor from Table 11.1-3.
Drier combustion emissions are from Unit No. 7, the Drier Heater (120 MMBtu/hr Hauck heater).

Controlled Emission Limits (Baghouse, Unit No. 2)

NOx	CO	VOC	TOC	PM	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	Asphalt Fumes	Units	Comments
				0.033	0.023	0.0029				0.012	lb/ton	AP-42 Table 11.1-3 and Table 11.1-4
10.80	2.25	0.09	0.09				3.195	10,035.00	0.02		lb/hr	Hot Mix Drier Heater (Unit No. 7)
10.80	**2.25**	**0.09**	**0.09**	**9.90**	**6.90**	**0.87**	**3.20**	**10,035.00**	**0.02**	3.60	lb/hr	Calculated
13.50	**2.81**	**0.11**	**0.11**	**3.30**	**2.30**	**0.29**	**3.99**	**12,543.75**	**0.03**	1.20	tpy	Based on max annual production rate

Note: NOx, CO, VOC, TOC, SO2, and CO2 emissions are calculated based on the actual drier (heater) capacity (see tab "Hot Mix Drier Heater 7")

Sample Calculation:
(0.023 lb PM10/ton of material processed) x (300 ton of material processed/hr) = 9.90 lb/hr
(9.90 lb/hr) x (8,760 hrs/yr) / (2000 lbs/ton) = 2.30 tpy

HAP Emisisons:

Hazardous Air Pollutants (HAP)	Emission Factor		lb/hr	tpy
2-Methylnaphthalene	1.70E-04	lb/ton	**0.051**	**0.017**
Acenaphthene	1.40E-06	lb/ton	**0.000**	**0.000**
Acenaphthylene	2.20E-05	lb/ton	**0.007**	**0.002**
Anthracene	3.10E-06	lb/ton	**0.001**	**0.000**
Benzene	3.90E-04	lb/ton	**0.117**	**0.039**
Benzo(a)anthracene	2.10E-07	lb/ton	**0.000**	**0.000**
Benzo(a)pyrene	9.80E-09	lb/ton	**0.000**	**0.000**
Benzo(b)fluoranthene	1.00E-07	lb/ton	**0.000**	**0.000**
Benzo(e)pyrene	1.10E-07	lb/ton	**0.000**	**0.000**
Benzo(g,h,i)perylene	4.00E-08	lb/ton	**0.000**	**0.000**
Benzo(k)fluoranthene	4.10E-08	lb/ton	**0.000**	**0.000**
Chrysene	1.80E-07	lb/ton	**0.000**	**0.000**
Ethylbenzene	2.40E-04	lb/ton	**0.072**	**0.024**
Fluoranthene	6.10E-07	lb/ton	**0.000**	**0.000**
Fluorene	1.10E-05	lb/ton	**0.003**	**0.001**
Formaldehyde	3.10E-03	lb/ton	**0.930**	**0.310**
Hexane	9.20E-04	lb/ton	**0.276**	**0.092**
Indeno(1,2,3-cd)pyrene	7.00E-09	lb/ton	**0.000**	**0.000**
Isooctane (2,2,4-trimethylpentane)	4.00E-05	lb/ton	**0.012**	**0.004**
Methyl chloroform	4.80E-05	lb/ton	**0.014**	**0.005**
Naphthalene	6.50E-04	lb/ton	**0.195**	**0.065**
Perylene	8.80E-09	lb/ton	**0.000**	**0.000**
Phenanthrene	2.30E-05	lb/ton	**0.007**	**0.002**
Pyrene	3.00E-06	lb/ton	**0.001**	**0.000**
Toluene	2.90E-03	lb/ton	**0.870**	**0.290**
Xylenes	2.00E-04	lb/ton	**0.060**	**0.020**
		HAP TOTALS	**2.62**	**0.87**

HAP emission factors are from AP-42 Table 11.1-10 (for a drum hot mix plant using a No. 2 fuel oil-fired dryer with a fabric filter).

Metals Emissions:

Metal	Emission Factor		lb/hr	tpy
Antimony	1.80E-07	lb/ton	**0.000**	**0.000**
Arsenic	5.60E-07	lb/ton	**0.000**	**0.000**
Barium	5.80E-06	lb/ton	**0.002**	**0.001**
Beryllium	0.00E+00	lb/ton	**0.000**	**0.000**
Cadmium	4.10E-07	lb/ton	**0.000**	**0.000**
Chromium	5.50E-06	lb/ton	**0.002**	**0.001**
Cobalt	2.60E-08	lb/ton	**0.000**	**0.000**
Copper	3.10E-06	lb/ton	**0.001**	**0.000**
Hexavalent chromium	4.50E-07	lb/ton	**0.000**	**0.000**
Lead	1.50E-05	lb/ton	**0.005**	**0.002**
Manganese	7.70E-06	lb/ton	**0.002**	**0.001**
Mercury	2.60E-06	lb/ton	**0.001**	**0.000**
Nickel	6.30E-05	lb/ton	**0.019**	**0.006**
Phosphorus	2.80E-05	lb/ton	**0.008**	**0.003**
Silver	4.80E-07	lb/ton	**0.000**	**0.000**
Selenium	3.50E-07	lb/ton	**0.000**	**0.000**
Thallium	4.10E-09	lb/ton	**0.000**	**0.000**
Zinc	6.10E-05	lb/ton	**0.018**	**0.006**
		TOTALS	**0.06**	**0.02**

Metals emission factors are from AP-42 Table 11.1-12 (for a drum hot mix plant using a No. 2 fuel oil-fired dryer).

Drum Load-out Emission Calculations:

Uncontrolled Emission Rates

PM	Organic PM	TOC	CO	VOC	Units	Comments
0.0005	0.0003	0.0042	0.0014		lb/ton	AP-42 Table 11.1-14
				94.00%	Compound/TOC	AP-42 Table 11.1-16
0.16	0.10	1.25	0.43	1.17	lb/hr	Calculated
0.69	0.45	5.46	1.87	5.14	tpy	Based on 8,760 hours per year

Controlled Emission Rates

PM	Organic PM	TOC	CO	VOC	Units	Comments
0.0005	0.0003	0.0042	0.0014		lb/ton	AP-42 Table 11.1-14
				94.00%	Compound/TOC	AP-42 Table 11.1-16
0.16	**0.10**	**1.25**	**0.43**	**1.17**	**lb/hr**	**Calculated**
0.05	**0.03**	**0.42**	**0.14**	**0.39**	**tpy**	**Based on max annual production rate**

Table 11.1-14 Emission Factors for Drum Mix Plant Load-out Equations:

$EF(PM) = 0.000181 + 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)}$

$EF(Organic\ PM) = 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)}$

$EF(TOC) = 0.0172(-V)e^{((0.0251)(T + 460) - 20.43)}$

$EF(CO) = 0.00558(-V)e^{((0.0251)(T + 460) - 20.43)}$

Note: Default values of -0.5 for "V" and 325°F for "T" were used as recommended in AP-42 Chapter 11.1, Table 11.1-14.

HAP Emisisons:

Hazardous Air Pollutants (HAP)	Compound/ Organic PM (%)	lb/hr	tpy
Acenaphthene	0.26%	0.00027	0.0001
Acenaphthylene	0.028%	0.00003	0.0000
Anthracene	0.07%	0.00007	0.0000
Benzene	0.052%	0.00005	0.0000
Benzo(a)anthracene	0.019%	0.00002	0.0000
Benzo(b)fluoranthene	0.0076%	0.00001	0.0000
Benzo(k)fluoranthene	0.0022%	0.00000	0.0000
Benzo(g,h,i)perylene	0.0019%	0.00000	0.0000
Benzo(a)pyrene	0.0023%	0.00000	0.0000
Benzo(e)pyrene	0.0078%	0.00001	0.0000
Bromomethane	0.0096%	0.00001	0.0000
2-Butanone	0.049%	0.00005	0.0000
Carbon Disulfide	0.013%	0.00001	0.0000
Chloroethane	0.00021%	0.00000	0.0000
Chloromethane	0.015%	0.00002	0.0000
Chrysene	0.103%	0.00011	0.0000
Cumene	0.11%	0.00011	0.0000
Dibenz(a,h)anthracene	0.00037%	0.00000	0.0000
Ethylbenzene	0.28%	0.00029	0.0001
Fluoranthene	0.05%	0.00005	0.0000
Fluorene	0.77%	0.00079	0.0003
Formaldehyde	0.088%	0.00009	0.0000
n-Hexane	0.15%	0.00015	0.0001
Indeno(1,2,3-cd)pyrene	0.00047%	0.00000	0.0000
Isooctane	0.0018%	0.00000	0.0000
Methylene Chloride	0.0%	0.00000	0.0000
2-Methylnaphthalene	2.38%	0.00243	0.0008
MTBE	0.0%	0.00000	0.0000
Naphthalene	1.250%	0.00128	0.0004
Perylene	0.022%	0.00002	0.0000
Phenanthrene	0.81%	0.00083	0.0003
Phenol	1.18%	0.00121	0.0004
Pyrene	0.15%	0.00015	0.0001
Styrene	0.0073%	0.00001	0.0000
Tetrachloroethene	0.0077%	0.00001	0.0000
Toluene	0.21%	0.00021	0.0001
1,1,1-Trichloroethane	0.0%	0.00000	0.0000
Trichloroethene	0.0%	0.00000	0.0000
Trichlorofluoromethane	0.0013%	0.00000	0.0000
Xylenes	0.49%	0.00050	0.0002
	TOTALS	**0.009**	**0.003**

HAP emission factors are from AP-42 Table 11.1-15 (speciation profile for load-out and yard emissions).

Heater Emission Calculations

Unit No.	7	
Emission Point No.	7	
Source Description:	Cedarapids/Hauck 120 MMBtu/hr Heater (drier)	
Manufacturer:	Cedarapids/Hauck	
Model:		
Type	Fuel Oil Fired Heater	
Manufacture Date		
Rated Capacity	120	MMBtu/hr
Fuel Usage	450	gal/hr

Emission Calculations

Uncontrolled Emission Rates

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
0.024	0.005	0.0002	0.142S	0.002	lb/gal	AP-42 Chapter 1.3, Table 1.3-1
10.80	2.25	0.09	3.20	0.90	lb/hr	Maximum of Test Results or Calculated
47.3	9.9	0.4	14.0	3.9	tpy	Annual emission rate (8,760 hrs/yr)

Controlled Emission Limits Based on Limited Operating Hours

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
10.80	**2.25**	**0.09**	**3.20**	**0.90**	**lb/hr**	
13.50	**2.81**	**0.11**	**3.99**	**1.13**	**tpy**	**Annual emission rate based on 2,500 hrs/yr**

NOTES:

All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.
Sulfur content of fuel oil not to exceed 0.05%
S = % fuel Sulfur content

Sample Calculation:

(0.024 lb/gal NOx) x (770 gal/hr fuel usage) = 18.348 lb/hr NOx

Hazardous Air Pollutants (HAP)	Emission Factor*		lb/hr	Uncontrolled 8,760 hours tpy	Controlled to Max of 2,500 hrs tpy
Benzene	2.14E-04	lbs/1000gal	0.0001	0.000	0.0001
Ethylbenzene	6.36E-05	lbs/1000gal	0.00003	0.0001	0.0000
Formaldehyde	3.30E-02	lbs/1000gal	0.01	0.07	0.02
Naphthalene	1.13E-03	lbs/1000gal	0.001	0.002	0.001
1,1,1-Trichloroethane	2.36E-04	lbs/1000gal	0.0001	0.000	0.0001
Toluene	6.20E-03	lbs/1000gal	0.003	0.01	0.00
Xylenes	1.09E-04	lbs/1000gal	0.0000	0.0002	0.0001
	HAP TOTALS		**0.02**	**0.08**	**0.02**

*Emission factors are from AP-42 Chapter 1, Table 1.3-9.

Greenhouse Gas	Emission Factor*		lb/hr	Uncontrolled 8,760 hours tpy	Controlled to Max of 2,500 hrs tpy
CO_2	22.3	lb/gal	10,035.00	43,953.30	12,543.75
CH_4	0.000052	lb/gal	0.02	0.10	0.03
N_2O	0.00026	lb/gal	0.12	0.51	0.15

*Emission fators are from AP-42 Chapter 1, Table 1.3-3, Table 1.3-8 and Table 1.3-12.

Hot Mix Silo Filling and Conveyor

Unit No.	13	
Emission Point No.	13	
Source Description:	Hot Mix Silo Filling and Conveyor	
Equipment Maximum Production Rate (for hourly emissions):	300	TPH
Maximum Annual Production Rate:	200,000	TPY

Hot Mix Silo Filling Uncontrolled Emission Rates

PM	Organic PM	TOC	CO	VOC	Asphalt Fumes	Units	Comments
0.0006	0.0003	0.0122	0.0012		0.0003	lb/ton	AP-42 Table 11.1-14
				100.00%		Compound/TOC	AP-42 Table 11.1-16
0.18	0.08	3.66	0.35	3.66	0.08	lb/hr	Calculated
0.77	0.33	16.01	1.55	16.01	0.33	tpy	Annual emission rate (8760 hrs/yr)

Hot Mix Silo Filling Controlled Emission Rates

PM	Organic PM	TOC	CO	VOC	Asphalt Fumes	Units	Comments
0.0006	0.0003	0.0122	0.0012		0.0003	lb/ton	AP-42 Table 11.1-14
				100.00%		Compound/TOC	AP-42 Table 11.1-16
0.18	**0.08**	**3.66**	**0.35**	**3.66**	**0.08**	**lb/hr**	**Calculated**
0.06	**0.03**	**1.22**	**0.12**	**1.22**	**0.03**	**tpy**	**Based on max annual production ra**

Table 11.1-14 Emission Factors for Silo Filling Equations:

$EF(PM) = 0.000332 + 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)}$

$EF(Organic\ PM) = 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)}$

$EF(TOC) = 0.0504(-V)e^{((0.0251)(T + 460) - 20.43)}$

$EF(CO) = 0.00488(-V)e^{((0.0251)(T + 460) - 20.43)}$

Note: Default values of -0.5 for "V" and 325°F for "T" were used as recommended in AP-42 Chapter 11.1, Table 11.1-14.
Asphalt Fumes emission factor is based on Organic PM emission factor from Table 11.1-14.

HAP Emissions:

Hazardous Air Pollutants (HAP)	Compound/ Organic PM (%)	Uncontrolled/ Controlled lb/hr	Uncontrolled tpy	Controlled tpy
Acenaphthene	0.47%	0.00036	0.0016	0.00012
Acenaphthylene	0.014%	0.00001	0.0000	0.00000
Anthracene	0.13%	0.00010	0.0004	0.00003
Benzene	0.032%	0.00002	0.0001	0.00001
Benzo(a)anthracene	0.056%	0.00004	0.0002	0.00001
Benzo(e)pyrene	0.0095%	0.00001	0.0000	0.00000
Bromomethane	0.0049%	0.00000	0.0000	0.00000
2-Butanone	0.039%	0.00003	0.0001	0.00001
Carbon Disulfide	0.016%	0.00001	0.0001	0.00000
Chloroethane	0.0040%	0.00000	0.0000	0.00000
Chloromethane	0.023%	0.00002	0.0001	0.00001
Chrysene	0.21%	0.00016	0.0007	0.00005
Ethylbenzene	0.038%	0.00003	0.0001	0.00001
Fluoranthene	0.15%	0.00011	0.0005	0.00004
Fluorene	1.01%	0.00077	0.0034	0.00026
Formaldehyde	0.69%	0.00053	0.0023	0.00018
n-Hexane	0.10%	0.00008	0.0003	0.00003
Isooctane	0.00031%	0.00000	0.0000	0.00000
Methylene Chloride	0.00027%	0.00000	0.0000	0.00000
2-Methylnaphthalene	5.27%	0.00401	0.0176	0.00134
Naphthalene	1.82%	0.00139	0.0061	0.00046
Perylene	0.030%	0.00002	0.0001	0.00001
Phenanthrene	1.80%	0.00137	0.0060	0.00046
Phenol	1.18%	0.00090	0.0039	0.00030
Pyrene	0.44%	0.00034	0.0015	0.00011
Styrene	0.0054%	0.00000	0.0000	0.00000
Toluene	0.062%	0.00005	0.0002	0.00002
Xylenes	0.21%	0.00016	0.0007	0.00005
	TOTALS	**0.0105**	**0.046**	**0.00351**

HAP emission factors are from AP-42 Table 11.1-15 and Table 11.1-16 (speciation profile for silo filling emissions).

Conveyor Uncontrolled Emission Rates

TSP	PM_{10}	$PM_{2.5}$	Units	Comments
0.003	0.0011	0.0011	lb/ton	AP-42, Table 11.19.2-2
0.9	0.33	0.33	lb/hr	Calculated
3.94	1.45	1.45	tpy	Annual emission rate (8760 hrs/yr)

Conveyor Controlled Emission Rates

TSP	PM_{10}	$PM_{2.5}$	Units	Comments
0.00014	0.000045	1.30E-05	lb/ton	AP-42, Table 11.19.2-2
0.042	**0.014**	**0.004**	**lb/hr**	**Calculated**
0.18	**0.06**	**0.02**	**tpy**	**Annual emission rate (8760 hrs/yr)**

Generator Emission Calculations

Unit No.	3		
Emission Point No.	3		
Source Description:	Caterpillar Diesel Generator		
Manufacturer:	Caterpillar		SN: CAT00CT7CT4Z00294
Model:	C27 DITA		
Type	diesel engine generator		
Manufacture Date	2014		
Rated Horsepower	1207	hp	(Manufacturer data)
Rated Kilowatts	900	kW	(Manufacturer data)
Fuel Consumption	35.0	gal/hr	

Emission Calculations

Uncontrolled Emission Rates

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
3.5	3.5	0.4		0.10	g/kW-hr	US EPA Emission Standards for Tier 4 Engines
			0.0004		lb/hp-hr	AP-42 Chapter 3.4, Table 3.4-1
6.94	6.94	0.79	0.49	0.20	lb/hr	Calculated
30.42	30.42	3.48	2.14	0.87	tpy	Annual emission rate (8,760 hrs/yr)

Controlled Emission Limits Based on Limited Operating Hours

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
6.94	**6.94**	**0.79**	**0.49**	**0.20**	**lb/hr**	
8.68	**8.68**	**0.99**	**0.61**	**0.25**	**tpy**	**Annual emission rate based on 2500 hrs/yr**

NOTES:

All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.

Sample Calculation:

(3.5 g NOx/kW-hr) x (0.00220462 lb/g) x (900 kW) = 6.94 lb/hr

Fuel Consumption

Max Fuel Consumption	**35.0**	gal/hr
Fuel Heat Value	18,390	Btu/lb
Fuel Density	7.0	lb/gal
Heat Input	**4.51**	MMBtu/hr

GHG uncontrolled fuel Consumption (8760 hrs/yr)	**306,600**	**gal/yr**

Hazardous Air Pollutants (HAP)	Emission Factor	lb/hr	Uncontrolled 8,760 hours tpy	Controlled to Max of 2500 hrs tpy
Acetaldehyde	2.52E-05 lbs/MMBtu	**0.0001**	**0.0005**	**0.0001**
Acrolein	7.88E-06 lbs/MMBtu	**0.00004**	**0.0002**	**0.00004**
Benzene	7.76E-04 lbs/MMBtu	**0.003**	**0.015**	**0.004**
Formaldehyde	7.89E-05 lbs/MMBtu	**0.0004**	**0.002**	**0.0004**
Toluene	2.81E-04 lbs/MMBtu	**0.001**	**0.006**	**0.002**
Xylenes	1.93E-04 lbs/MMBtu	**0.001**	**0.004**	**0.001**
	HAP TOTALS	**0.01**	**0.03**	**0.01**

CO_2e Uncontrolled tpy
3,715.25

Note:

CO_2e from estimated sum of CO_2, CH_4, and N_2O from Generator GHG tab and converted to short tons

NOTES:

Emission Factors from EPA AP-42, Table 3.4-3 Speciated Organic Compound Emission Factors for Large Uncontrolled Stationary Diesel Engines (October, 1996) for HAPs.

Generator Emission Calculations

Unit No.	4		
Emission Point No.	4		
Source Description:	Cummins Diesel Generator		
Manufacturer:	Cummins		
Model:	6BT-5.9	SN 44407981	
Type	diesel engine generator		
Manufacture Date	1989		
Rated Horsepower	135	hp	
Rated Kilowatts	101	kW	
Fuel Consumption	6.0	gal/hr	

Emission Calculations

Uncontrolled Emission Rates

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
0.031	0.00668	0.00247	0.00205	0.0022	lb/hp-hr	AP-42 Chapter 3.3, Table 3.3-1
4.19	0.90	0.33	0.28	0.30	lb/hr	Maximum of Test Results or Calculated
18.3	3.9	1.5	1.2	1.3	tpy	Annual emission rate (8,760 hrs/yr)

Controlled Emission Limits Based on Limited Operating Hours

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
4.19	**0.90**	**0.33**	**0.28**	**0.30**	**lb/hr**	
5.23	**1.13**	**0.42**	**0.35**	**0.37**	**tpy**	**Annual emission rate based on 2500 hrs/yr**

NOTES:

All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.

Sample Calculation:

(0.031 lb NOx/hp-hr) x (135 hp) = 4.19 lb/hr

Fuel Consumption

Max Fuel Consumption	**6.0**	gal/hr
Fuel Heat Value	18,390	Btu/lb
Fuel Density	7.0	lb/gal
Heat Input	**0.77**	MMBtu/hr

GHG uncontrolled fuel Consumption (8760 hrs/yr)	**52,560**	**gal/yr**

Hazardous Air Pollutants (HAP)	Emission Factor	lb/hr	Uncontrolled 8,760 hours tpy	Controlled to Max of 2500 hrs tpy
Acetaldehyde	7.67E-04 lbs/MMBtu	**0.001**	**0.003**	**0.001**
Acrolein	9.25E-05 lbs/MMBtu	**0.0001**	**0.0003**	**0.0001**
Benzene	9.33E-04 lbs/MMBtu	**0.001**	**0.003**	**0.001**
1,3-Butadiene	3.91E-05 lbs/MMBtu	**0.00003**	**0.0001**	**0.00004**
Formaldehyde	1.18E-03 lbs/MMBtu	**0.001**	**0.004**	**0.001**
Toluene	4.09E-04 lbs/MMBtu	**0.0003**	**0.001**	**0.0004**
Naphthalene	8.48E-05 lbs/MMBtu	**0.0001**	**0.0003**	**0.0001**
Xylenes	2.85E-04 lbs/MMBtu	**0.0002**	**0.001**	**0.0003**
	HAP TOTALS	**0.003**	**0.01**	**0.004**

CO_2e Uncontrolled tpy
636.90

Note:

CO_2e from estimated sum of CO_2, CH_4, and N_2O from Generator GHG tab and converted to short tons

NOTES:

Emission Factors from EPA AP-42, Table 3.3-2 Specified Organic Compound Emission Factors for Uncontrolled Diesel Engines (October, 1996) for HAPs.

Generator Emission Calculations

Unit No.	5	
Emission Point No.	5	
Source Description:	Cat/Eagle Diesel Generator	
Manufacturer:	Caterpillar/Eagle	SN: CLJ05091
Model:	C-9 DITA	
Type	diesel engine generator	
Manufacture Date	2003	
Rated Horsepower	300	hp
Rated Kilowatts	224	kW
Fuel Consumption	15.0	gal/hr

Emission Calculations

Uncontrolled Emission Rates

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
4.62	3.50	1.98		0.20	g/kW-hr	EPA Tier 2
			0.00205		lb/hp-hr	AP-42 Chapter 3.3, Table 3.3-1
2.28	1.73	0.98	0.62	0.10	lb/hr	Maximum of Test Results or Calculated
10.0	7.6	4.3	2.7	0.4	tpy	Annual emission rate (8,760 hrs/yr)

Controlled Emission Limits Based on Limited Operating Hours

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
2.28	**1.73**	**0.98**	**0.62**	**0.10**	**lb/hr**	
2.85	**2.16**	**1.22**	**0.77**	**0.12**	**tpy**	**Annual emission rate based on 2500 hrs/yr**

NOTES:

All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.

Tier 2 emissions factors combine NOx an VOC factor into one value. For this application it was assumed that NOx would represent 70% of the total and VOC would represent 30% of the total.

Sample Calculation:

(4.62 g NOx/kW-hr) x (0.00220462 lb/g) x (224 kW) = 2.28 lb/hr

Fuel Consumption

Max Fuel Consumption	**15.0**	gal/hr
Fuel Heat Value	18,390	Btu/lb
Fuel Density	7.0	lb/gal
Heat Input	**1.93**	MMBtu/hr

GHG uncontrolled fuel Consumption (8760 hrs/yr)	**131,400**	**gal/yr**

Hazardous Air Pollutants (HAP)	Emission Factor	lb/hr	Uncontrolled 8,760 hours tpy	Controlled to Max of 2500 hrs tpy
Acetaldehyde	7.67E-04 lbs/MMBtu	**0.001**	**0.006**	**0.002**
Acrolein	9.25E-05 lbs/MMBtu	**0.000**	**0.001**	**0.000**
Benzene	9.33E-04 lbs/MMBtu	**0.002**	**0.008**	**0.002**
1,3-Butadiene	3.91E-05 lbs/MMBtu	**0.000**	**0.000**	**0.000**
Formaldehyde	1.18E-03 lbs/MMBtu	**0.002**	**0.010**	**0.003**
Toluene	4.09E-04 lbs/MMBtu	**0.001**	**0.003**	**0.001**
Naphthalene	8.48E-05 lbs/MMBtu	**0.000**	**0.001**	**0.000**
Xylenes	2.85E-04 lbs/MMBtu	**0.001**	**0.002**	**0.001**
	HAP TOTALS	**0.01**	**0.03**	**0.009**

CO_2e Uncontrolled tpy
1,592.25

Note:

CO_2e from estimated sum of CO_2, CH_4, and N_2O from Generator GHG tab and converted to short tons

NOTES:

Emission Factors from EPA AP-42, Table 3.3-2 Specified Organic Compound Emission Factors for Uncontrolled Diesel Engines (October, 1996) for HAPs.

Generator Emission Calculations

Unit No.	6	
Emission Point No.	6	
Source Description:	JD Diesel Generator	
Manufacturer:	JD/Duo Vibe	
Model:	4039T	
Type	diesel engine generator	
Manufacture Date	1995	
Rated Horsepower	92	hp
Rated Kilowatts	69	kW
Fuel Consumption	31.7	lb/hr
Fuel Consumption	4.5	gal/hr

Emission Calculations

Uncontrolled Emission Rates

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
			0.00205	0.0022	lb/hp-hr	AP-42 Chapter 3.3, Table 3.3-1
1,000	220	22			g/hr	Manufacture Specification Sheet
2.20	0.49	0.05	0.19	0.20	lb/hr	Calculated
9.7	2.1	0.2	0.8	0.9	tpy	Annual emission rate (8,760 hrs/yr)

Controlled Emission Limits Based on Limited Operating Hours

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
2.20	**0.49**	**0.05**	**0.19**	**0.20**	**lb/hr**	
2.76	**0.61**	**0.06**	**0.24**	**0.25**	**tpy**	**Annual emission rate based on 2500 hrs/yr**

NOTES:

All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.

Sample Calculation:

(1000 g/hr NOx) x (0.00220462 lb/g) = 2.20 lb/hr

Fuel Consumption

Max Fuel Consumption	**4.5**	gal/hr
Fuel Heat Value	18,390	Btu/lb
Fuel Density	7.0	lb/gal
Heat Input	**0.58**	MMBtu/hr

GHG uncontrolled fuel Consumption (8760 hrs/yr)	**39,665**	**gal/yr**

Hazardous Air Pollutants (HAP)	Emission Factor	lb/hr	Uncontrolled 8,760 hours tpy	Controlled to Max of 2500 hrs tpy
Acetaldehyde	7.67E-04 lbs/MMBtu	**0.0004**	**0.002**	**0.0006**
Acrolein	9.25E-05 lbs/MMBtu	**0.0001**	**0.0002**	**0.00007**
Benzene	9.33E-04 lbs/MMBtu	**0.001**	**0.002**	**0.0007**
1,3-Butadiene	3.91E-05 lbs/MMBtu	**0.00002**	**0.0001**	**0.00003**
Formaldehyde	1.18E-03 lbs/MMBtu	**0.001**	**0.003**	**0.0009**
Toluene	4.09E-04 lbs/MMBtu	**0.0002**	**0.001**	**0.0003**
Naphthalene	8.48E-05 lbs/MMBtu	**0.00005**	**0.0002**	**0.00006**
Xylenes	2.85E-04 lbs/MMBtu	**0.0002**	**0.001**	**0.0002**
	HAP TOTALS	**0.002**	**0.01**	**0.003**

CO_2e Uncontrolled tpy
480.64

Note:

CO_2e from estimated sum of CO_2, CH_4, and N_2O from Generator GHG tab and converted to short tons

NOTES:

Emission Factors from EPA AP-42, Table 3.3-2 Specified Organic Compound Emission Factors for Uncontrolled Diesel Engines (October, 1996) for HAPs.

Heater Emission Calculations

Unit No.	8	
Emission Point No.	8	
Source Description:	AC Heater 2.1 MMBtu/hr	
Manufacturer:		
Model:		
Type	Fuel Oil Fired Heater	
Manufacture Date		
Rated Capacity	1.5	MMBtu/hr
Fuel Usage	58.0	gpd
Fuel Usage	2.4	gal/hr

Emission Calculations

Uncontrolled Emission Rates

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
0.024	0.005	0.0002	0.142S	0.002	lb/gal	AP-42 Chapter 1.3, Table 1.3-1
0.06	0.01	0.0005	0.02	0.005	lb/hr	Maximum of Test Results or Calculated
0.3	0.1	0.002	0.1	0.02	tpy	Annual emission rate (8,760 hrs/yr)

Controlled Emission Limits Based on Limited Operating Hours

NO_x	CO	VOC	SO_2	$PM_{10}/PM_{2.5}$	Units	Comments
0.06	**0.01**	**0.00**	**0.02**	**0.00**	**lb/hr**	
0.07	**0.02**	**0.00**	**0.02**	**0.01**	**tpy**	**Annual emission rate based on 2,500 hrs/yr**

NOTES:

All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.
Sulfur content of fuel oil not to exceed 0.05%
S = % fuel Sulfur content

Sample Calculation:

(0.024 lb/gal NOx) x (2.4 gal/hr fuel usage) = 0.06 lb/hr NOx

Hazardous Air Pollutants (HAP)	Emission Factor*		lb/hr	Uncontrolled 8,760 hours tpy	Controlled to Max of 2,500 hrs tpy
Benzene	2.14E-04	lbs/MMBtu	0.0003	0.001	0.0004
Ethylbenzene	6.36E-05	lbs/MMBtu	0.0001	0.000	0.0001
Formaldehyde	3.30E-02	lbs/MMBtu	0.050	0.22	0.062
Naphthalene	1.13E-03	lbs/MMBtu	0.002	0.01	0.002
1,1,1-Trichloroethane	2.36E-04	lbs/MMBtu	0.0004	0.002	0.0004
Toluene	6.20E-03	lbs/MMBtu	0.009	0.04	0.012
Xylenes	1.09E-04	lbs/MMBtu	0.0002	0.001	0.0002
	HAP TOTALS		**0.06**	**0.27**	**0.08**

*Emission factors are from AP-42 Chapter 1, Table 1.3-9.

Greenhouse Gas	Emission Factor*		lb/hr	Uncontrolled 8,760 hours tpy	Controlled to Max of 2,500 hrs tpy
CO_2	22.3	lb/gal	33.45	146.51	41.81
CH_4	0.000052	lb/gal	0.0001	0.0003	0.0001
N_2O	0.00026	lb/gal	0.000	0.002	0.000

*Emission fators are from AP-42 Chapter 1, Table 1.3-3, Table 1.3-8 and Table 1.3-12.

Haul Road Inputs

Site-Wide

Description	Value	Unit
Material Throughput	200,000	tpy
Annual Operating Hours:	8,760	hr/yr
Daily Operating Hours:	24	hr/day, 7 days per week

Unpaved Haul Road

Parameter	Value	Unit
Empty Vehicle Weight[1]	17.0	ton
Load Size [2]	23.0	ton
Loaded Vehicle Weight[3]	40.0	ton
Mean Vehicle Weight[4]	28.5	ton
Vehicles Per Day [5]	336	VPD
Vehicles Per Year	122,640	VPY
Segment Length	0.14	mile
Trips per Segment	2	-
Effective Segment Length[6]	0.28	miles
Trips per Hour[7]	28	-
Wet Days[8]	70	day
Surface Silt Content[9]	4.8	%
Control Efficiency	80	%

[1] Empty vehicle weight includes driver and occupants and full fuel load.

[2] Include cargo, transported materials, etc.

[3] Loaded vehicle weight = Empty + Load Size

[4] Mean Vehicle weight = (Loaded Weight + Empty Weight) / 2

[5] Vehicles per day

[6] Effective segment length = trips per segment * segment length

[7] Trips per hour = Vehicles per day * Segments per trip ÷ Hours of Operation per Day

[8] Wet days is the NM default allowed by NMED without additional justification

[9] Surface silt content based on AP-42 Section 13.2.2.3

Unpaved Road Emission Factors

Route	Calculation Parameters [1]												Annual Emission Factors		
	s	W	P	k					b					E_{ext} [4]	
	Silt Content [1] %	Mean Vehicle Weight tons	Wet Days day	PM_{30} lb/VMT	PM_{10} lb/VMT	$PM_{2.5}$ lb/VMT	PM_{10}	$PM_{2.5}$	PM_{30}	PM_{10}	$PM_{2.5}$	PM_{10} lb/VMT	$PM_{2.5}$ lb/VMT	PM_{10} lb/VMT	$PM_{2.5}$ lb/VMT
Trucks	4.8	28.5	70	4.9	1.5	0.15	0.90	0.90	0.45	0.45	0.45	1.8	0.18	1.5	0.15

[1] Emission factors calculated per AP-42 Sec. 13.2.2.3 November, 2006, Equation 2.

Unpaved Road Emissions

Route	Calculation Inputs						Uncontrolled Emissions				Controlled Emissions [5]			
	Annual Operation hr	Segment Length mi	Trips per Segment	Number of Trucks per Year trucks/yr	Effective Segment Length mi	Average VMT/yr [3] mi/yr	PM_{10} lb/hr	PM_{10} tpy	$PM_{2.5}$ lb/hr	$PM_{2.5}$ tpy	PM_{10} lb/hr	PM_{10} tpy	$PM_{2.5}$ lb/hr	$PM_{2.5}$ tpy
Trucks	8,760	0.14	2	122,640	0.28	34,339	7.10	25.13	0.71	2.51	1.42	5.03	0.14	0.50
Totals							***7.10***	***25.13***	***0.71***	***2.51***	***1.42***	***5.03***	***0.14***	***0.50***

[1] Surface silt = % of 75 micron diameter and smaller particles

[2] E = k x (s/12)^a x (W/3)^b (AP-42 page 13.2.2-4 Equation 1a, November 2006)

E= Size Specific Emission Factor (lb/VMT)

s = surface material silt content (%)

k, a, b = constants from AP-42 Table 13.2.2-2

W = Weighted Mean Vehicle Weight from Haul Road Inputs (tons)

[3] VMT/yr = Vehicle Miles Travelled per year = Trips per year * Segment Length

[4] Wet Day Emission Factor = E * (365 - Wet Days)/365. Wet days value is the NM default allowed by NMED without additional justification.

[5] Controlled Emissions = Uncontrolled Emissions * (1 - Control Factor/100%)

Control Efficiency = **80%** default for base course and watering

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 12/10/2022

Use one spreadsheet for each fuel. Make additional copies as needed.

This spreadsheet is protected and contains locked cells to ensure that you do not inadvertently alter any of the included formulas and/or calculations. To remove this protection and alter this spreadsheet, right-click the "worksheet" tab near the bottom of the screen and select "Unprotect Sheet." When prompted for the password, type "GHG" and click "OK." Please note that making changes to an unprotected sheet could result in incorrect calculations and that you are responsible for the accuracy of the data you report to EPA. For additional help, visit the Microsoft Excel Support website (http://office.microsoft.com/en-us/excel-help).

Equation C-1:

$$CO_2 = 1x10^{-3} * Fuel * HHV * EF$$

Equation C-8:

$$CH_4 \text{ or } N_2O = 1 \, x \, 10^{-3} * Fuel * HHV * EF$$

Facility Name:	Unit 3: diesel generator engine
Reporter Name:	
Unit or Group Name/ ID:	
Configuration Type:	
Fuel/ Fuel Type:	Diesel
Reporting Period:	
Comments:	
Unit Type:	General Stationary Fuel Combustion

Fuel Input Data

[Fuel] = Mass or volume of fuel combusted per year, from company records as defined in §98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel)	306,600.
[HHV] = Default High heat value of the fuel, from Table C-1 (mmBtu/mass or mmBtu/volume)	0.146

Constants

[1 x 10^{-3}] = Conversion Factor from kg to metric tons (constant)	0.001

Annual CO_2 Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-1

[EF] = Fuel-Specific Default CO_2 Emission Factor, from Table C-1 (kg CO_2/mmBtu)	75.04
[CO_2] = Annual CO_2 emissions from combustion of the specified fuel (metric tons)	**3359.0605440**

Enter this value in e-GGRT

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 12/10/2022

Annual CH_4 Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for CH_4, from Table C-2 (kg CH_4/mmBtu)	0.003
[CH_4] = Annual CH_4 emissions from combustion of the specified fuel (metric tons)	**0.1342908**

Note: If you are reporting CH_4 emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

Annual N_2O Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for N_2O, from Table C-2 (kg N_2O/mmBtu)	0.0006
[N_2O] = Annual N_2O emissions from combustion of the specified fuel (metric tons)	**0.0268582**

Note: If you are reporting N_2O emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

INFORMATION ONLY: Annual CH_4 Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO_2e)

[GWP_{CH4}] = Global Warming Potential for CH_4	25
[CH_4] = Annual CH_4 emissions from combustion of the specified fuel (metric tons CO_2e)	3.35727

Note: 25 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 21.

INFORMATION ONLY: Annual N_2O Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO_2e)

[GWP_{N2O}] = Global Warming Potential for N_2O	298
[N_2O] = Annual N_2O emissions from combustion of the specified fuel (metric tons CO_2e)	8.00373168

Note: 298 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 310.

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 12/10/2022

Use one spreadsheet for each fuel. Make additional copies as needed.

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Equation C-1:

$$CO_2 = 1x10^{-3} * Fuel * HHV * EF$$

Equation C-8:

$$CH_4 \text{ or } N_2O = 1 \, x \, 10^{-3} * Fuel * HHV * EF$$

Facility Name:	Unit 4: diesel generator engine
Reporter Name:	
Unit or Group Name/ ID:	
Configuration Type:	
Fuel/ Fuel Type:	Diesel
Reporting Period:	
Comments:	
Unit Type:	General Stationary Fuel Combustion

Fuel Input Data

[Fuel] = Mass or volume of fuel combusted per year, from company records as defined in §98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel)	52,560.
[HHV] = Default High heat value of the fuel, from Table C-1 (mmBtu/mass or mmBtu/volume)	0.146

Constants

[1 x 10^{-3}] = Conversion Factor from kg to metric tons (constant)	0.001

Annual CO_2 Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-1

[EF] = Fuel-Specific Default CO_2 Emission Factor, from Table C-1 (kg CO_2/mmBtu)	75.04
[CO_2] = Annual CO_2 emissions from combustion of the specified fuel (metric tons)	**575.8389504**

Enter this value in e-GGRT

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 12/10/2022

Annual CH_4 Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for CH_4, from Table C-2 (kg CH_4/mmBtu)	0.003
[CH_4] = Annual CH_4 emissions from combustion of the specified fuel (metric tons)	**0.0230213**

Note: If you are reporting CH_4 emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

Annual N_2O Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for N_2O, from Table C-2 (kg N_2O/mmBtu)	0.0006
[N_2O] = Annual N_2O emissions from combustion of the specified fuel (metric tons)	**0.0046043**

Note: If you are reporting N_2O emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

INFORMATION ONLY: Annual CH_4 Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO_2e)

[GWP_{CH4}] = Global Warming Potential for CH_4	25
[CH_4] = Annual CH_4 emissions from combustion of the specified fuel (metric tons CO_2e)	0.575532

Note: 25 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 21.

INFORMATION ONLY: Annual N_2O Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO_2e)

[GWP_{N2O}] = Global Warming Potential for N_2O	298
[N_2O] = Annual N_2O emissions from combustion of the specified fuel (metric tons CO_2e)	1.372068288

Note: 298 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 310.

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 12/10/2022

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Equation C-1:

$$CO_2 = 1x10^{-3} * Fuel * HHV * EF$$

Equation C-8:

$$CH_4 \text{ or } N_2O = 1 \, x \, 10^{-3} * Fuel * HHV * EF$$

Facility Name:	Unit 5: diesel generator engine
Reporter Name:	
Unit or Group Name/ ID:	
Configuration Type:	
Fuel/ Fuel Type:	Diesel
Reporting Period:	
Comments:	
Unit Type:	General Stationary Fuel Combustion

Fuel Input Data

[Fuel] = Mass or volume of fuel combusted per year, from company records as defined in §98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel)	131,400.
[HHV] = Default High heat value of the fuel, from Table C-1 (mmBtu/mass or mmBtu/volume)	0.146

Constants

[1 x 10^{-3}] = Conversion Factor from kg to metric tons (constant)	0.001

Annual CO_2 Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-1

[EF] = Fuel-Specific Default CO_2 Emission Factor, from Table C-1 (kg CO_2/mmBtu)	75.04
[CO_2] = Annual CO_2 emissions from combustion of the specified fuel (metric tons)	**1439.5973760**

Enter this value in e-GGRT

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 12/10/2022

Annual CH_4 Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for CH_4, from Table C-2 (kg CH_4/mmBtu)	0.003
[CH_4] = Annual CH_4 emissions from combustion of the specified fuel (metric tons)	**0.0575532**

Note: If you are reporting CH_4 emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

Annual N_2O Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for N_2O, from Table C-2 (kg N_2O/mmBtu)	0.0006
[N_2O] = Annual N_2O emissions from combustion of the specified fuel (metric tons)	**0.0115106**

Note: If you are reporting N_2O emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

INFORMATION ONLY: Annual CH_4 Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO_2e)

[GWP_{CH4}] = Global Warming Potential for CH_4	25
[CH_4] = Annual CH_4 emissions from combustion of the specified fuel (metric tons CO_2e)	1.43883

Note: 25 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 21.

INFORMATION ONLY: Annual N_2O Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO_2e)

[GWP_{N2O}] = Global Warming Potential for N_2O	298
[N_2O] = Annual N_2O emissions from combustion of the specified fuel (metric tons CO_2e)	3.43017072

Note: 298 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 310.

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 12/10/2022

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Equation C-1:

$$CO_2 = 1x10^{-3} * Fuel * HHV * EF$$

Equation C-8:

$$CH_4 \text{ or } N_2O = 1 \, x \, 10^{-3} * Fuel * HHV * EF$$

Facility Name:	Unit 6: diesel generator engine
Reporter Name:	
Unit or Group Name/ ID:	
Configuration Type:	
Fuel/ Fuel Type:	Diesel
Reporting Period:	
Comments:	
Unit Type:	General Stationary Fuel Combustion

Fuel Input Data

[Fuel] = Mass or volume of fuel combusted per year, from company records as defined in §98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel)	39,664.61934
[HHV] = Default High heat value of the fuel, from Table C-1 (mmBtu/mass or mmBtu/volume)	0.146

Constants

[1 x 10^{-3}] = Conversion Factor from kg to metric tons (constant)	0.001

Annual CO_2 Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-1

[EF] = Fuel-Specific Default CO_2 Emission Factor, from Table C-1 (kg CO_2/mmBtu)	75.04
[CO_2] = Annual CO_2 emissions from combustion of the specified fuel (metric tons)	**434.5592232**

Enter this value in e-GGRT

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 12/10/2022

Annual CH_4 Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for CH_4, from Table C-2 (kg CH_4/mmBtu)	0.003
[CH_4] = Annual CH_4 emissions from combustion of the specified fuel (metric tons)	**0.0173731**

Note: If you are reporting CH_4 emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

Annual N_2O Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for N_2O, from Table C-2 (kg N_2O/mmBtu)	0.0006
[N_2O] = Annual N_2O emissions from combustion of the specified fuel (metric tons)	**0.0034746**

Note: If you are reporting N_2O emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

INFORMATION ONLY: Annual CH_4 Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO_2e)

[GWP_{CH4}] = Global Warming Potential for CH_4	25
[CH_4] = Annual CH_4 emissions from combustion of the specified fuel (metric tons CO_2e)	0.434327582

Note: 25 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 21.

INFORMATION ONLY: Annual N_2O Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO_2e)

[GWP_{N2O}] = Global Warming Potential for N_2O	298
[N_2O] = Annual N_2O emissions from combustion of the specified fuel (metric tons CO_2e)	1.035436955

Note: 298 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 310.

Table C-1 to Subpart C - Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Fuel Type	Default High Heat Value	Default CO_2 Emission Factor
Coal and Coke	**mmBtu/short ton**	**kg CO_2 /mmBtu**
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coal Coke	24.80	113.67
Mixed (Commercial sector)	21.39	94.27
Mixed (Industrial coking)	26.28	93.90
Mixed (Industrial sector)	22.35	94.67
Mixed (Electric Power sector)	19.73	95.52
Natural Gas	**mmBtu/scf**	**kg CO_2 /mmBtu**
(Weighted U.S. Average)	1.026E-03	53.06
Petroleum Products	**mmBtu/gallon**	**kg CO_2 /mmBtu**
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2	0.138	73.96
Distillate Fuel Oil No. 4	0.146	75.04
Residual Fuel Oil No. 5	0.140	72.93
Residual Fuel Oil No. 6	0.150	75.10
Used Oil	0.138	74.00
Kerosene	0.135	75.20
Liquefied petroleum gases (LPG)[1]	0.092	61.71
Propane[1]	0.091	62.87
Propylene[1]	0.091	67.77
Ethane[1]	0.068	59.60
Ethanol	0.084	68.44
Ethylene[2]	0.058	65.96
Isobutane[1]	0.099	64.94
Isobutylene[1]	0.103	68.86
Butane[1]	0.103	64.77
Butylene[1]	0.105	68.72
Naphtha (<401 deg F)	0.125	68.02
Natural Gasoline	0.110	66.88
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02
Petrochemical Feedstocks	0.125	71.02
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.54
Heavy Gas Oils	0.148	74.92
Lubricants	0.144	74.27
Motor Gasoline	0.125	70.22
Aviation Gasoline	0.120	69.25
Kerosene-Type Jet Fuel	0.135	72.22
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	74.54
Other Fuels (Solid)	**mmBtu/short ton**	**kg CO_2 /mmBtu**
Municipal Solid Waste	9.95 [3]	90.70
Tires	28.00	85.97
Plastics	38.00	75.00
Petroleum Coke	30.00	102.41
Other Fuels (Gaseous)	**mmBtu/scf**	**kg CO_2 /mmBtu**
Blast Furnace Gas	9.20E-05	274.32
Coke Oven Gas	5.99E-04	46.85
Propane Gas	2.52E-03	61.46
Fuel Gas [4]	1.39E-03	59.00
Biomass Fuels - Solid	**mmBtu/short ton**	**kg CO_2 /mmBtu**
Wood and Wood Residuals (dry basis)[5]	17.48	93.80
Agricultural Byproducts	8.25	118.17
Peat	8.00	111.84
Solid Byproducts	10.39	105.51
Biomass Fuels - Gaseous	**mmBtu/scf**	**kg CO_2 /mmBtu**
Landfill Gas	4.85E-04	52.07
Other Biomass Gases	6.55E-04	52.07
Biomass Fuels - Liquid	**mmBtu/gallon**	**kg CO_2 /mmBtu**
Ethanol	0.084	68.44
Biodiesel	0.128	73.84
Rendered Animal Fat	0.125	71.06
Vegetable Oil	0.120	81.55

Table C-1 to Subpart C - Default CO_2 Emission Factors and High Heat Values for Various Types o

Fuel Type	Default High Heat Value	Default CO_2 Emission Factor
Coal and Coke	**mmBtu/short ton**	**kg CO_2 /mmBtu**
Anthracite	25.09	103.54
Bituminous	24.93	93.40
Subbituminous	17.25	97.02
Lignite	14.21	96.36
Coke	24.80	102.04
Mixed (Commercial sector)	21.39	95.26
Mixed (Industrial coking)	26.28	93.65
Mixed (Industrial sector)	22.35	93.91
Mixed (Electric Power sector)	19.73	94.38
Natural Gas	**mmBtu/scf**	**kg CO_2 /mmBtu**
(Weighted U.S. Average)	1.028E-03	53.02
Petroleum Products	**mmBtu/gallon**	**kg CO_2 /mmBtu**
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2	0.138	73.96
Distillate Fuel Oil No. 4	0.146	75.04
Residual Fuel Oil No. 5	0.140	72.93
Residual Fuel Oil No. 6	0.150	75.10
Used Oil	0.135	74.00
Kerosene	0.135	75.20
Liquefied petroleum gases (LPG)	0.092	62.98
Propane	0.091	61.46
Propylene	0.091	65.95
Ethane	0.069	62.64
Ethanol	0.084	68.44
Ethylene	0.100	67.43
Isobutane	0.097	64.91
Isobutylene	0.103	67.74
Butane	0.101	65.15
Butylene	0.103	67.73
Naphtha (<401 deg F)	0.125	68.02
Natural Gasoline	0.110	66.83
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02
Petrochemical Feedstocks	0.129	70.97
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.49
Heavy Gas Oils	0.148	74.92
Lubricants	0.144	74.27
Motor Gasoline	0.125	70.22
Aviation Gasoline	0.120	69.25
Kerosene-Type Jet Fuel	0.135	72.22
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	74.49
Other Fuels (Solid)	**mmBtu/short ton**	**kg CO_2 /mmBtu**
Municipal Solid Waste[1]	9.95	90.70
Tires	26.87	85.97
Plastics	38.00	75.00
Petroleum Coke	30.00	102.41
Other Fuels (Gaseous)	**mmBtu/scf**	**kg CO_2 /mmBtu**
Blast Furnace Gas	9.20E-05	274.32
Coke Oven Gas	5.99E-04	46.85
Propane Gas	2.52E-03	61.46
Fuel Gas [2]	1.39E-03	59.00
Biomass Fuels - Solid	**mmBtu/short ton**	**kg CO_2 /mmBtu**
Wood and Wood Residuals	15.38	93.80
Agricultural Byproducts	8.25	118.17
Peat	8.00	111.84
Solid Byproducts	25.83	105.51
Biomass Fuels - Gaseous	**mmBtu/scf**	**kg CO_2 /mmBtu**
Biogas (Captured methane)	8.41E-04	52.07
Biomass Fuels - Liquid	**mmBtu/gallon**	**kg CO_2 /mmBtu**
Ethanol	0.084	68.44
Biodiesel	0.128	73.84
Rendered Animal Fat	0.125	71.06
Vegetable Oil	0.120	81.55

Table C-2 to Subpart C - Default CH_4 and N_2O Emission Factors for Various Types of Fuel

Fuel Type	Default CH_4 Emission Factor (kg CH_4/mmBtu)	Default N_2O Emission Factor (kg N_2O/mmBtu)
Coal and Coke (All fuel types in Table C-1	1.1E-02	1.6E-03
Natural Gas	1.0E-03	1.0E-04
Petroleum (All fuel types in Table C-1)	3.0E-03	6.0E-04
Fuel Gas	3.0E-03	6.0E-04
Municipal Solid Waste	3.2E-02	4.2E-03
Tires	3.2E-02	4.2E-03
Blast Furnace Gas	2.2E-05	1.0E-04
Coke Oven Gas	4.8E-04	1.0E-04
Biomass Fuels - Solid (All fuel types in Table C-1, except wood and wood residuals)	3.2E-02	4.2E-03
Wood and wood residuals	7.2E-03	3.6E-03
Biomass Fuels - Gaseous (All fuel types in Table C-1)	3.2E-03	6.3E-04
Biomass Fuels – Liquid (All fuel types in Table C-1)	1.1E-03	1.1E-04

Note: Those employing this table are assumed to fall under the IPCC definitions of the "Energy Industry" or "Manufacturing Industries and Construction". In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC "Energy Industry" category may employ a value of 1 g of CH4/mmBtu.

Table C-2 to Subpart C - Default CH_4 and N_2O Emission Factors for Various Types of Fuel

Fuel Type	Default CH_4 Emission Factor (kg CH_4/mmBtu)	Default N_2O Emission Factor (kg N_2O/mmBtu)
Coal and Coke (All fuel types in Table C-1)	1.1E-02	1.6E-03
Natural Gas	1.0E-03	1.0E-04
Petroleum (All fuel types in Table C-1)	3.0E-03	6.0E-04
Municipal Solid Waste	3.2E-02	4.2E-03
Tires	3.2E-02	4.2E-03
Blast Furnace Gas	2.2E-05	1.0E-04
Coke Oven Gas	4.8E-04	1.0E-04
Biomass Fuels - Solid (All fuel types in Table C-1)	3.2E-02	4.2E-03
Biogas	3.2E-03	6.3E-04
Biomass Fuels – Liquid (All fuel types in Table C-1)	1.1E-03	1.1E-04

Note: Those employing this table are assumed to fall under the IPCC definitions of the "Energy Industry" or "Manufacturing Industries and Construction". In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC "Energy Industry" category may employ a value of 1 g of CH4/mmBtu.

Section 7

Information Used To Determine Emissions

Information Used to Determine Emissions shall include the following:

- ☒ If manufacturer data are used, include specifications for emissions units and control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect normal operation.
- ☐ If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly effect emission rates.
- ☒ If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
- ☐ If an older version of AP-42 is used, include a complete copy of the section.
- ☒ If an EPA document or other material is referenced, include a complete copy.
- ☐ Fuel specifications sheet.
- ☐ If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For tank-flashing emissions, include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.

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1) Generator Engine Specification Sheets
2) AP-42 Sections Used
3) EPA Emission Standards for Tier 1 - 4 Engines

CATERPILLAR®

Engine Emissions Data

For Emissions / Certification feedback and questions, please submit a ticket via our ERC Request Portal

This emission data is Caterpillar's best estimate for this rating. If actual emissions are required then an emission test needs to be run on your engine.

Serial Number (Machine)	
Serial Number (Engine)	**ZRS00329**
Sales Model	C27
Regulatory Build Date	13-MAR-2013
As Shipped Data	
Engine Arrangement Number	3479352
Certification Arrangement	
Test Spec Number	0K7856
Regulatory Status	EPA/CARB @ Constant Speed
Labeled Model Year	2013
EPA Family Code	DCPXL27.0HYA
EPA Emissions Level	EPA Tier 4i
As-Shipped Flash File	421-6481
CORR FL Power at RPM	1,207 HP (900.0 KW)1800 RPM
Advertised Power	1,207 HP 1,800RPM
Total Displacement	27.0 L

Disclaimer: The information provided has been compiled from third party sources and is accurate to the best of Caterpillar's knowledge. However, Caterpillar cannot guarantee the accuracy, completeness, or validity of the information and is not liable for any errors or omissions contained therein. All information provided should be independently verified and confirmed, including by examining the emissions label located on the engine.

Need emission replacement label? Click here!

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2013 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT OF 1990

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Caterpillar Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: DCPXL27.0HYA-012

Effective Date: 08/14/2012

Expiration Date: 12/31/2013

Byron J. Bunker, Acting Division Director
Compliance Division

Issue Date: 08/14/2012

Revision Date: N/A

Model Year: 2013
Manufacturer Type: Original Engine Manufacturer
Engine Family: DCPXL27.0HYA

Mobile/Stationary Indicator: Both
Emissions Power Category: 560<kW<=900
Fuel Type: Diesel
After Treatment Devices: No After Treatment Devices Installed
Non-after Treatment Devices: Electronic/Electric EGR - Cooled, Electronic Control
FELs: NOx 3.3 g/kW-hr

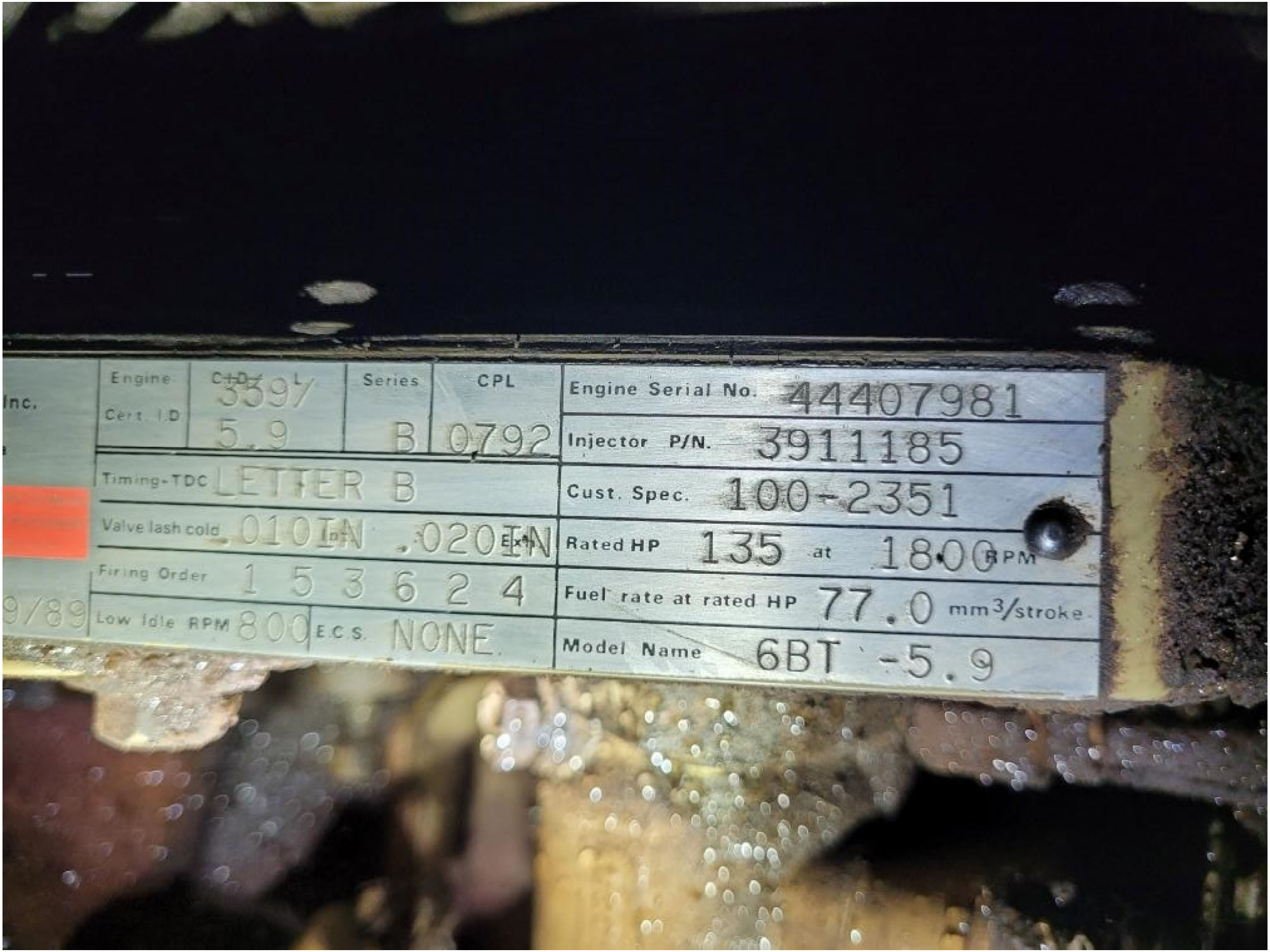
Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Parts 60 and 1039, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Parts 60 and 1039 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Parts 60 and 1039 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 60 and 1039.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Parts 60 and 1039. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Parts 60 and 1039.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

This certificate of conformity is conditional upon compliance of said manufacturer with the averaging, banking and trading provisions of 40 CFR Part 1039, Subpart H. Failure to comply with these provisions may render this certificate void *ab initio*.


Engine Cert I.D
CID/L 359/5.9
Series B
CPL 0792
Engine Serial No. 44407981
Injector P/N. 3911185
Timing-TDC LETTER B
Cust. Spec. 100-2351
Valve lash cold .010IN .020IN
Rated HP 135 at 1800 RPM
Firing Order 1 5 3 6 2 4
Fuel rate at rated HP 77.0 mm3/stroke
Low Idle RPM 800 E.C.S. NONE
Model Name 6BT -5.9

INDUSTRIAL ENGINE PERFORMANCE DATA [CLJ05091]

JULY 31, 2018

For Help Desk Phone Numbers Click here

Performance Number: DM6427

Level:

Change 00

Sales Model: C-9 DITA
Engine Power: 300 HP
Manifold Type: DRY
Turbo Quantity: 1
Application Type: IND-DIESEL
Rating Type: IND-B

Combustion: DI
Speed: 2,200 RPM
Governor Type: ELEC
Engine App: IN
Engine Rating: IN
Certification: EPA TIER-II 2003 - 2005
EU STAGE-2 2002 - 2009

Aspr: TA
After Cooler: ATAAC
After Cooler Temp(F): 120
Turbo Arrangement:
Strategy:

General Performance Data 1

ENGINE SPEED RPM	ENGINE POWER BHP	ENGINE TORQUE LB.FT	ENGINE BMEP PSI	FUEL BSFC LB/BHP-HR	FUEL RATE GPH	INTAKE MFLD TEMP DEG F	INTAKE MFLD P IN-HG	INTAKE AIR FLOW CFM	EXH MFLD TEMP DEG F	EXH STACK TEMP DEG F	EXH GAS FLOW CFM
2,200	300	716.17	200.88	0.35	14.95	123.8	45.78	755.73	1,023.98	793.04	1,846.96
2,100	300	750.1	210.45	0.34	14.64	121.64	45.81	723.95	1,041.98	798.44	1,783.39
2,000	300	787.71	221.04	0.34	14.42	119.84	46.14	695.7	1,058.72	810.68	1,730.42
1,900	300	829.02	232.64	0.33	14.27	118.22	46.55	667.45	1,075.46	828.68	1,684.51
1,800	300	875.48	245.55	0.33	14.19	116.42	46.94	639.2	1,095.08	849.92	1,638.6
1,700	293	905.72	254.11	0.33	13.82	114.62	46.97	607.41	1,119.56	873.5	1,585.63
1,600	284	932.28	261.65	0.33	13.39	112.28	46.52	572.1	1,144.76	900.14	1,522.06
1,500	274	958.83	268.9	0.33	12.94	109.94	45.63	533.25	1,169.42	932.9	1,451.43
1,400	263	985.38	276.45	0.33	12.47	107.24	44.27	487.34	1,191.2	973.94	1,377.27

General Performance Data 2

ENGINE SPEED RPM	ENGINE POWER BHP	COMPRESS OUT PRESS IN-HG	COMPRESS OUT TEMP DEG F
2,200	300	48.57	325.94
2,100	300	48.3	320
2,000	300	48.42	317.12
1,900	300	48.65	315.68
1,800	300	48.83	314.42
1,700	293	48.65	312.44
1,600	284	48.03	309.74
1,500	274	46.94	306.86
1,400	263	45.37	303.8

Engine Heat Rejection Data

ENGINE SPEED RPM	ENGINE POWER BHP	REJ TO JW BTU/MN	REJ TO ATMOS BTU/MN	REJ TO EXHAUST BTU/MN	EXH RCOV TO 350F BTU/MN	FROM OIL CLR BTU/MN	FROM AFT CLR BTU/MN	WORK ENERGY BTU/MN	LHV ENERGY BTU/MN	HHV ENERGY BTU/MN
2,200	300	5,505.0	1,836.9	11,828.9	6,085.1	1,723.2	2,576.2	12,738.8	32,359.0	34,520.0
2,100	300	5,442.5	1,677.7	11,487.7	5,914.5	1,689.0	2,428.3	12,738.8	31,733.4	33,780.7
2,000	300	5,379.9	1,586.7	11,317.1	5,857.6	1,666.3	2,320.3	12,738.8	31,278.4	33,268.9
1,900	300	5,288.9	1,490.0	11,146.5	5,857.6	1,643.5	2,229.3	12,738.8	30,880.3	32,870.8
1,800	300	5,180.9	1,370.6	10,975.9	5,914.5	1,620.8	2,138.3	12,738.8	30,425.4	32,415.8
1,700	293	5,152.4	1,285.3	10,805.3	5,857.6	1,586.7	2,030.2	12,454.5	29,742.9	31,676.5
1,600	284	4,828.2	1,484.3	10,520.9	5,857.6	1,541.2	1,905.1	12,056.4	28,889.9	30,766.6
1,500	274	4,543.9	1,666.3	10,236.6	5,800.7	1,490.0	1,768.7	11,601.5	27,980.0	29,799.8
1,400	263	4,799.8	1,342.1	9,895.4	5,743.9	1,438.8	1,620.8	11,146.5	27,070.1	28,833.0

EMISSIONS DATA

EPA TIER-II 2003 - 2005 ********** C2
Gaseous emissions data measurements are consistent with those described in
EPA 40 CFR PART 89 SUBPART D and ISO 8178 for measuring HC, CO, PM, and NOx

Gaseous emissions values are WEIGHTED CYCLE AVERAGES and are in compliance
with the following non-road regulations:

LOCALITY	AGENCY/LEVEL	MAX LIMITS - g/kW-hr
U. S. (incl Calif)	EPA/TIER-2	CO:3.5 NOx + HC:6.6 PM:0.2
Europe	EU/Stage-II	CO:3.5 HC:1.0 NOx:6.0 PM:0.2

EU STAGE-2 2002 - 2009 ********** C2
Gaseous emissions data measurements are consistent with those described in
EPA 40 CFR PART 89 SUBPART D and ISO 8178 for measuring HC, CO, PM, and NOx

Gaseous emissions values are WEIGHTED CYCLE AVERAGES and are in compliance
with the following non-road regulations:

LOCALITY	AGENCY/LEVEL	MAX LIMITS - g/kW-hr
U. S. (incl Calif)	EPA/TIER-2	CO:3.5 NOx + HC:6.6 PM:0.2
Europe	EU/Stage-II	CO:3.5 HC:1.0 NOx:6.0 PM:0.2

REFERENCE EXHAUST STACK DIAMETER	4 IN
WET EXHAUST MASS	3,362.0 LB/HR
WET EXHAUST FLOW (815.00 F STACK TEMP)	1,835.31 CFM
WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	701.00 STD CFM
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	642.37 STD CFM
FUEL FLOW RATE	15 GAL/HR

JOHN DEERE POWER SYSTEMS
Waterloo, IA 50704-5100

Engine serial number:

Engine build date:

Non-Power Tech

4039T 92hp (69kW) @ 1800 Gen-Set ENGINE EXHAUST EMISSIONS

Exhaust emissions levels for this gen-set engine at full load rated speed are as follows:

			GRAMS/HR			EXHAUST FLOW	EXHAUST TEMP	Fuel consumption
ENGINE	RPM	HP	CO	HC	N0x	(cubic meters per minute)	(degrees Celsius)	at rated HP (pounds per hour)
4039T	1800	92	220	22	1000	13.2	532	31.7

Some of our published data is derived from measured data on similar engines. Data applies to steady state operation of the engine at full load (standby) and rated speed. N0x is measured per SAE J177 and reported as NO2. HC are the total hydrocarbons (methane basis) measured per SAE J215. CO is measured per SAE J177. Particulates are not reported as there was no steady state method defined for laboratory measurement of particulates at the time most of the engines were evaluated.

USEPA Emission Standards for Tier 1 - 3 engines

Engine Power (hp)	Model Years	Regulation	Emission Standards (g/hp-hr)						Year the Std Takes Effect
			HC [a, d]	VHC [b]	NOx [a, d]	NMHC+NOx [a]	CO [a]	PM [a]	
50 to <75	1998-2003	Tier 1			6.90				1998
	2004-2007	Tier 2	0.40	0.3996	5.20	5.60	3.70	0.30	2004
	2008-2012	Tier 3	0.20	0.1998	3.3	3.50	3.70	[c]	2008
>75 to <100	1998-2003	Tier 1			6.90				1997
	2004-2007	Tier 2	0.40	0.3996	5.20	5.60	3.70	0.30	2004
	2008-2011	Tier 3	0.20	0.1998	3.3	3.50	3.70	[c]	2007
>100 to <175	1997-2002	Tier 1			6.90				1997
	2003-2006	Tier 2	0.40	0.3996	4.5	4.90	3.70	0.22	2003
	2007-2011	Tier 3	0.20	0.1998	2.8	3.00	3.70	[c]	2007
>175 to <300	1996-2002	Tier 1	1.00	0.9990	6.90		8.50	0.40	1996
	2003-2005	Tier 2	0.40	0.3996	4.5	4.90	2.60	0.15	2003
	2006-2010	Tier 3	0.20	0.1998	2.8	3.00	2.60	[c]	2006
>300 to <600	1996-2000	Tier 1	1.00	0.9990	6.90		8.50	0.40	1996
	2001-2005	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2001
	2006-2010	Tier 3	0.20	0.1998	2.8	3.00	2.60	[c]	2006
>600 to 750	1996-2001	Tier 1	1.00	0.9990	6.90		8.50	0.40	1996
	2002-2005	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2002
	2006-2010	Tier 3	0.20	0.1998	2.8	3.00	2.60	[c]	2006
>750 except generator sets	2000-2005	Tier 1	1.00	0.9990	6.90		8.50	0.40	2000
	2006-2010	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2006
Generator sets >750 to 1200	2000-2005	Tier 1	1.00	0.9990	6.90		8.50	0.40	2000
	2006-2010	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2006
Generator sets >1200	2000-2005	Tier 1	1.00	0.9990	6.90		8.50	0.40	2000
	2006-2010	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2006

Notes:

[a] Nonroad CI Engine Emission Standards from Title 13, California Code of Regulations, Section 2423 (ARB Executive Order "Std").

[b] VHC = Total Hydrocarbons (THC) minus methane and ethane fractions. Equivalent APCD standard. (Highlighted in Orange) See *Conversion Factors to Hydrocarbon Emission Components*, Report No. NR-002a, US EPA, 5/2003. {VHC = ROC}

[c] Tier 3 PM standards have not yet been adopted. Tier 3 engines must meet the Tier 2 PM standard until the Tier 3 PM standard has been adopted.

[d] Tier 2 and Tier 3 HC and NOx equivalent standards used to determine the NMHC + NOx standard. (Highlighted in blue)

Nonroad Compression-Ignition Engines: Exhaust Emission Standards

	Rated Power (kW)	Tier	Model Year	NMHC (g/kW-hr)	NMHC + NOx (g/kW-hr)	NOx (g/kW-hr)	PM (g/kW-hr)	CO (g/kW-hr)	Smoke [a] (Percentage)	Useful Life (hours /years) [b]	Warranty Period (hours /years) [b]
Federal	kW < 8	1	2000-2004	-	10.5	-	1.0	8.0	20/15/50	3,000/5	1,500/2
		2	2005-2007	-	7.5	-	0.80	8.0			
		4	2008+	-	7.5	-	0.40 [c]	8.0			
	8 ≤ kW < 19	1	2000-2004	-	9.5	-	0.80	6.6		3,000/5	1,500/2
		2	2005-2007	-	7.5	-	0.80	6.6			
		4	2008+	-	7.5	-	0.40	6.6			
	19 ≤ kW < 37	1	1999-2003	-	9.5	-	0.80	5.5		5,000/7 [d]	3,000/5 [e]
		2	2004-2007	-	7.5	-	0.60	5.5			
		4	2008-2012	-	7.5	-	0.30	5.5			
			2013+	-	4.7	-	0.03	5.5			
	37 ≤ kW < 56	1	1998-2003	-	-	9.2	-	-		8,000/10	3,000/5
		2	2004-2007	-	7.5	-	0.40	5.0			
		3 [f]	2008-2011	-	4.7	-	0.40	5.0			
		4 (Option 1) [g]	2008-2012	-	4.7	-	0.30	5.0			
		4 (Option 2) [g]	2012	-	4.7	-	0.03	5.0			
		4	2013+	-	4.7	-	0.03	5.0			
	56 ≤ kW < 75	1	1998-2003	-	-	9.2	-	-			
		2	2004-2007	-	7.5	-	0.40	5.0			
		3	2008-2011	-	4.7	-	0.40	5.0			
		4	2012-2013 [h]	-	4.7	-	0.02	5.0			
			2014+ [i]	0.19	-	0.40	0.02	5.0			
	75 ≤ kW < 130	1	1997-2002	-	-	9.2	-	-			
		2	2003-2006	-	6.6	-	0.30	5.0			
		3	2007-2011	-	4.0	-	0.30	5.0			
		4	2012-2013 [h]	-	4.0	-	0.02	5.0			
			2014+	0.19	-	0.40	0.02	5.0			

Continued

	Rated Power (kW)	Tier	Model Year	NMHC (g/kW-hr)	NMHC + NOx (g/kW-hr	NOx (g/kW-hr	PM (g/kW-hr	CO (g/kW-hr)	Smoke [a] (Percentage)	Useful Life (hours /years) [b]	Warranty Period (hours /years) [b]
Federal	130 ≤ kW < 225	1	1996-2002	1.3 [j]	-	9.2	0.54	11.4	20/15/50	8,000/10	3,000/5
		2	2003-2005	-	6.6	-	0.20	3.5			
		3	2006-2010	-	4.0	-	0.20	3.5			
		4	2011-2013 [h]	-	4.0	-	0.02	3.5			
			2014+ [i]	0.19	-	0.40	0.02	3.5			
	225 ≤ kW < 450	1	1996-2000	1.3 [j]	-	9.2	0.54	11.4			
		2	2001-2005	-	6.4	-	0.20	3.5			
		3	2006-2010	-	4.0	-	0.20	3.5			
		4	2011-2013 [h]	-	4.0	-	0.02	3.5			
			2014+ [i]	0.19	-	0.40	0.02	3.5			
	450 ≤ kW < 560	1	1996-2001	1.3 [j]	-	9.2	0.54	11.4			
		2	2002-2005	-	6.4	-	0.20	3.5			
		3	2006-2010	-	4.0	-	0.20	3.5			
		4	2011-2013 [h]	-	4.0	-	0.02	3.5			
			2014+ [i]	0.19	-	0.40	0.02	3.5			
	560 ≤ kW < 900	1	2000-2005	1.3 [j]	-	9.2	0.54	11.4			
		2	2006-2010	-	6.4	-	0.20	3.5			
		4	2011-2014	0.40	-	3.5	0.10	3.5			
			2015+ [i]	0.19	-	3.5 [k]	0.04 [l]	3.5			
	kW > 900	1	2000-2005	1.3 [j]	-	9.2	0.54	11.4			
		2	2006-2010	-	6.4	-	0.20	3.5			
		4	2011-2014	0.40	-	3.5 [k]	0.10	3.5			
			2015+ [i]	0.19	-	3.5 [k]	0.04 [l]	3.5			

Notes on following page.

Notes:

- For Tier 1, 2, and 3 standards, exhaust emissions of nitrogen oxides (NOx), carbon monoxide (CO), hydrocarbons (HC), and non-methane hydrocarbons (NMHC) are measured using the procedures in 40 Code of Federal Regulations (CFR) Part 89 Subpart E. For Tier 1, 2, and 3 standards, particulate matter (PM) exhaust emissions are measured using the California Regulations for New 1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines.
- For Tier 4 standards, engines are tested for transient and steady-state exhaust emissions using the procedures in 40 CFR Part 1039 Subpart F. Transient standards do not apply to engines below 37 kilowatts (kW) before the 2013 model year, constant-speed engines, engines certified to Option 1, and engines above 560 kW.
- Tier 2 and later model naturally aspirated nonroad engines shall not discharge crankcase emissions into the atmosphere unless these emissions are permanently routed into the exhaust. This prohibition does not apply to engines using turbochargers, pumps, blowers, or superchargers.
- In lieu of the Tier 1, 2, and 3 standards for NOX, NMHC + NOX, and PM, manufacturers may elect to participate in the averaging, banking, and trading (ABT) program described in 40 CFR Part 89 Subpart C.

a Smoke emissions may not exceed 20 percent during the acceleration mode, 15 percent during the lugging mode, and 50 percent during the peaks in either mode. Smoke emission standards do not apply to single-cylinder engines, constant-speed engines, or engines certified to a PM emission standard of 0.07 grams per kilowatt-hour (g/kW-hr) or lower. Smoke emissions are measured using procedures in 40 CFR Part 86 Subpart I.

b Useful life and warranty period are expressed hours and years, whichever comes first.

c Hand-startable air-cooled direct injection engines may optionally meet a PM standard of 0.60 g/kW-hr. These engines may optionally meet Tier 2 standards through the 2009 model years. In 2010 these engines are required to meet a PM standard of 0.60 g/kW-hr.

d Useful life for constant speed engines with rated speed 3,000 revolutions per minute (rpm) or higher is 5 years or 3,000 hours, whichever comes first.

e Warranty period for constant speed engines with rated speed 3,000 rpm or higher is 2 years or 1,500 hours, whichever comes first.

f These Tier 3 standards apply only to manufacturers selecting Tier 4 Option 2. Manufacturers selecting Tier 4 Option 1 will be meeting those standards in lieu of Tier 3 standards.

g A manufacturer may certify all their engines to either Option 1 or Option 2 sets of standards starting in the indicated model year. Manufacturers selecting Option 2 must meet Tier 3 standards in the 2008-2011 model years.

h These standards are phase-out standards. Not more than 50 percent of a manufacturer's engine production is allowed to meet these standards in each model year of the phase out period. Engines not meeting these standards must meet the final Tier 4 standards.

i These standards are phased in during the indicated years. At least 50 percent of a manufacturer's engine production must meet these standards during each year of the phase in. Engines not meeting these standards must meet the applicable phase-out standards.

j For Tier 1 engines the standard is for total hydrocarbons.

k The NOx standard for generator sets is 0.67 g/kW-hr.

l The PM standard for generator sets is 0.03 g/kW-hr.

Citations: Code of Federal Regulations (CFR) citations:

- 40 CFR 89.112 = Exhaust emission standards
- 40 CFR 1039.101 = Exhaust emission standards for after 2014 model year
- 40 CFR 1039.102 = Exhaust emission standards for model year 2014 and earlier
- 40 CFR 1039 Subpart F = Exhaust emissions transient and steady state test procedures
- 40 CFR 86 Subpart I = Smoke emission test procedures
- 40 CFR 1065 = Test equipment and emissions measurement procedures

Table 3.3-1. EMISSION FACTORS FOR UNCONTROLLED GASOLINE AND DIESEL INDUSTRIAL ENGINES[a]

Pollutant	Gasoline Fuel (SCC 2-02-003-01, 2-03-003-01)		Diesel Fuel (SCC 2-02-001-02, 2-03-001-01)		EMISSION FACTOR RATING
	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	
NO_x	0.011	1.63	0.031	4.41	D
CO	6.96 E-03[d]	0.99[d]	6.68 E-03	0.95	D
SO_x	5.91 E-04	0.084	2.05 E-03	0.29	D
PM-10[b]	7.21 E-04	0.10	2.20 E-03	0.31	D
CO_2[c]	1.08	154	1.15	164	B
Aldehydes	4.85 E-04	0.07	4.63 E-04	0.07	D
TOC					
Exhaust	0.015	2.10	2.47 E-03	0.35	D
Evaporative	6.61 E-04	0.09	0.00	0.00	E
Crankcase	4.85 E-03	0.69	4.41 E-05	0.01	E
Refueling	1.08 E-03	0.15	0.00	0.00	E

[a] References 2,5-6,9-14. When necessary, an average brake-specific fuel consumption (BSFC) of 7,000 Btu/hp-hr was used to convert from lb/MMBtu to lb/hp-hr. To convert from lb/hp-hr to kg/kw-hr, multiply by 0.608. To convert from lb/MMBtu to ng/J, multiply by 430. SCC = Source Classification Code. TOC = total organic compounds.

[b] PM-10 = particulate matter less than or equal to 10 μm aerodynamic diameter. All particulate is assumed to be ≤ 1 μm in size.

[c] Assumes 99% conversion of carbon in fuel to CO_2 with 87 weight % carbon in diesel, 86 weight % carbon in gasoline, average BSFC of 7,000 Btu/hp-hr, diesel heating value of 19,300 Btu/lb, and gasoline heating value of 20,300 Btu/lb.

[d] Instead of 0.439 lb/hp-hr (power output) and 62.7 lb/mmBtu (fuel input), the correct emissions factors values are 6.96 E-03 lb/hp-hr (power output) and 0.99 lb/mmBtu (fuel input), respectively. This is an editorial correction. March 24, 2009

Table 3.3-2. SPECIATED ORGANIC COMPOUND EMISSION FACTORS FOR UNCONTROLLED DIESEL ENGINES[a]

EMISSION FACTOR RATING: E

Pollutant	Emission Factor (Fuel Input) (lb/MMBtu)
Benzene[b]	9.33 E-04
Toluene[b]	4.09 E-04
Xylenes[b]	2.85 E-04
Propylene	2.58 E-03
1,3-Butadiene[b,c]	<3.91 E-05
Formaldehyde[b]	1.18 E-03
Acetaldehyde[b]	7.67 E-04
Acrolein[b]	<9.25 E-05
Polycyclic aromatic hydrocarbons (PAH)	
Naphthalene[b]	8.48 E-05
Acenaphthylene	<5.06 E-06
Acenaphthene	<1.42 E-06
Fluorene	2.92 E-05
Phenanthrene	2.94 E-05
Anthracene	1.87 E-06
Fluoranthene	7.61 E-06
Pyrene	4.78 E-06
Benzo(a)anthracene	1.68 E-06
Chrysene	3.53 E-07
Benzo(b)fluoranthene	<9.91 E-08
Benzo(k)fluoranthene	<1.55 E-07
Benzo(a)pyrene	<1.88 E-07
Indeno(1,2,3-cd)pyrene	<3.75 E-07
Dibenz(a,h)anthracene	<5.83 E-07
Benzo(g,h,l)perylene	<4.89 E-07
TOTAL PAH	1.68 E-04

[a] Based on the uncontrolled levels of 2 diesel engines from References 6-7. Source Classification Codes 2-02-001-02, 2-03-001-01. To convert from lb/MMBtu to ng/J, multiply by 430.
[b] Hazardous air pollutant listed in the *Clean Air Act*.
[c] Based on data from 1 engine.

Table 3.3-3. EFFECT OF VARIOUS EMISSION CONTROL TECHNOLOGIES ON DIESEL ENGINES[a]

Technology	Affected Parameter	
	Increase	Decrease
Fuel modifications		
Sulfur content increase	PM, wear	
Aromatic content increase	PM, NO_x	
Cetane number		PM, NO_x
10% and 90% boiling point		PM
Fuel additives		PM, NO_x
Water/Fuel emulsions		NO_x
Engine modifications		
Injection timing retard	PM, BSFC	NO_x, power
Fuel injection pressure	PM, NO_x	
Injection rate control		NO_x, PM
Rapid spill nozzles		PM
Electronic timing & metering		NO_x, PM
Injector nozzle geometry		PM
Combustion chamber modifications		NO_x, PM
Turbocharging	PM, power	NO_x
Charge cooling		NO_x
Exhaust gas recirculation	PM, power, wear	NO_x
Oil consumption control		PM, wear
Exhaust after-treatment		
Particulate traps		PM
Selective catalytic reduction		NO_x
Oxidation catalysts		TOC, CO, PM

[a] Reference 8. PM = particulate matter. BSFC = brake-specific fuel consumption.

Table 3.4-1. GASEOUS EMISSION FACTORS FOR LARGE STATIONARY DIESEL AND ALL STATIONARY DUAL-FUEL ENGINES[a]

Pollutant	Diesel Fuel (SCC 2-02-004-01)			Dual Fuel[b] (SCC 2-02-004-02)		
	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	EMISSION FACTOR RATING	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	EMISSION FACTOR RATING
NO_x						
Uncontrolled	0.024	3.2	B	0.018	2.7	D
Controlled	0.013[c]	1.9[c]	B	ND	ND	NA
CO	5.5 E-03	0.85	C	7.5 E-03	1.16	D
SO_x[d]	8.09 E-03S_1	1.01S_1	B	4.06 E-04S_1 + 9.57 E-03S_2	0.05S_1 + 0.895S_2	B
CO_2[e]	1.16	165	B	0.772	110	B
PM	0.0007[c]	0.1[c]	B	ND	ND	NA
TOC (as CH_4)	7.05 E-04	0.09	C	5.29 E-03	0.8	D
Methane	[f]	[f]	E	3.97 E-03	0.6	E
Nonmethane	[f]	[f]	E	1.32 E-03	0.2[g]	E

[a] Based on uncontrolled levels for each fuel, from References 2,6-7. When necessary, the average heating value of diesel was assumed to be 19,300 Btu/lb with a density of 7.1 lb/gallon. The power output and fuel input values were averaged independently from each other, because of the use of actual brake-specific fuel consumption (BSFC) values for each data point and of the use of data possibly sufficient to calculate only 1 of the 2 emission factors (e. g., enough information to calculate lb/MMBtu, but not lb/hp-hr). Factors are based on averages across all manufacturers and duty cycles. The actual emissions from a particular engine or manufacturer could vary considerably from these levels. To convert from lb/hp-hr to kg/kw-hr, multiply by 0.608. To convert from lb/MMBtu to ng/J, multiply by 430. SCC = Source Classification Code.

[b] Dual fuel assumes 95% natural gas and 5% diesel fuel.

[c] References 8-26. Controlled NO_x is by ignition timing retard.

[d] Assumes that all sulfur in the fuel is converted to SO_2. S_1 = % sulfur in fuel oil; S_2 = % sulfur in natural gas. For example, if sulfer content is 1.5%, then S = 1.5.

[e] Assumes 100% conversion of carbon in fuel to CO_2 with 87 weight % carbon in diesel, 70 weight % carbon in natural gas, dual-fuel mixture of 5% diesel with 95% natural gas, average BSFC of 7,000 Btu/hp-hr, diesel heating value of 19,300 Btu/lb, and natural gas heating value of 1050 Btu/scf.

[f] Based on data from 1 engine, TOC is by weight 9% methane and 91% nonmethane.

[g] Assumes that nonmethane organic compounds are 25% of TOC emissions from dual-fuel engines. Molecular weight of nonmethane gas stream is assumed to be that of methane.

Table 3.4-2. PARTICULATE AND PARTICLE-SIZING EMISSION FACTORS FOR LARGE UNCONTROLLED STATIONARY DIESEL ENGINES[a]

EMISSION FACTOR RATING: E

Pollutant	Emission Factor (lb/MMBtu) (fuel input)
Filterable particulate[b]	
< 1 μm	0.0478
< 3 μm	0.0479
< 10 μm	0.0496
Total filterable particulate	0.0620
Condensable particulate	0.0077
Total PM-10[c]	0.0573
Total particulate[d]	0.0697

[a] Based on 1 uncontrolled diesel engine from Reference 6. Source Classification Code 2-02-004-01. The data for the particulate emissions were collected using Method 5, and the particle size distributions were collected using a Source Assessment Sampling System. To convert from lb/MMBtu to ng/J, multiply by 430. PM-10 = particulate matter ≤ 10 micrometers (μm) aerometric diameter.

[b] Particle size is expressed as aerodynamic diameter.

[c] Total PM-10 is the sum of filterable particulate less than 10 μm aerodynamic diameter and condensable particulate.

[d] Total particulate is the sum of the total filterable particulate and condensable particulate.

Table 3.4-3. SPECIATED ORGANIC COMPOUND EMISSION FACTORS FOR LARGE UNCONTROLLED STATIONARY DIESEL ENGINES[a]

EMISSION FACTOR RATING: E

Pollutant	Emission Factor (lb/MMBtu) (fuel input)
Benzene[b]	7.76 E-04
Toluene[b]	2.81 E-04
Xylenes[b]	1.93 E-04
Propylene	2.79 E-03
Formaldehyde[b]	7.89 E-05
Acetaldehyde[b]	2.52 E-05
Acrolein[b]	7.88 E-06

[a]Based on 1 uncontrolled diesel engine from Reference 7. Source Classification Code 2-02-004-01. Not enough information to calculate the output-specific emission factors of lb/hp-hr. To convert from lb/MMBtu to ng/J, multiply by 430.
[b]Hazardous air pollutant listed in the *Clean Air Act*.

Table 3.4-4. PAH EMISSION FACTORS FOR LARGE UNCONTROLLED STATIONARY DIESEL ENGINES[a]

EMISSION FACTOR RATING: E

PAH	Emission Factor (lb/MMBtu) (fuel input)
Naphthalene[b]	1.30 E-04
Acenaphthylene	9.23 E-06
Acenaphthene	4.68 E-06
Fluorene	1.28 E-05
Phenanthrene	4.08 E-05
Anthracene	1.23 E-06
Fluoranthene	4.03 E-06
Pyrene	3.71 E-06
Benz(a)anthracene	6.22 E-07
Chrysene	1.53 E-06
Benzo(b)fluoranthene	1.11 E-06
Benzo(k)fluoranthene	<2.18 E-07
Benzo(a)pyrene	<2.57 E-07
Indeno(1,2,3-cd)pyrene	<4.14 E-07
Dibenz(a,h)anthracene	<3.46 E-07
Benzo(g,h,l)perylene	<5.56 E-07
TOTAL PAH	<2.12 E-04

[a] Based on 1 uncontrolled diesel engine from Reference 7. Source Classification Code 2-02-004-01. Not enough information to calculate the output-specific emission factors of lb/hp-hr. To convert from lb/MMBtu to ng/J, multiply by 430.

[b] Hazardous air pollutant listed in the *Clean Air Act*.

Table 3.4-5. NO_x REDUCTION AND FUEL CONSUMPTION PENALTIES FOR LARGE STATIONARY DIESEL AND DUAL-FUEL ENGINES[a]

Control Approach		Diesel (SCC 2-02-004-01)		Dual Fuel (SCC 2-02-004-02)	
		NO_x Reduction (%)	ΔBSFC[b] (%)	NO_x Reduction (%)	ΔBSFC (%)
Derate	10%	ND	ND	<20	4
	20%	<20	4	ND	ND
	25%	5 - 23	1 - 5	1 - 33	1 - 7
Retard	2°	<20	4	<20	3
	4°	<40	4	<40	1
	8°	28 - 45	2 - 8	50 - 73	3 - 5
Air-to-fuel	3%	ND	ND	<20	0
	±10%	7 - 8	3	25 - 40	1 - 3
Water injection (H_2O/fuel ratio)	50%	25 - 35	2 - 4	ND	ND
SCR		80 - 95	0	80 - 95	0

[a] References 1,27-28. The reductions shown are typical and will vary depending on the engine and duty cycle. SCC = Source Classification Code. ΔBSFC = change in brake-specific fuel consumption. ND = no data.

Table 11.1-3. PARTICULATE MATTER EMISSION FACTORS FOR DRUM MIX HOT MIX ASPHALT PLANTS[a]

Process	Filterable PM				Condensable PM[b]				Total PM			
	PM[c]	EMISSION FACTOR RATING	PM-10[d]	EMISSION FACTOR RATING	Inorganic	EMISSION FACTOR RATING	Organic	EMISSION FACTOR RATING	PM[e]	EMISSION FACTOR RATING	PM-10[f]	EMISSION FACTOR RATING
Dryer[g] (SCC 3-05-002-05,-55 to -63)												
Uncontrolled	28[h]	D	6.4	D	0.0074[j]	E	0.058[k]	E	28	D	6.5	D
Venturi or wet scrubber	0.026[m]	A	ND	NA	0.0074[n]	A	0.012[p]	A	0.045	A	ND	NA
Fabric filter	0.014[q]	A	0.0039	C	0.0074[n]	A	0.012[p]	A	0.033	A	0.023	C

[a] Factors are lb/ton of product. SCC = Source Classification Code. ND = no data. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

[b] Condensable PM is that PM collected using an EPA Method 202, Method 5 (analysis of "back-half" or impingers), or equivalent sampling train.

[c] Filterable PM is that PM collected on or before the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Particle size data from Reference 23 were used in conjunction with the filterable PM emission factors shown.

[e] Total PM is the sum of filterable PM, condensable inorganic PM, and condensable organic PM.

[f] Total PM-10 is the sum of filterable PM-10, condensable inorganic PM, and condensable organic PM.

[g] Drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. The data indicate that fuel type does not significantly effect PM emissions.

[h] References 31, 36-38, 340.

[j] Because no data are available for uncontrolled condensable inorganic PM, the emission factor is assumed to be equal to the maximum controlled condensable inorganic PM emission factor.

[k] References 36-37.

[m] Reference 1, Table 4-14. Average of data from 36 facilities. Range: 0.0036 to 0.097 lb/ton. Median: 0.020 lb/ton. Standard deviation: 0.022 lb/ton.

[n] Reference 1, Table 4-14. Average of data from 30 facilities. Range: 0.0012 to 0.027 lb/ton. Median: 0.0051 lb/ton. Standard deviation: 0.0063 lb/ton.

[p] Reference 1, Table 4-14. Average of data from 41 facilities. Range: 0.00035 to 0.074 lb/ton. Median: 0.0046 lb/ton. Standard deviation: 0.016 lb/ton.

[q] Reference 1, Table 4-14. Average of data from 155 facilities. Range: 0.00089 to 0.14 lb/ton. Median: 0.010 lb/ton. Standard deviation: 0.017 lb/ton.

Table 11.1-4. SUMMARY OF PARTICLE SIZE DISTRIBUTION FOR DRUM MIX DRYERS[a]

EMISSION FACTOR RATING: E

Particle Size, μm[b]	Cumulative Mass Less Than or Equal to Stated Size (%)[c]		Emission Factors, lb/ton	
	Uncontrolled[d]	Fabric Filter	Uncontrolled[d]	Fabric Filter
1.0	ND	15[e]	ND	0.0021[e]
2.5	5.5	21[f]	1.5	0.0029[f]
10.0	23	30[g]	6.4	0.0042[g]
15.0	27	35[d]	7.6	0.0049[d]

[a] Emission factor units are lb/ton of HMA produced. Rounded to two significant figures. SCC 3-05-002-05, and 3-05-002-55 to -63. ND = no data available. To convert from lb/ton to kg/Mg, multiply by 0.5.

[b] Aerodynamic diameter.

[c] Applies only to the mass of filterable PM.

[d] Reference 23, Table 3-35. The emission factors are calculated using the particle size data from this reference in conjunction with the filterable PM emission factor shown in Table 11.1-3.

[e] References 214, 229. The emission factors are calculated using the particle size data from these references in conjunction with the filterable PM emission factor shown in Table 11.1-3.

[f] References 23, 214, 229. The emission factors are calculated using the particle size data from these references in conjunction with the filterable PM emission factor shown in Table 11.1-3.

[g] Reference 23, 25, 229. The emission factors are calculated using the particle size data from these references in conjunction with the filterable PM emission factor shown in Table 11.1-3. EMISSION FACTOR RATING: D.

11.19.2 Crushed Stone Processing and Pulverized Mineral Processing

11.19.2.1 Process Description [24, 25]

Crushed Stone Processing

Major rock types processed by the crushed stone industry include limestone, granite, dolomite, traprock, sandstone, quartz, and quartzite. Minor types include calcareous marl, marble, shell, and slate. Major mineral types processed by the pulverized minerals industry, a subset of the crushed stone processing industry, include calcium carbonate, talc, and barite. Industry classifications vary considerably and, in many cases, do not reflect actual geological definitions.

Rock and crushed stone products generally are loosened by drilling and blasting and then are loaded by power shovel or front-end loader into large haul trucks that transport the material to the processing operations. Techniques used for extraction vary with the nature and location of the deposit. Processing operations may include crushing, screening, size classification, material handling and storage operations. All of these processes can be significant sources of PM and PM-10 emissions if uncontrolled.

Quarried stone normally is delivered to the processing plant by truck and is dumped into a bin. A feeder is used as illustrated in Figure 11.19.2-1. The feeder or screens separate large boulders from finer rocks that do not require primary crushing, thus reducing the load to the primary crusher. Jaw, impactor, or gyratory crushers are usually used for initial reduction. The crusher product, normally 7.5 to 30 centimeters (3 to 12 inches) in diameter, and the grizzly throughs (undersize material) are discharged onto a belt conveyor and usually are conveyed to a surge pile for temporary storage or are sold as coarse aggregates.

The stone from the surge pile is conveyed to a vibrating inclined screen called the scalping screen. This unit separates oversized rock from the smaller stone. The undersized material from the scalping screen is considered to be a product stream and is transported to a storage pile and sold as base material. The stone that is too large to pass through the top deck of the scalping screen is processed in the secondary crusher. Cone crushers are commonly used for secondary crushing (although impact crushers are sometimes used), which typically reduces material to about 2.5 to 10 centimeters (1 to 4 inches). The material (throughs) from the second level of the screen bypasses the secondary crusher because it is sufficiently small for the last crushing step. The output from the secondary crusher and the throughs from the secondary screen are transported by conveyor to the tertiary circuit, which includes a sizing screen and a tertiary crusher.

Tertiary crushing is usually performed using cone crushers or other types of impactor crushers. Oversize material from the top deck of the sizing screen is fed to the tertiary crusher. The tertiary crusher output, which is typically about 0.50 to 2.5 centimeters (3/16th to 1 inch), is returned to the sizing screen. Various product streams with different size gradations are separated in the screening operation. The products are conveyed or trucked directly to finished product bins, to open area stock piles, or to other processing systems such as washing, air separators, and screens and classifiers (for the production of manufactured sand).

Some stone crushing plants produce manufactured sand. This is a small-sized rock product with a maximum size of 0.50 centimeters (3/16 th inch). Crushed stone from the tertiary sizing screen is sized in a vibrating inclined screen (fines screen) with relatively small mesh sizes.

Oversized material is processed in a cone crusher or a hammermill (fines crusher) adjusted to produce small diameter material. The output is returned to the fines screen for resizing.

In certain cases, stone washing is required to meet particulate end product specifications or demands.

Pulverized Mineral Processing

Pulverized minerals are produced at specialized processing plants. These plants supply mineral products ranging from sizes of approximately 1 micrometer to more than 75 micrometers aerodynamic diameter. Pharmaceutical, paint, plastics, pigment, rubber, and chemical industries use these products. Due to the specialized characteristics of the mineral products and the markets for these products, pulverized mineral processing plants have production rates that are less than 5% of the production capacities of conventional crushed stone plants. Two alternative processing systems for pulverized minerals are summarized in Figure 11-19.2-2.

In dry processing systems, the mineral aggregate material from conventional crushing and screening operations is subject to coarse and fine grinding primarily in roller mills and/or ball mills to reduce the material to the necessary product size range. A classifier is used to size the ground material and return oversized material that can be pulverized using either wet or dry processes. The classifier can either be associated with the grinding operation, or it can be a stand-alone process unit. Fabric filters control particulate matter emissions from the grinding operation and the classifier. The products are stored in silos and are shipped by truck or in bags.

In wet processing systems, the mineral aggregate material is processed in wet mode coarse and fine grinding operations. Beneficiation processes use flotation to separate mineral impurities. Finely ground material is concentrated and flash dried. Fabric filters are used to control particulate matter emissions from the flash dryer. The product is then stored in silos, bagged, and shipped.

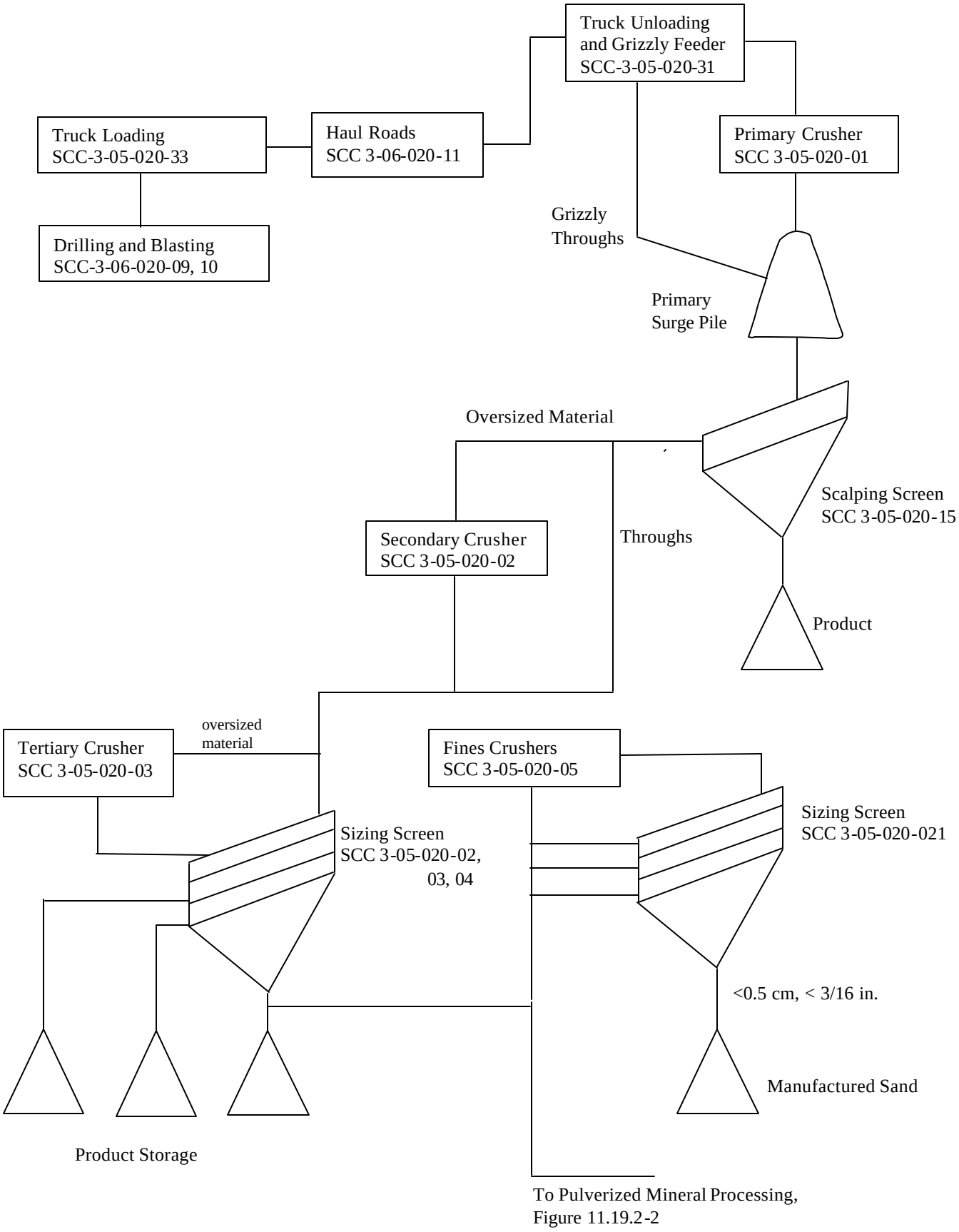


Figure 11.19.2-1. Typical stone processing plant

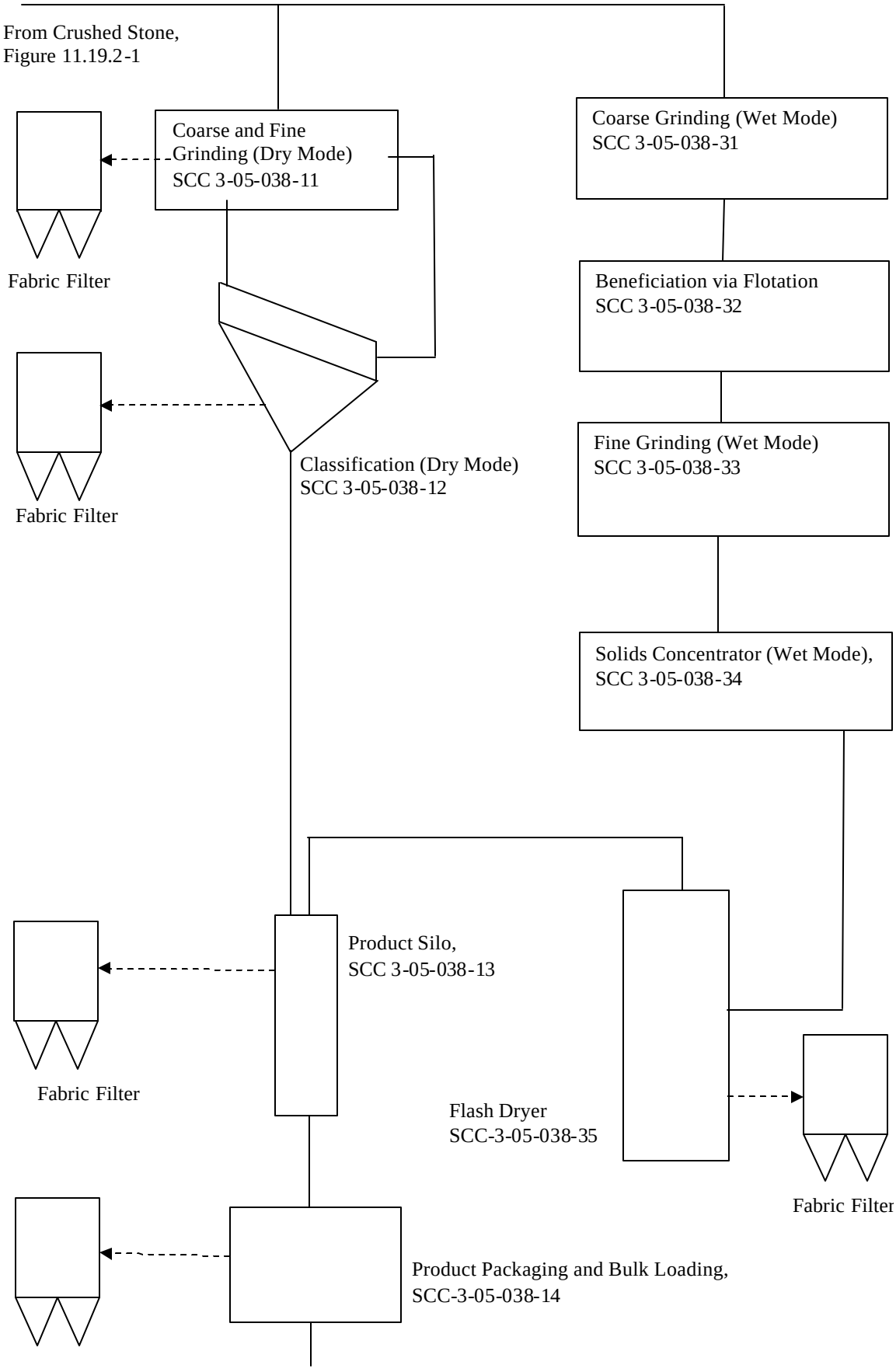


Figure 11.19.2-2 Flowchart for Pulverized Mineral Processing

11.19.2.2 Emissions and Controls [10, 11, 12, 13, 14, and 26]

Crushed Stone Processing

Emissions of PM, PM-10, and PM-2.5 occur from a number of operations in stone quarrying and processing. A substantial portion of these emissions consists of heavy particles that may settle out within the plant. As in other operations, crushed stone emission sources may be categorized as either process sources or fugitive dust sources. Process sources include those for which emissions are amenable to capture and subsequent control. Fugitive dust sources generally involve the reentrainment of settled dust by wind or machine movement. Emissions from process sources should be considered fugitive unless the sources are vented to a baghouse or are contained in an enclosure with a forced-air vent or stack. Factors affecting emissions from either source category include the stone size distribution and the surface moisture content of the stone processed, the process throughput rate, the type of equipment and operating practices used, and topographical and climatic factors.

Of graphical and seasonal factors, the primary variables affecting uncontrolled PM emissions are wind and material moisture content. Wind parameters vary with geographical location, season, and weather. It can be expected that the level of emissions from unenclosed sources (principally fugitive dust sources) will be greater during periods of high winds. The material moisture content also varies with geographical location, season, and weather. Therefore, the levels of uncontrolled emissions from both process emission sources and fugitive dust sources generally will be greater in arid regions of the country than in temperate ones and greater during the summer months because of a higher evaporation rate.

The moisture content of the material processed can have a substantial effect on emissions. This effect is evident throughout the processing operations. Surface wetness causes fine particles to agglomerate on or to adhere to the faces of larger stones, with a resulting dust suppression effect. However, as new fine particles are created by crushing and attrition and as the moisture content is reduced by evaporation, this suppressive effect diminishes and may disappear. Plants that use wet suppression systems (spray nozzles) to maintain relatively high material moisture contents can effectively control PM emissions throughout the process. Depending on the geographical and climatic conditions, the moisture content of mined rock can range from nearly zero to several percent. Because moisture content is usually expressed on a basis of overall weight percent, the actual moisture amount per unit area will vary with the size of the rock being handled. On a constant mass-fraction basis, the per-unit area moisture content varies inversely with the diameter of the rock. The suppressive effect of the moisture depends on both the absolute mass water content and the size of the rock product. Typically, wet material contains >1.5 percent water.

A variety of material, equipment, and operating factors can influence emissions from crushing. These factors include (1) stone type, (2) feed size and distribution, (3) moisture content, (4) throughput rate, (5) crusher type, (6) size reduction ratio, and (7) fines content. Insufficient data are available to present a matrix of rock crushing emission factors detailing the above classifications and variables. Available data indicate that PM-10 and PM-2.5 emissions from limestone and granite processing operations are similar. Therefore, the emission factors developed from the emissions data gathered at limestone and granite processing facilities are considered to be representative of typical crushed stone processing operations. Emission factors for filterable PM, PM-10, and PM-2.5 emissions from crushed stone processing operations are presented in Tables 11.19.2-1 (Metric units) and 11.19.2-2 (English units.)

Table 11.19.2-1 (Metric Units). EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS (kg/Mg)[a]

Source [b]	Total Particulate Matter [r,s]	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Primary Crushing (SCC 3-05-020-01)	ND		ND[n]		ND[n]	
Primary Crushing (controlled) (SCC 3-05-020-01)	ND		ND[n]		ND[n]	
Secondary Crushing (SCC 3-05-020-02)	ND		ND[n]		ND[n]	
Secondary Crushing (controlled) (SCC 3-05-020-02)	ND		ND[n]		ND[n]	
Tertiary Crushing (SCC 3-050030-03)	0.0027[d]	E	0.0012[o]	C	ND[n]	
Tertiary Crushing (controlled) (SCC 3-05-020-03)	0.0006[d]	E	0.00027[p]	C	0.00005[q]	E
Fines Crushing (SCC 3-05-020-05)	0.0195[e]	E	0.0075[e]	E	ND	
Fines Crushing (controlled) (SCC 3-05-020-05)	0.0015[f]	E	0.0006[f]	E	0.000035[q]	E
Screening (SCC 3-05-020-02, 03)	0.0125[c]	E	0.0043[l]	C	ND	
Screening (controlled) (SCC 3-05-020-02, 03)	0.0011[d]	E	0.00037[m]	C	0.000025[q]	E
Fines Screening (SCC 3-05-020-21	0.15[g]	E	0.036[g]	E	ND	
Fines Screening (controlled) (SCC 3-05-020-21)	0.0018[g]	E	0.0011[g]	E	ND	
Conveyor Transfer Point (SCC 3-05-020-06)	0.0015[h]	E	0.00055[h]	D	ND	
Conveyor Transfer Point (controlled) (SCC 3-05-020-06)	0.00007[i]	E	2.3×10^{-5}[i]	D	6.5×10^{-6}[q]	E
Wet Drilling - Unfragmented Stone (SCC 3-05-020-10)	ND		4.0×10^{-5}[j]	E	ND	
Truck Unloading - Fragmented Stone (SCC 3-05-020-31)	ND		8.0×10^{-6}[j]	E	ND	
Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32)	ND		5.0×10^{-5}[k]	E	ND	

a. Emission factors represent uncontrolled emissions unless noted. Emission factors in kg/Mg of material throughput. SCC = Source Classification Code. ND = No data.

b. Controlled sources (with wet suppression) are those that are part of the processing plant that employs current wet suppression technology similar to the study group. The moisture content of the study group without wet suppression systems operating (uncontrolled) ranged from 0.21 to 1.3 percent, and the same facilities operating wet suppression systems (controlled) ranged from 0.55 to 2.88 percent. Due to carry over of the small amount of moisture required, it has been shown that each source, with the exception of crushers, does not need to employ direct water sprays. Although the moisture content was the only variable measured, other process features may have as much influence on emissions from a given source. Visual observations from each source under normal operating conditions are probably the best indicator of which emission factor is most appropriate. Plants that employ substandard control measures as indicated by visual observations should use the uncontrolled factor with appropriate control efficiency that best reflects the effectiveness of the controls employed.

c. References 1, 3, 7, and 8

d. References 3, 7, and 8

e. Reference 4

f. References 4 and 15

g. Reference 4

h. References 5 and 6

i. References 5, 6, and 15

j. Reference 11

k. Reference 12

l. References 1, 3, 7, and 8

m. References 1, 3, 7, 8, and 15

n. No data available, but emission factors for PM-10 for tertiary crushers can be used as an upper limit for primary or secondary crushing

o. References 2, 3, 7, 8

p. References 2, 3, 7, 8, and 15

q. Reference 15

r. PM emission factors are presented based on PM-100 data in the Background Support Document for Section 11.19.2

s. Emission factors for PM-30 and PM-50 are available in Figures 11.19.2-3 through 11.19.2-6.

Note: Truck Unloading - Conveyor, crushed stone (SCC 3-05-020-32) was corrected to Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32). October 1, 2010.

Table 11.19.2-2 (English Units). EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS (lb/Ton)[a]

Source [b]	Total Particulate Matter [r,s]	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Primary Crushing (SCC 3-05-020-01)	ND		ND[n]		ND[n]	
Primary Crushing (controlled) (SCC 3-05-020-01)	ND		ND[n]		ND[n]	
Secondary Crushing (SCC 3-05-020-02)	ND		ND[n]		ND[n]	
Secondary Crushing (controlled) (SCC 3-05-020-02)	ND		ND[n]		ND[n]	
Tertiary Crushing (SCC 3-050030-03)	0.0054[d]	E	0.0024[o]	C	ND[n]	
Tertiary Crushing (controlled) (SCC 3-05-020-03)	0.0012[d]	E	0.00054[p]	C	0.00010[q]	E
Fines Crushing (SCC 3-05-020-05)	0.0390[e]	E	0.0150[e]	E	ND	
Fines Crushing (controlled) (SCC 3-05-020-05)	0.0030[f]	E	0.0012[f]	E	0.000070[q]	E
Screening (SCC 3-05-020-02, 03)	0.025[c]	E	0.0087[l]	C	ND	
Screening (controlled) (SCC 3-05-020-02, 03)	0.0022[d]	E	0.00074[m]	C	0.000050[q]	E
Fines Screening (SCC 3-05-020-21)	0.30[g]	E	0.072[g]	E	ND	
Fines Screening (controlled) (SCC 3-05-020-21)	0.0036[g]	E	0.0022[g]	E	ND	
Conveyor Transfer Point (SCC 3-05-020-06)	0.0030[h]	E	0.00110[h]	D	ND	
Conveyor Transfer Point (controlled) (SCC 3-05-020-06)	0.00014[i]	E	4.6×10^{-5}[i]	D	1.3×10^{-5}[q]	E
Wet Drilling - Unfragmented Stone (SCC 3-05-020-10)	ND		8.0×10^{-5}[j]	E	ND	
Truck Unloading -Fragmented Stone (SCC 3-05-020-31)	ND		1.6×10^{-5}[j]	E	ND	
Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32)	ND		0.00010[k]	E	ND	

a. Emission factors represent uncontrolled emissions unless noted. Emission factors in lb/Ton of material of throughput. SCC = Source Classification Code. ND = No data.

b. Controlled sources (with wet suppression) are those that are part of the processing plant that employs current wet suppression technology similar to the study group. The moisture content of the study group without wet suppression systems operating (uncontrolled) ranged from 0.21 to 1.3 percent, and the same facilities operating wet suppression systems (controlled) ranged from 0.55 to 2.88 percent. Due to carry over of the small amount of moisture required, it has been shown that each source, with the exception of crushers, does not need to employ direct water sprays. Although the moisture content was the only variable measured, other process features may have as much influence on emissions from a given source. Visual observations from each source under normal operating conditions are probably the best indicator of which emission factor is most appropriate. Plants that employ substandard control measures as indicated by visual observations should use the uncontrolled factor with an appropriate control efficiency that best reflects the effectiveness of the controls employed.

c. References 1, 3, 7, and 8

d. References 3, 7, and 8

e. Reference 4

f. References 4 and 15

g. Reference 4

h. References 5 and 6

i. References 5, 6, and 15

j. Reference 11

k. Reference 12

l. References 1, 3, 7, and 8

m. References 1, 3, 7, 8, and 15

n. No data available, but emission factors for PM-10 for tertiary crushers can be used as an upper limit for primary or secondary crushing

o. References 2, 3, 7, 8

p. References 2, 3, 7, 8, and 15

q. Reference 15

r. PM emission factors are presented based on PM-100 data in the Background Support Document for Section 11.19.2

s. Emission factors for PM-30 and PM-50 are available in Figures 11.19.2-3 through 11.19.2-6.

Note: Truck Unloading - Conveyor, crushed stone (SCC 3-05-020-32) was corrected to Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32). October 1, 2010.

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Emission factor estimates for stone quarry blasting operations are not presented because of the sparsity and unreliability of available tests. While a procedure for estimating blasting emissions is presented in Section 11.9, Western Surface Coal Mining, that procedure should not be applied to stone quarries because of dissimilarities in blasting techniques, material blasted, and size of blast areas. Emission factors for fugitive dust sources, including paved and unpaved roads, materials handling and transfer, and wind erosion of storage piles, can be determined using the predictive emission factor equations presented in AP-42 Section 13.2.

The data used in the preparation of the controlled PM calculations was derived from the individual A-rated tests for PM-2.5 and PM-10 summarized in the Background Support Document. For conveyor transfer points, the controlled PM value was derived from A-rated PM-2.5, PM-10, and PM data summarized in the Background Support Document.

The extrapolation line was drawn through the PM-2.5 value and the mean of the PM-10 values. PM emission factors were calculated for PM-30, PM-50, and PM-100. Each of these particle size limits is used by one or more regulatory agencies as the definition of total particulate matter. The graphical extrapolations used in calculating the emission factors are presented in Figures 11.19.2-3, -4, -5, and -6.

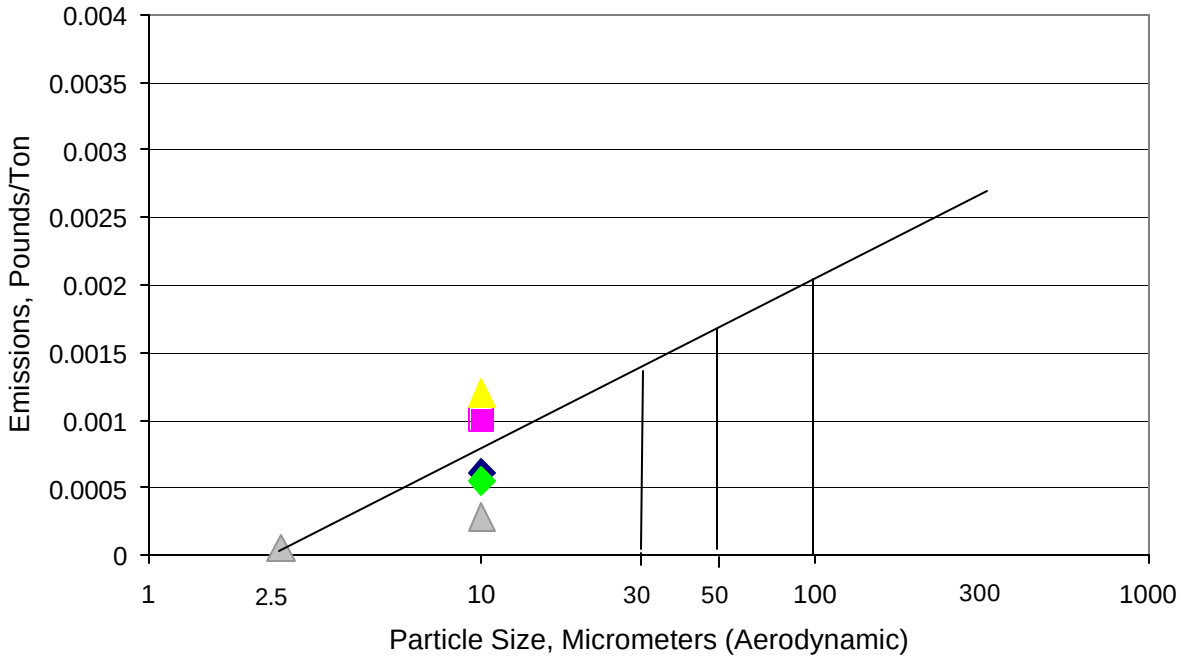


Figure 11-19-3. PM Emission Factor Calculation, Screening (Controlled)

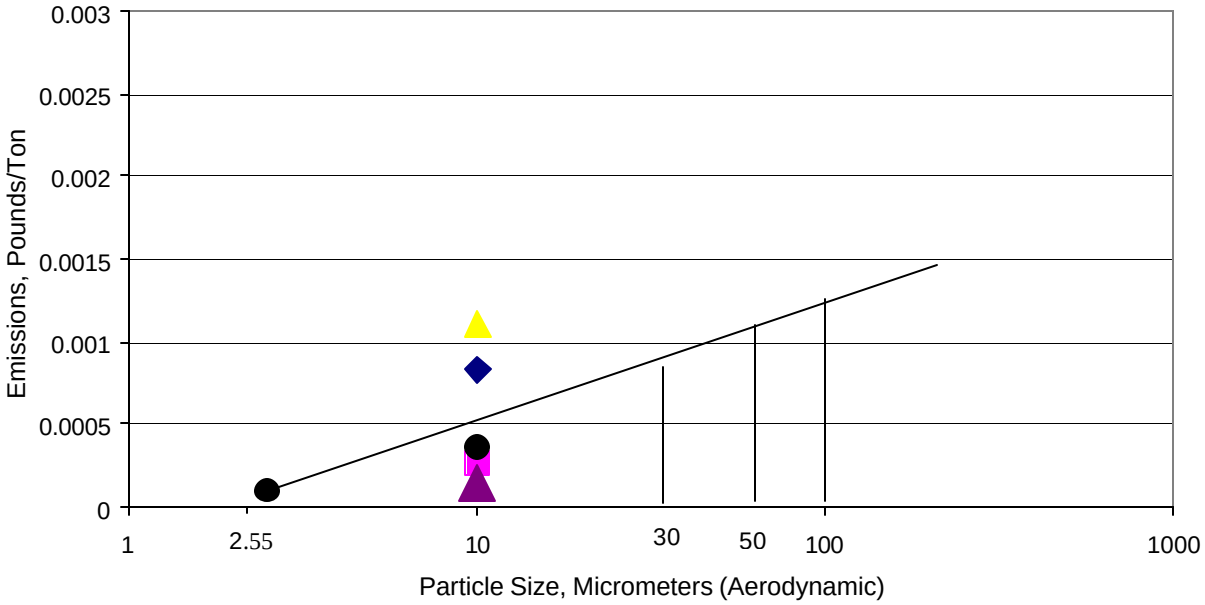


Figure 11.19-4. PM Emission Factor Calculation, Tertiary Crushing (Controlled)

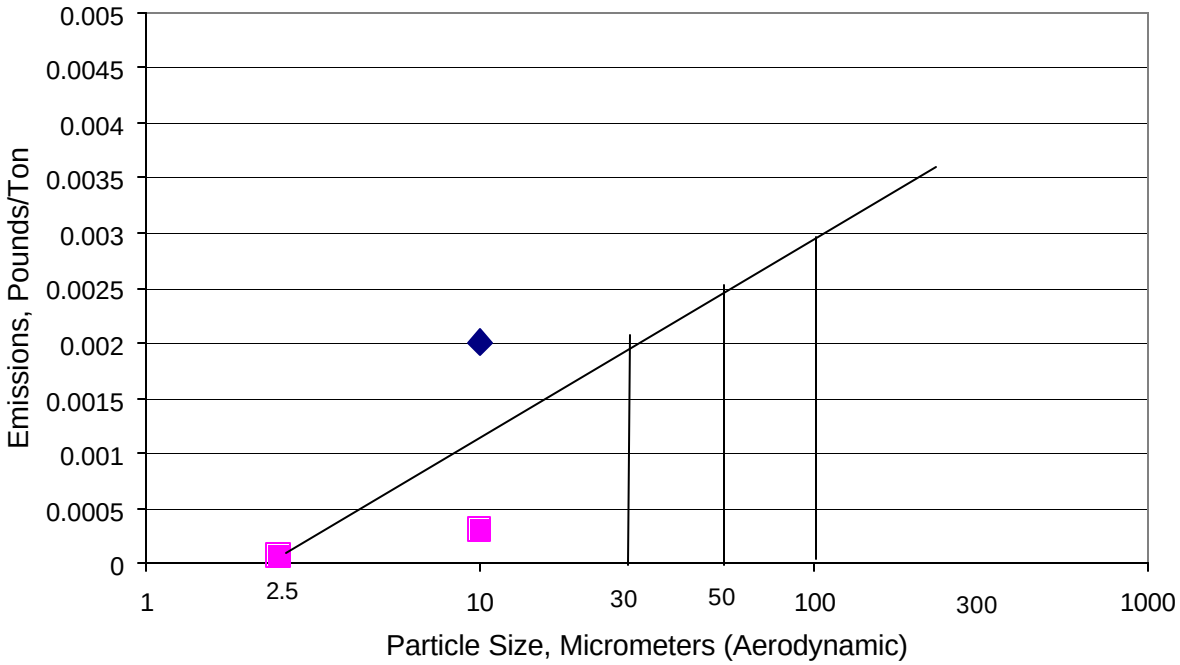


Figure 11-19.5. PM Emission Factor Calculation, Fines Crushing (Controlled)

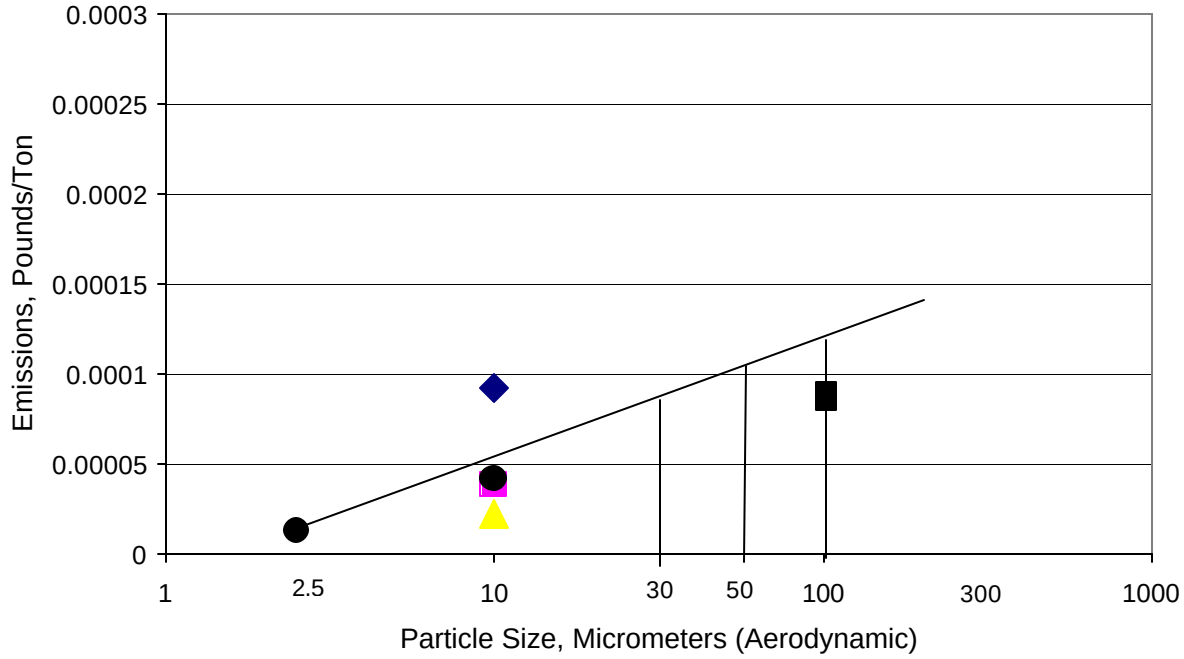


Figure 11.19-6. PM Emission Factor Calculation, Conveyor Transfer Points (Controlled)

The uncontrolled PM emission factors have been calculated from the controlled PM emission factors calculated in accordance with Figures 11.19.2-3 through 11.19.2-6. The PM-10 control efficiencies have been applied to the PM controlled emission factor data to calculate the uncontrolled PM emission rates.

Screening PM-10

Controlled = 0.00073 Lbs./Ton.

Uncontrolled = 0.00865 Lbs./Ton.

Efficiency = 91.6%

Tertiary Crushing PM-10

Controlled = 0.00054

Uncontrolled = 0.00243

Efficiency = 77.7%

Fines Crushing PM-10:

Controlled = 0.0012

Uncontrolled = 0.015

Efficiency = 92.0%

Conveyor Transfer Points PM-10

Controlled = 0.000045

Uncontrolled = 0.0011

Efficiency = 95.9%

The uncontrolled total particulate matter emission factor was calculated from the controlled total particulate matter using Equation 1:

$$\text{Uncontrolled emission factor} = \frac{\text{Controlled total particulate emission factor}}{(100\% - \text{PM-10 Efficiency }\%)/100\%}$$

Equation 1

The Total PM emission factors calculated using Figures 11.19.2-3 through 11.19.2-6 were developed because (1) there are more A-rated test data supporting the calculated values and (2) the extrapolated values provide the flexibility for agencies and source operators to select the most appropriate definition for Total PM. All of the Total PM emission factors have been rated as E due to the limited test data and the need to estimate emission factors using extrapolations of the PM-2.5 and PM-10 data.

Pulverized Mineral Processing

Emissions of particulate matter from dry mode pulverized mineral processing operations are controlled by pulse jet and envelope type fabric filter systems. Due to the low-to-moderate gas temperatures generated by the processing equipment, conventional felted filter media are used. Collection efficiencies for fabric filter-controlled dry process equipment exceed 99.5%. Emission factors for pulverized mineral processing operations are presented in Tables 11.19.2-3 and 11.19.2-4.

Table 11.19.2-3 (Metric Units). EMISSION FACTORS FOR PULVERIZED MINERAL PROCESSING OPERATIONS [a]

Source [b]	Total Particulate Matter	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Grinding (Dry) with Fabric Filter Control (SCC 3-05-038-11)	0.0202	D	0.0169	B	0.0060	B
Classifiers (Dry) with Fabric Filter Control (SCC 3-05-038-12)	0.0112	E	0.0052	E	0.0020	E
Flash Drying with Fabric Filter Control (SCC 3-05-038-35)	0.0134	C	0.0073	C	0.0042	C
Product Storage with Fabric Filter Control (SCC 3-05-38-13)	0.0055	E	0.0008	E	0.0003	E

a. Emission factors represent controlled emissions unless noted. Emission factors are in kg/Mg of material throughput.

b. Date from references 16 through 23

Table 11.19.2-4 (English Units). EMISSION FACTORS FOR PULVERIZED MINERAL PROCESSING OPERATIONS [a]

Source [b]	Total Particulate Matter	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Grinding (Dry) with Fabric Filter Control (SCC 3-05-038-11)	0.0404	D	0.0339	B	0.0121	B
Classifiers (Dry) with Fabric Filter Control (SCC 3-05-038-12)	0.0225	E	0.0104	E	0.0041	E
Flash Drying with Fabric Filter Control (SCC 3-05-038-35)	0.0268	C	0.0146	C	0.0083	C
Product Storage with Fabric Filter Control (SCC 3-05-038-13)	0.0099	E	0.0016	E	0.0006	E

a. Emission factors represent controlled emissions unless noted. Emission factors are in lb/Ton of material throughput.

b. Data from references 16 through 23

References for Section 11.19.2[1]

1. J. Richards, T. Brozell, and W. Kirk, *PM-10 Emission Factors for a Stone Crushing Plant Deister Vibrating Screen,* EPA Contract No. 68-Dl-0055, Task 2.84, U. S. Environmental Protection Agency, Research Triangle Park, NC, February 1992.

2. J. Richards, T. Brozell, and W. Kirk, *PM-10 Emission Factors for a Stone Crushing Plant Tertiary Crusher,* EPA Contract No. 68-D1-0055, Task 2.84, U. S. Environmental Protection Agency, Research Triangle Park, NC, February 1992.

3. W. Kirk, T. Brozell, and J. Richards, *PM-10 Emission Factors for a Stone Crushing Plant Deister Vibrating Screen and Crusher,* National Stone Association, Washington DC, December 1992.

4. T. Brozell, J. Richards, and W. Kirk, *PM-10 Emission Factors for a Stone Crushing Plant Tertiary Crusher and Vibrating Screen,* EPA Contract No. 68-DO-0122, U. S. Environmental Protection Agency, Research Triangle Park, NC, December 1992.

5. T. Brozell, *PM-10 Emission Factors for Two Transfer Points at a Granite Stone Crushing Plant,* EPA Contract No. 68-DO-0122, U. S. Environmental Protection Agency, Research Triangle Park, NC, January 1994.

6. T. Brozell, *PM-10 Emission Factors for a Stone Crushing Plant Transfer Point,* EPA Contract No. 68-DO-0122, U. S. Environmental Protection Agency, Research Triangle Park, NC, February 1993.

7. T. Brozell and J. Richards, *PM-10 Emission Factors for a Limestone Crushing Plant Vibrating Screen and Crusher for Bristol, Tennessee,* EPA Contract No. 68-D2-0163, U. S. Environmental Protection Agency, Research Triangle Park, NC, July 1993.

8. T. Brozell and J. Richards, *PM-10 Emission Factors for a Limestone Crushing Plant Vibrating Screen and Crusher for Marysville, Tennessee,* EPA Contract No. 68-D2-0163, U. S. Environmental Protection Agency, Research Triangle Park, NC, July 1993.

9. *Air Pollution Control Techniques for Nonmetallic Minerals Industry,* EPA-450/3-82-014, U. S. Environmental Protection Agency, Research Triangle Park, NC, August 1982.

10. *Review Emission Data Base and Develop Emission Factors for the Construction Aggregate Industry,* Engineering-Science, Inc., Arcadia, CA, September 1984.

11. P. K. Chalekode *et al., Emissions from the Crushed Granite Industry: State of the Art,* EPA-600/2-78-021, U. S. Environmental Protection Agency, Washington, DC, February 1978.

12. T. R. Blackwood *et al., Source Assessment: Crushed Stone,* EPA-600/2-78-004L, U. S. Environmental Protection Agency, Washington, DC, May 1978.

13. *An Investigation of Particulate Emissions from Construction Aggregate Crushing Operations and Related New Source Performance Standards,* National Crushed Stone Association, Washington, DC, December 1979.

[1] References 1 through 23 are identical to References 1 through 23 in the Background Support Document for AP-42, Section 11.19-2.

14. F. Record and W. T. Harnett, *Particulate Emission Factors for the Construction Aggregate Industry, Draft Report*, GCA-TR-CH-83-02, EPA Contract No. 68-02-3510, GCA Corporation, Chapel Hill, NC, February 1983.

15. T. Brozell, T. Holder, and J. Richards, *Measurement of PM-10 and PM2.5 Emission Factors at a Stone Crushing Plant*, National Stone Association, December 1996.

16. T. Brozell, and J. Richards, *$PM_{10}/PM_{2.5}$ Emission Factor Testing for the Pulverized Mineral Division of the National Stone, Sand and Gravel Association.* Report to the National Stone, Sand and Gravel Association; October 2001.

17. Frank Ward & Company, *A Report of Particulate Source Sampling Performed for Franklin Industrial Minerals Located in Sherwood, Tennessee,* Report to Franklin Industrial Minerals, August 1994.

18. Advanced Industrial Resources, LLC. *Performance Test Report of Baghouse No. 37 at Franklin Industrial Minerals, Report to Franklin Industrial Minerals,* November 1999.

19. Advanced Industrial Resources, LLC. *Performance Test Report of BH-750Limestone System at Franklin Industrial Minerals, Report to Franklin Industrial Minerals,* May 2000.

20. Air Quality Technical Services, *Performance Testing for Flash Dryer #1, Omya, Inc. Plant in Florence, Vermont.* June 1997.

21. Air Quality Technical Services, *Performance Testing for Flash Dryer #2, Omya, Inc. Plant in Florence, Vermont,* March 1998.

22. Air Quality Technical Services. *Performance Testing for Flash Dryer #3, Omya, Inc. Plant in Florence, Vermont,* August 2000.

23. Air Quality Technical Services. *Performance Testing for Flash Dryer #3, Omya, Inc. Plant in Florence, Vermont,* September 2000.

24. *Air Pollution Control Techniques for Nonmetallic Minerals Industry*, EPA-450/3-82-014, U.S. Environmental Protection Agency, Research Triangle Park, NC, August 1982.

25. Written communication from J. Richards, Air Control Techniques, P.C. to B. Shrager, MRI, March 18, 1994.

26. C. Cowherd, Jr. et. al., *Development of Emission Factors For Fugitive Dust Sources*, EPA-450/3-74-037, U.S. Environmental Protection Agency, Research Triangle Park, NC, June 1974.

The following empirical expressions may be used to estimate the quantity in pounds (lb) of size-specific particulate emissions from an unpaved road, per vehicle mile traveled (VMT):

For vehicles traveling on unpaved surfaces at industrial sites, emissions are estimated from the following equation:

$$E = k\,(s/12)^a (W/3)^b \quad (1a)$$

and, for vehicles traveling on publicly accessible roads, dominated by light duty vehicles, emissions may be estimated from the following:

$$E = \frac{k\,(s/12)^a (S/30)^d}{(M/0.5)^c} - C \quad (1b)$$

where k, a, b, c and d are empirical constants (Reference 6) given below and

E = size-specific emission factor (lb/VMT)
s = surface material silt content (%)
W = mean vehicle weight (tons)
M = surface material moisture content (%)
S = mean vehicle speed (mph)
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

The source characteristics s, W and M are referred to as correction parameters for adjusting the emission estimates to local conditions. The metric conversion from lb/VMT to grams (g) per vehicle kilometer traveled (VKT) is as follows:

1 lb/VMT = 281.9 g/VKT

The constants for Equations 1a and 1b based on the stated aerodynamic particle sizes are shown in Tables 13.2.2-2 and 13.2.2-4. The PM-2.5 particle size multipliers (k-factors) are taken from Reference 27.

Table 13.2.2-2. CONSTANTS FOR EQUATIONS 1a AND 1b

Constant	Industrial Roads (Equation 1a)			Public Roads (Equation 1b)		
	PM-2.5	PM-10	PM-30*	PM-2.5	PM-10	PM-30*
k (lb/VMT)	0.15	1.5	4.9	0.18	1.8	6.0
a	0.9	0.9	0.7	1	1	1
b	0.45	0.45	0.45	-	-	-
c	-	-	-	0.2	0.2	0.3
d	-	-	-	0.5	0.5	0.3
Quality Rating	B	B	B	B	B	B

*Assumed equivalent to total suspended particulate matter (TSP)
"-" = not used in the emission factor equation

Table 13.2.2-2 also contains the quality ratings for the various size-specific versions of Equation 1a and 1b. The equation retains the assigned quality rating, if applied within the ranges of source conditions, shown in Table 13.2.2-3, that were tested in developing the equation:

Table 13.2.2-3. RANGE OF SOURCE CONDITIONS USED IN DEVELOPING EQUATION 1a AND 1b

Emission Factor	Surface Silt Content, %	Mean Vehicle Weight		Mean Vehicle Speed		Mean No. of Wheels	Surface Moisture Content, %
		Mg	ton	km/hr	mph		
Industrial Roads (Equation 1a)	1.8-25.2	1.8-260	2-290	8-69	5-43	4-17[a]	0.03-13
Public Roads (Equation 1b)	1.8-35	1.4-2.7	1.5-3	16-88	10-55	4-4.8	0.03-13

[a] See discussion in text.

As noted earlier, the models presented as Equations 1a and 1b were developed from tests of traffic on unpaved surfaces. Unpaved roads have a hard, generally nonporous surface that usually dries quickly after a rainfall or watering, because of traffic-enhanced natural evaporation. (Factors influencing how fast a road dries are discussed in Section 13.2.2.3, below.) The quality ratings given above pertain to the mid-range of the measured source conditions for the equation. A higher mean vehicle weight and a higher than normal traffic rate may be justified when performing a worst-case analysis of emissions from unpaved roads.

The emission factors for the exhaust, brake wear and tire wear of a 1980's vehicle fleet (*C*) was obtained from EPA's MOBILE6.2 model [23]. The emission factor also varies with aerodynamic size range

as shown in Table 13.2.2-4

Table 13.2.2-4. EMISSION FACTOR FOR 1980'S VEHICLE FLEET EXHAUST, BRAKE WEAR AND TIRE WEAR

Particle Size Range[a]	*C*, Emission Factor for Exhaust, Brake Wear and Tire Wear[b] lb/VMT
$PM_{2.5}$	0.00036
PM_{10}	0.00047
PM_{30}[c]	0.00047

[a] Refers to airborne particulate matter (PM-x) with an aerodynamic diameter equal to or less than x micrometers.
[b] Units shown are pounds per vehicle mile traveled (lb/VMT).
[c] PM-30 is sometimes termed "suspendable particulate" (SP) and is often used as a surrogate for TSP.

It is important to note that the vehicle-related source conditions refer to the average weight, speed, and number of wheels for all vehicles traveling the road. For example, if 98 percent of traffic on the road are 2-ton cars and trucks while the remaining 2 percent consists of 20-ton trucks, then the mean weight is 2.4 tons. More specifically, Equations 1a and 1b are *not* intended to be used to calculate a separate emission factor for each vehicle class within a mix of traffic on a given unpaved road. That is, in the example, one should *not* determine one factor for the 2-ton vehicles and a second factor for the 20-ton trucks. Instead, only one emission factor should be calculated that represents the "fleet" average of 2.4 tons for all vehicles traveling the road.

Moreover, to retain the quality ratings when addressing a group of unpaved roads, it is necessary that reliable correction parameter values be determined for the road in question. The field and laboratory procedures for determining road surface silt and moisture contents are given in AP-42 Appendices C.1 and C.2. Vehicle-related parameters should be developed by recording visual observations of traffic. In some cases, vehicle parameters for industrial unpaved roads can be determined by reviewing maintenance records or other information sources at the facility.

In the event that site-specific values for correction parameters cannot be obtained, then default values may be used.In the absence of site-specific silt content information, an appropriate mean value from Table 13.2.2-1 may be used as a default value, but the quality rating of the equation is reduced by two letters. Because of significant differences found between different types of road surfaces and between different areas of the country, use of the default moisture content value of 0.5 percent in Equation 1b is discouraged. The quality rating should be downgraded two letters when the default moisture content value is used. (It is assumed that readers addressing industrial roads have access to the information needed to develop average vehicle information in Equation 1a for their facility.)

The effect of routine watering to control emissions from unpaved roads is discussed below in Section 13.2.2.3, “Controls”. However, all roads are subject to some natural mitigation because of rainfall and other precipitation. The Equation 1a and 1b emission factors can be extrapolated to annual

13.2.4 Aggregate Handling And Storage Piles

13.2.4.1 General

Inherent in operations that use minerals in aggregate form is the maintenance of outdoor storage piles. Storage piles are usually left uncovered, partially because of the need for frequent material transfer into or out of storage.

Dust emissions occur at several points in the storage cycle, such as material loading onto the pile, disturbances by strong wind currents, and loadout from the pile. The movement of trucks and loading equipment in the storage pile area is also a substantial source of dust.

13.2.4.2 Emissions And Correction Parameters

The quantity of dust emissions from aggregate storage operations varies with the volume of aggregate passing through the storage cycle. Emissions also depend on 3 parameters of the condition of a particular storage pile: age of the pile, moisture content, and proportion of aggregate fines.

When freshly processed aggregate is loaded onto a storage pile, the potential for dust emissions is at a maximum. Fines are easily disaggregated and released to the atmosphere upon exposure to air currents, either from aggregate transfer itself or from high winds. As the aggregate pile weathers, however, potential for dust emissions is greatly reduced. Moisture causes aggregation and cementation of fines to the surfaces of larger particles. Any significant rainfall soaks the interior of the pile, and then the drying process is very slow.

Silt (particles equal to or less than 75 micrometers [μm] in diameter) content is determined by measuring the portion of dry aggregate material that passes through a 200-mesh screen, using ASTM-C-136 method.[1] Table 13.2.4-1 summarizes measured silt and moisture values for industrial aggregate materials.

Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES[a]

Industry	No. Of Facilities	Material	Silt Content (%)			Moisture Content (%)		
			No. Of Samples	Range	Mean	No. Of Samples	Range	Mean
Iron and steel production	9	Pellet ore	13	1.3 - 13	4.3	11	0.64 - 4.0	2.2
		Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.0	5.4
		Coal	12	2.0 - 7.7	4.6	11	2.8 - 11	4.8
		Slag	3	3.0 - 7.3	5.3	3	0.25 - 2.0	0.92
		Flue dust	3	2.7 - 23	13	1	—	7
		Coke breeze	2	4.4 - 5.4	4.9	2	6.4 - 9.2	7.8
		Blended ore	1	—	15	1	—	6.6
		Sinter	1	—	0.7	0	—	—
		Limestone	3	0.4 - 2.3	1.0	2	ND	0.2
Stone quarrying and processing	2	Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
		Various limestone products	8	0.8 - 14	3.9	8	0.46 - 5.0	2.1
Taconite mining and processing	1	Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.0	0.9
		Tailings	2	ND	11	1	—	0.4
Western surface coal mining	4	Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
		Overburden	15	3.8 - 15	7.5	0	—	—
		Exposed ground	3	5.1 - 21	15	3	0.8 - 6.4	3.4
Coal-fired power plant	1	Coal (as received)	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5
Municipal solid waste landfills	4	Sand	1	—	2.6	1	—	7.4
		Slag	2	3.0 - 4.7	3.8	2	2.3 - 4.9	3.6
		Cover	5	5.0 - 16	9.0	5	8.9 - 16	12
		Clay/dirt mix	1	—	9.2	1	—	14
		Clay	2	4.5 - 7.4	6.0	2	8.9 - 11	10
		Fly ash	4	78 - 81	80	4	26 - 29	27
		Misc. fill materials	1	—	12	1	—	11

[a] References 1-10. ND = no data.

13.2.4.3 Predictive Emission Factor Equations

Total dust emissions from aggregate storage piles result from several distinct source activities within the storage cycle:

1. Loading of aggregate onto storage piles (batch or continuous drop operations).
2. Equipment traffic in storage area.
3. Wind erosion of pile surfaces and ground areas around piles.
4. Loadout of aggregate for shipment or for return to the process stream (batch or continuous drop operations).

Either adding aggregate material to a storage pile or removing it usually involves dropping the material onto a receiving surface. Truck dumping on the pile or loading out from the pile to a truck with a front-end loader are examples of batch drop operations. Adding material to the pile by a conveyor stacker is an example of a continuous drop operation.

The quantity of particulate emissions generated by either type of drop operation, per kilogram (kg) (ton) of material transferred, may be estimated, with a rating of A, using the following empirical expression:[11]

$$E = k(0.0016) \frac{\left(\frac{U}{2.2}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (kg/megagram [Mg])} \quad (1)$$

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (pound [lb]/ton)}$$

where:

E = emission factor
k = particle size multiplier (dimensionless)
U = mean wind speed, meters per second (m/s) (miles per hour [mph])
M = material moisture content (%)

The particle size multiplier in the equation, k, varies with aerodynamic particle size range, as follows:

Aerodynamic Particle Size Multiplier (k) For Equation 1				
< 30 μm	< 15 μm	< 10 μm	< 5 μm	< 2.5 μm
0.74	0.48	0.35	0.20	0.053[a]

[a] Multiplier for < 2.5 μm taken from Reference 14.

The equation retains the assigned quality rating if applied within the ranges of source conditions that were tested in developing the equation, as follows. Note that silt content is included, even though silt content does not appear as a correction parameter in the equation. While it is reasonable to expect that silt content and emission factors are interrelated, no significant correlation between the 2 was found during the derivation of the equation, probably because most tests with high silt contents were conducted under lower winds, and vice versa. It is recommended that estimates from the equation be reduced 1 quality rating level if the silt content used in a particular application falls outside the range given:

Ranges Of Source Conditions For Equation 1			
Silt Content (%)	Moisture Content (%)	Wind Speed	
		m/s	mph
0.44 - 19	0.25 - 4.8	0.6 - 6.7	1.3 - 15

To retain the quality rating of the equation when it is applied to a specific facility, reliable correction parameters must be determined for specific sources of interest. The field and laboratory procedures for aggregate sampling are given in Reference 3. In the event that site-specific values for

correction parameters cannot be obtained, the appropriate mean from Table 13.2.4-1 may be used, but the quality rating of the equation is reduced by 1 letter.

For emissions from equipment traffic (trucks, front-end loaders, dozers, etc.) traveling between or on piles, it is recommended that the equations for vehicle traffic on unpaved surfaces be used (see Section 13.2.2). For vehicle travel between storage piles, the silt value(s) for the areas among the piles (which may differ from the silt values for the stored materials) should be used.

Worst-case emissions from storage pile areas occur under dry, windy conditions. Worst-case emissions from materials-handling operations may be calculated by substituting into the equation appropriate values for aggregate material moisture content and for anticipated wind speeds during the worst case averaging period, usually 24 hours. The treatment of dry conditions for Section 13.2.2, vehicle traffic, "Unpaved Roads", follows the methodology described in that section centering on parameter p. A separate set of nonclimatic correction parameters and source extent values corresponding to higher than normal storage pile activity also may be justified for the worst-case averaging period.

13.2.4.4 Controls[12-13]

Watering and the use of chemical wetting agents are the principal means for control of aggregate storage pile emissions. Enclosure or covering of inactive piles to reduce wind erosion can also reduce emissions. Watering is useful mainly to reduce emissions from vehicle traffic in the storage pile area. Watering of the storage piles themselves typically has only a very temporary slight effect on total emissions. A much more effective technique is to apply chemical agents (such as surfactants) that permit more extensive wetting. Continuous chemical treating of material loaded onto piles, coupled with watering or treatment of roadways, can reduce total particulate emissions from aggregate storage operations by up to 90 percent.[12]

References For Section 13.2.4

1. C. Cowherd, Jr., *et al., Development Of Emission Factors For Fugitive Dust Sources*, EPA-450/3-74-037, U. S. Environmental Protection Agency, Research Triangle Park, NC, June 1974.

2. R. Bohn, *et al., Fugitive Emissions From Integrated Iron And Steel Plants*, EPA-600/2-78-050, U. S. Environmental Protection Agency, Cincinnati, OH, March 1978.

3. C. Cowherd, Jr., *et al., Iron And Steel Plant Open Dust Source Fugitive Emission Evaluation*, EPA-600/2-79-103, U. S. Environmental Protection Agency, Cincinnati, OH, May 1979.

4. *Evaluation Of Open Dust Sources In The Vicinity Of Buffalo, New York*, EPA Contract No. 68-02-2545, Midwest Research Institute, Kansas City, MO, March 1979.

5. C. Cowherd, Jr., and T. Cuscino, Jr., *Fugitive Emissions Evaluation*, MRI-4343-L, Midwest Research Institute, Kansas City, MO, February 1977.

6. T. Cuscino, Jr., *et al., Taconite Mining Fugitive Emissions Study*, Minnesota Pollution Control Agency, Roseville, MN, June 1979.

7. *Improved Emission Factors For Fugitive Dust From Western Surface Coal Mining Sources*, 2 Volumes, EPA Contract No. 68-03-2924, PEDCo Environmental, Kansas City, MO, and Midwest Research Institute, Kansas City, MO, July 1981.

8. *Determination Of Fugitive Coal Dust Emissions From Rotary Railcar Dumping*, TRC, Hartford, CT, May 1984.

9. *PM-10 Emission Inventory Of Landfills In the Lake Calumet Area*, EPA Contract No. 68-02-3891, Midwest Research Institute, Kansas City, MO, September 1987.

10. *Chicago Area Particulate Matter Emission Inventory — Sampling And Analysis*, EPA Contract No. 68-02-4395, Midwest Research Institute, Kansas City, MO, May 1988.

11. *Update Of Fugitive Dust Emission Factors In AP-42 Section 11.2*, EPA Contract No. 68-02-3891, Midwest Research Institute, Kansas City, MO, July 1987.

12. G. A. Jutze, *et al., Investigation Of Fugitive Dust Sources Emissions And Control*, EPA-450/3-74-036a, U. S. Environmental Protection Agency, Research Triangle Park, NC, June 1974.

13. C. Cowherd, Jr., *et al., Control Of Open Fugitive Dust Sources*, EPA-450/3-88-008, U. S. Environmental Protection Agency, Research Triangle Park, NC, September 1988.

14. C. Cowherd, *Background Document for Revisions to Fine Fraction Ratios &sed for AP-42 Fugitive Dust Emission Factors*. Prepared by Midwest Research Institute for Western Governors Association, Western Regional Air Partnership, Denver, CO, February 1, 2006.

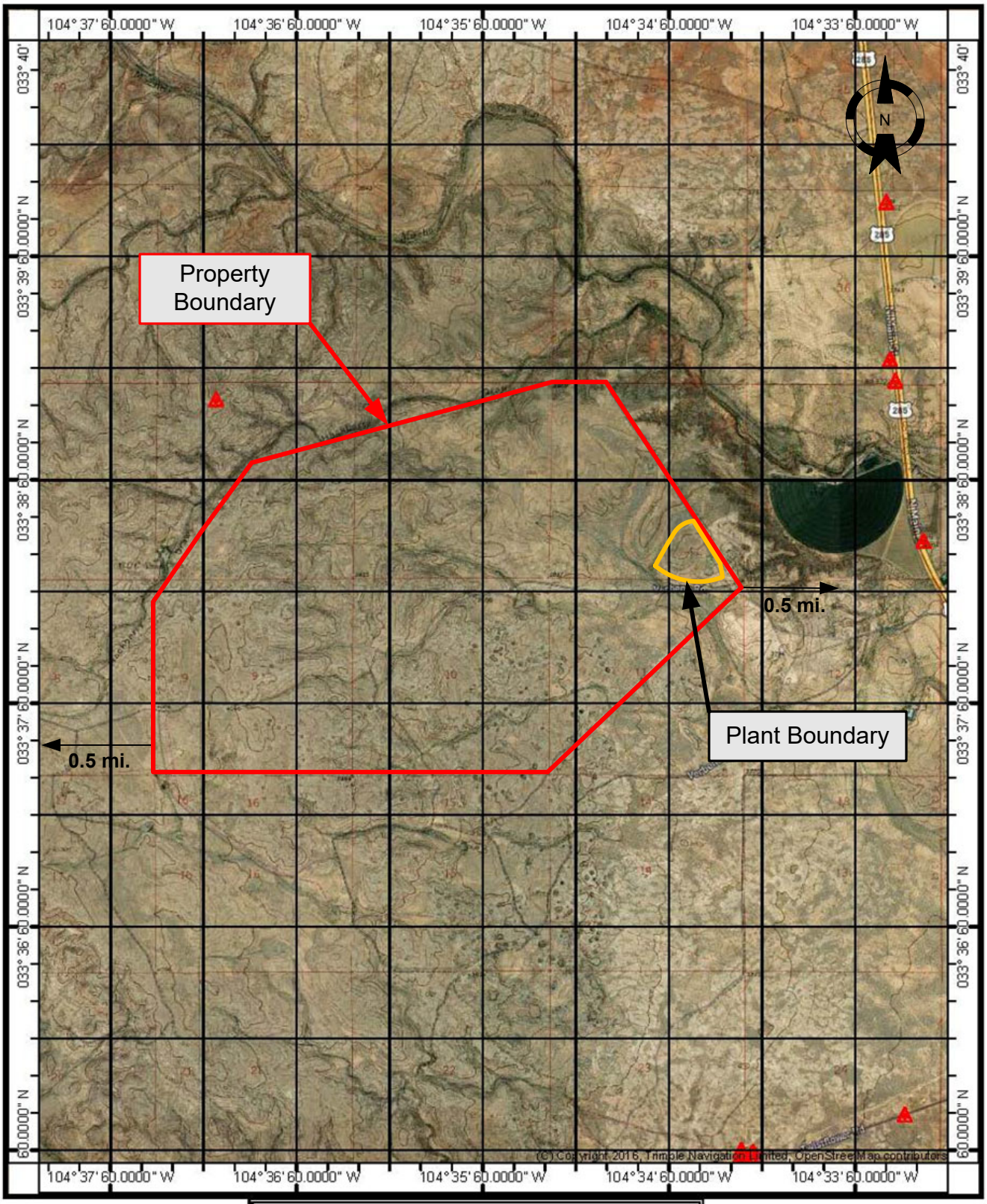
Section 8

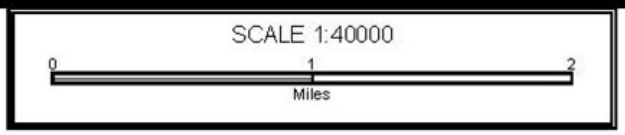
Map(s)

A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

The UTM or Longitudinal coordinate system on both axes	An indicator showing which direction is north
A minimum radius around the plant of 0.8km (0.5 miles)	Access and haul roads
Topographic features of the area	Facility property boundaries
The name of the map	The area which will be restricted to public access
A graphical scale	

See attached.





ALLIANT ENVIRONMENTAL, LLC			**Area Map**	**Fisher Sand & Gravel**		
Scale: **1:40,000**	Drawn by: MDF	Date: 8/3/2022	**HMA Plant** N 33° 38' 44.00" Latitude W 104° 34' 54.00" Longitude	Project No.: 067-004	File Name: **HMA Plant Area Map**	Figure: Section 8
	Chk'd by: MRS	Date: 9/29/2022				

Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)
(This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

☒ **I have read the AQB "Guidelines for Public Notification for Air Quality Permit Applications"**
This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant's Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

New Permit and **Significant Permit Revision** public notices must include all items in this list.

Technical Revision public notices require only items 1, 5, 9, and 10.

Per the Guidelines for Public Notification document mentioned above, include:

1. ☒ A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
2. ☒ A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g: post office, library, grocery, etc.)
3. ☒ A copy of the property tax record (20.2.72.203.B NMAC).
4. ☒ A sample of the letters sent to the owners of record.
5. ☒ A sample of the letters sent to counties, municipalities, and Indian tribes.
6. ☒ A sample of the public notice posted and a verification of the local postings.
7. ☒ A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
8. ☒ A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
9. ☒ A copy of the classified or legal ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
10. ☒ A copy of the display ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
11. ☒ A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record.

All required documentation from the above checklist is included in the following pages.

The classified/legal ad and the display ad were published in The Roswell Daily Record and the public service announcement was sent to Radio Station 106.5 Roswell's Talk FM.

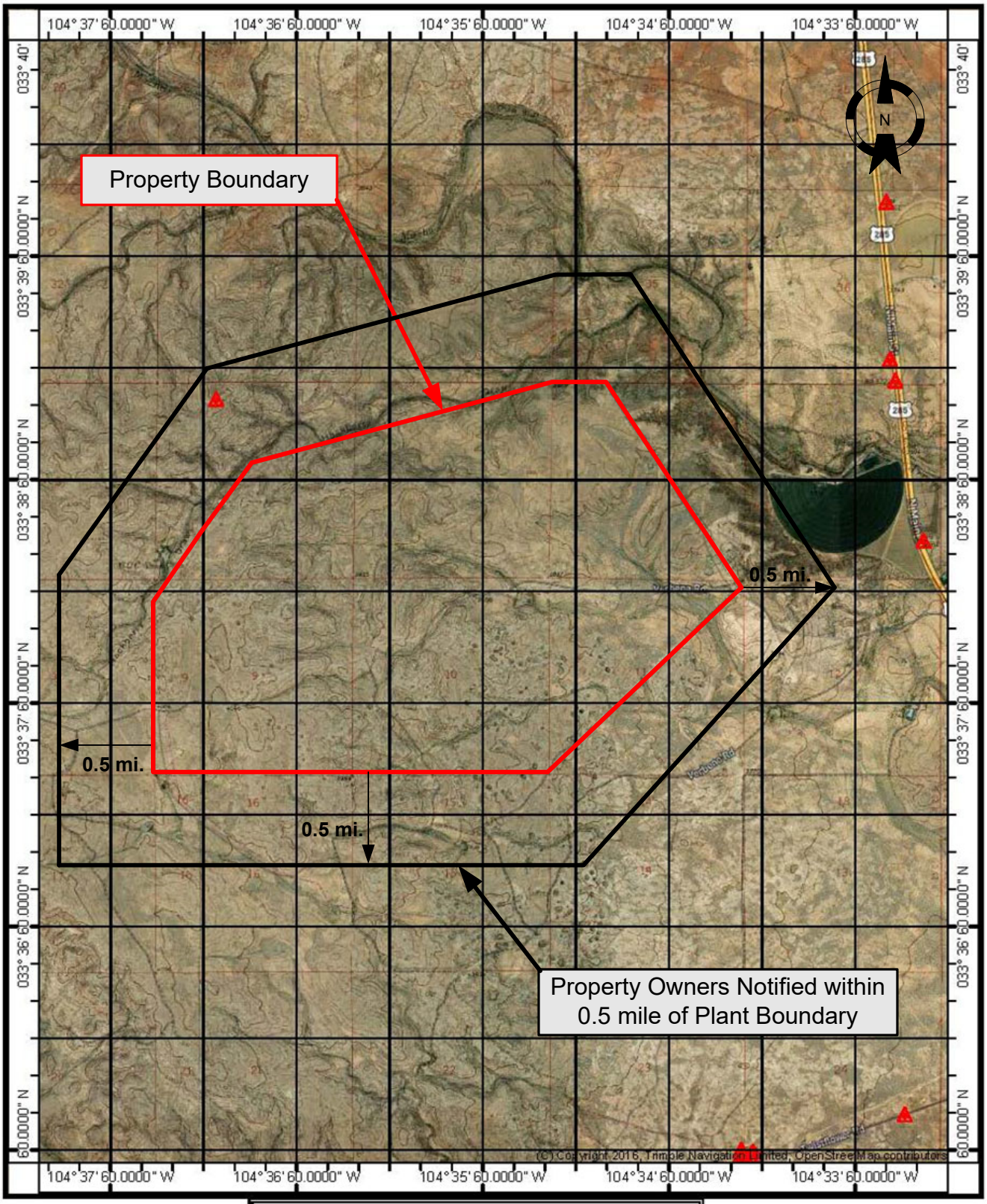
The Fisher Sand & Gravel, NM Inc. HMA Plant will be located in Chaves County, which is designated as a Class B county. As such, property owners within 0.5 mile of the property were sent notifications (20.2.72.203(B)(1)(a) NMAC). See Table 9.1 for a list of the notified owners. Property owners on record were found by contacting the Chaves County Assessor's Office. A copy of the parcel's property tax record is also attached.

Notices were sent to all municipalities, counties, and Indian tribes within a 10-mile radius of the HMA Plant (20.2.72.203(B)(2) NMAC). See Table 9.1 for a list of the counties, municipalities and tribes and to whom the notices were sent in each group.

Table 9.1: Notified Municipalities, Counties and Property Owners

Name	Mailing Address	Category of Notice
Taylor Ranch a New Mexico General Partnership	PO Box 344 Roswell, NM 88202	Nearby Landowner
USA - Bureau of Land Management	BLM-Roswell Field Office 2809 W 2nd ST Roswell, NM 88201-2019	Nearby Landowner
Chaves County	County Manager #1 St. Mary's Place Roswell, NM 88203	County

Note: There are no municipalities or Indian Tribes within a 10-mile radius of the facility.



ALLIANT ENVIRONMENTAL, LLC			**Area Map**	**Fisher Sand & Gravel**		
Scale: **1:40,000**	Drawn by: MDF	Date: 9/4/2022	**HMA Plant** N 33° 38' 44.00" Latitude W 104° 34' 58.00" Longitude	Project No.: 067-004	File Name: **HMA Plant Section 9**	Figure: Section 9
	Chk'd by: MRS	Date: 9/30/2022				

7019 0700 0001 4973 3203

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

Roswell, NM 88203

OFFICIAL USE

Certified Mail Fee $4.00	0109 58
$ $0.00	
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $ $0.00	
☐ Return Receipt (electronic) $ $0.00	
☐ Certified Mail Restricted Delivery $ $0.00	
☐ Adult Signature Required $ $0.00	
☐ Adult Signature Restricted Delivery $	
Postage $0.60	
$	
Total Postage and Fees $4.60	
$	

ACADEMY STATION
Postmark Here
NOV 17 2022
11/17/2022
87109 USPS

Sent To: Chaves County Manager
Street and Apt. No., or PO Box No.: #1 Street Mary's Place
City, State, ZIP+4®: Roswell, NM 88203

PS Form 3800, April 2015 PSN 7530-02-000-9047 — See Reverse for Instructions

7019 0700 0001 4973 3210

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

Roswell, NM 88201

OFFICIAL USE

Certified Mail Fee $4.00	0109 58
$ $0.00	
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $ $0.00	
☐ Return Receipt (electronic) $ $0.00	
☐ Certified Mail Restricted Delivery $ $0.00	
☐ Adult Signature Required $ $0.00	
☐ Adult Signature Restricted Delivery $	
Postage $0.60	
$	
Total Postage and Fees $4.60	
$	

ACADEMY STATION
Postmark Here
NOV 17 2022
11/17/2022
87109 USPS

Sent To: Bureau of Land Management, Roswell
Street and Apt. No., or PO Box No.: 2909 W 2nd Street
City, State, ZIP+4®: Roswell, NM 88201-2019

PS Form 3800, April 2015 PSN 7530-02-000-9047 — See Reverse for Instructions

7019 0700 0001 4973 3227

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

Roswell, NM 88202

OFFICIAL USE

Certified Mail Fee $4.00	0109 58
$ $0.00	
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $ $0.00	
☐ Return Receipt (electronic) $ $0.00	
☐ Certified Mail Restricted Delivery $ $0.00	
☐ Adult Signature Required $ $0.00	
☐ Adult Signature Restricted Delivery $	
Postage $0.60	
$	
Total Postage and Fees $4.60	
$	

ACADEMY STATION
Postmark Here
NOV 17 2022
11/17/2022
87109 USPS

Sent To: Taylor Ranch, a NM General Partnership
Street and Apt. No., or PO Box No.: P.O. Box 344
City, State, ZIP+4®: Roswell, NM 88202

PS Form 3800, April 2015 PSN 7530-02-000-9047 — See Reverse for Instructions

General Posting of Notices – Certification

I, Brian Gambrel, the undersigned, certify that on Oct 1, 2022, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the City of Roswell, Chaves County, State of New Mexico on the following dates:

1. Facility entrance
2. USPS Roswell NM 415 N Pennsylvania Ave
3. Roswell Public Library 301 N Pennsylvania Ave
4. Allsup's Truck Stop 5500 N Main St Roswell NM

Signed this 1st day of October, 2022.

B J Gambrel
Signature

10/1/2022
Date

Brian Gambrel
Printed Name

Project Manager-Fisher Sand & Gravel NM Inc.
Title

NOTICE

Fisher Sand & Gravel, NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the **construction** of its **hot mix asphalt** facility. The expected date of application submittal to the Air Quality Bureau is **November 28, 2022.**

The exact location for the proposed facility known as, **hot mix asphalt plant**, will be at latitude 33 deg, 38 min, 44.0 sec and longitude -104 deg, 34 min, 58.0 sec. The approximate location of this facility is **18.8** miles **north** of **Roswell, NM in Chaves County just west of US Route 285.**

The proposed **construction** consists of a hot mixed asphalt plant including generator engines, bins, bin feeders, conveyors, bin loading, truck loading and hauling, storage piles and screens.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM_{10}	15.9 pph	30.8 tpy
$PM_{2.5}$	3.4 pph	10.3 tpy
Sulfur Dioxide (SO_2)	7.1 pph	8.8 tpy
Nitrogen Oxides (NO_x)	34.2 pph	42.7 tpy
Carbon Monoxide (CO)	14.7 pph	17.7 tpy
Volatile Organic Compounds (VOC)	7.1 pph	4.5 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.8 pph	1.0 tpy
Toxic Air Pollutant (TAP)	3.6 pph	1.2 tpy
Green House Gas Emissions as Total CO_2e	n/a	49,472 tpy

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation)

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8373.

Notice of Non-Discrimination
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kathryn Becker, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.

2022 NOTICE OF VALUE

CHAVES COUNTY ASSESSOR'S OFFICE
#1 ST. MARY'S PLACE, SUITE 130
ROSWELL, NM 88203

PHONE 575-624-6603
www.chavescounty.gov

THIS IS NOT A TAX BILL

Property Listed and Valued as of January 1, 2022

THIS VALUE WILL BE A FACTOR IN DETERMINING YOUR 2022 PROPERTY TAX BILL

PROPERTY NOTICE OF VALUATION ENCLOSED

Address Service Requested

1895*5**G50**0.4935**1/2*********AUTO5-DIGIT 88201
CORN,DAVID G ; CORN,TRACEY
471 STARGRASS RD
ROSWELL NM 88201-0591

RETAIN THIS PORTION FOR YOUR RECORDS

Official Mailing Date	Protest Period Ends	Account #
03/31/2022	05/02/2022	R012144

THIS IS THE ONLY NOTICE OF VALUE YOU WILL RECEIVE UNLESS YOU ARE THE OWNER OF PERSONAL PROPERTY OR TAXABLE LIVESTOCK. INSTRUCTIONS FOR PROTESTING AND FILING OF EXEMPTIONS ARE ON THE REVERSE SIDE. FOR ASSISTANCE, CALL (575) 624-6603, BETWEEN THE HOURS OF 8:00 AM - 5:00 PM MONDAY - FRIDAY.

▼ NET TAXABLE VALUES WILL BE ALLOCATED TO GOVERNMENTAL UNITS IN SCHOOL DISTRICT

School District	Parcel Number
11N-FC-CSW	4133043500187000000

"FULL VALUE" MEANS THE VALUE DETERMINED FOR PROPERTY TAXATION PURPOSES. "TAXABLE VALUE" IS 33 1/3 % OF "FULL VALUE". "NET TAXABLE VALUE" IS "TAXABLE VALUE" LESS EXEMPTIONS AND IS THE VALUE UPON WHICH TAX IS IMPOSED

PROPERTY DESCRIPTION	UNITS	VALUE DESCRIPTION	TYPE	FULL VALUE
S: 1 T: 8S R: 23E N2 THAT PART N OF MACHO DRAW EXC NE4NE4 E OF HWY 285 S: 2 T: 8S R: 23E NE4 THAT PART N OF MACHO DRAW & ALL THAT PART W OF EXISTING FENCE LINE S: 16 T: 8S R: 23E ALL BK: 10 PG: 162 WDJT		Land	NON	4,068

VALUE RECAP	2022 TOTAL VALUATION FULL VALUE	TAXABLE VALUE
LAND	4,068	1,356
STRUCTURES		
MANUFACTURED HOME		
PERSONAL PROP.		
LIVESTOCK		
TOTAL VALUE	4,068	1,356
VETERANS EXEMPT.		
FAMILY EXEMPT.		
OTHER		
NET TAXABLE VALUE		1,356

2021 VALUE RECAP	
2021 TAXABLE VALUE	1,356
2021 TAX RATE	0.027330
2021 TAX AMOUNT	37.06

INSTRUCTIONS FOR CALCULATING ESTIMATED TAX (NMSA 7-38-20): The calculation of an estimated property tax may be higher or lower than the property tax that will actually be imposed. Tax rates will be determined for the current year by the Department of Finance and Administration no later than September 1st. The estimated tax may be calculated by multiplying the Current Year's Net Taxable Value by the Previous Year's Tax Rate. Example: $33,000 (Current Year's Net Taxable Value) x .028427 (Previous Year's City of Roswell Residential Tax Rate) = $938.09 (Estimated Tax).
For property information, please visit our website at www.chavescounty.gov

2-8-22_v3

Please fold on perforation BEFORE tearing

TO DETACH, TEAR ALONG PERFORATION

OWNER'S NAME & ADDRESS
CORN,DAVID G ; CORN,TRACEY
471 STARGRASS RD
ROSWELL NM 88201-0591

FOR 2022 ADDRESS OR OWNERSHIP CHANGES OR CORRECTIONS, RETURN THIS PORTION TO THE ASSESSOR'S OFFICE.

Account # R012144

DO NOT SIGN AND RETURN THIS FORM IF THERE ARE NO CHANGES TO BE MADE!

The information you provide will assist us in assuring that the assessment of your property is correct. We make every attempt to assess all property to the current owner with a correct mailing address. If our records are not up to date, please complete the information requested below and return to this office. If listed "Owner" is incorrect, please include a copy of recorded deed or the conveyance document with your request for change. **If you have sold the property, please indicate new owner information. Book and page number must be given below for name change.**

PLEASE RETURN A CHANGE FORM FOR EACH PROPERTY.

FOR AN ADDRESS CHANGE OR OWNERSHIP CHANGE, COMPLETE THE FOLLOWING AND SIGN

CORRECT NAME & MAILING ADDRESS

NAME:

MAILING ADDRESS:

CITY: STATE: ZIP CODE:

TELEPHONE HOME: WORK:

DOCUMENT: BOOK #: PAGE #:

PROPERTY CHANGE DECLARATION
If there has been a change to the status of your land or building, please check.

- ◯ NEW
- ◯ REMOVED
- ◯ ADDITION
- ◯ MANUFACTURED HOMES

PROPERTY USE:

- ◯ RESIDENTIAL
- ◯ COMMERCIAL
- ◯ OTHER

SIGNATURE OF OWNER OR OWNER'S AUTHORIZED AGENT

X

DATE

200-5727-13

1895 1/1

November 17, 2022

CERTIFIED MAIL 7019 0700 0001 4973 3227

Dear Sir/Madam representing Taylor Ranch, a New Mexico General Partnership:

Fisher Sand & Gravel, NM Inc. announces its application submittal to the New Mexico Environment Department for an air quality permit for the construction of its hot mix asphalt facility. The expected date of application submittal to the Air Quality Bureau is November 28, 2022.

The exact location for the proposed facility known as, hot mix asphphalt plant, will be at latitude 33 deg, 38 min, 44.0 sec and longitude -104 deg, 34 min, 58.0 sec. The approximate location of this facility is 18.8 miles north of Roswell, NM in Chaves County just west of US Route 285.

The proposed construction consists of a hot mixed asphalt plant including generator engines, bins, bin feeders, conveyors, bin loading, truck loading and hauling, storage piles and screens.

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Pollutant:	Pounds per hour	Tons per year
PM_{10}	15.9 pph	30.8 tpy
$PM_{2.5}$	3.4 pph	10.3 tpy
Sulfur Dioxide (SO_2)	7.1 pph	8.8 tpy
Nitrogen Oxides (NO_x)	34.2 pph	42.7 tpy
Carbon Monoxide (CO)	14.7 pph	17.7 tpy
Volatile Organic Compounds (VOC)	7.1 pph	4.5 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.8 pph	1.0 tpy
Toxic Air Pollutant (TAP)	3.6 pph	1.2 tpy
Green House Gas Emissions as Total CO_2e	n/a	49,472 tpy

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

Please refer to the company name and facility name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

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Sincerely,
[**permit applicant**]
[**permit applicant address**]

Notice of Non-Discrimination
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November 17, 2022

CERTIFIED MAIL 7019 0700 0001 4973 3210

Dear Sir/Madam representing USA - Bureau of Land Management (BLM):

Fisher Sand & Gravel, NM Inc. announces its application submittal to the New Mexico Environment Department for an air quality permit for the construction of its hot mix asphalt facility. The expected date of application submittal to the Air Quality Bureau is November 28, 2022.

The exact location for the proposed facility known as, hot mix asphphalt plant, will be at latitude 33 deg, 38 min, 44.0 sec and longitude -104 deg, 34 min, 58.0 sec. The approximate location of this facility is 18.8 miles north of Roswell, NM in Chaves County just west of US Route 285.

The proposed construction consists of a hot mixed asphalt plant including generator engines, bins, bin feeders, conveyors, bin loading, truck loading and hauling, storage piles and screens.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and may change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM_{10}	15.9 pph	30.8 tpy
$PM_{2.5}$	3.4 pph	10.3 tpy
Sulfur Dioxide (SO_2)	7.1 pph	8.8 tpy
Nitrogen Oxides (NO_x)	34.2 pph	42.7 tpy
Carbon Monoxide (CO)	14.7 pph	17.7 tpy
Volatile Organic Compounds (VOC)	7.1 pph	4.5 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.8 pph	1.0 tpy
Toxic Air Pollutant (TAP)	3.6 pph	1.2 tpy
Green House Gas Emissions as Total CO_2e	n/a	49,472 tpy

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

Please refer to the company name and facility name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Attención
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Sincerely,
[**permit applicant**]
[**permit applicant address**]

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November 17, 2022

CERTIFIED MAIL 7019 0700 0001 4973 3203

Dear Chaves County Manager:

Fisher Sand & Gravel, NM Inc. announces its application submittal to the New Mexico Environment Department for an air quality permit for the construction of its hot mix asphalt facility. The expected date of application submittal to the Air Quality Bureau is November 28, 2022.

The exact location for the proposed facility known as, hot mix asphphalt plant, will be at latitude 33 deg, 38 min, 44.0 sec and longitude -104 deg, 34 min, 58.0 sec. The approximate location of this facility is 18.8 miles north of Roswell, NM in Chaves County just west of US Route 285.

The proposed construction consists of a hot mixed asphalt plant including generator engines, bins, bin feeders, conveyors, bin loading, truck loading and hauling, storage piles and screens.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and may change slightly during the course of the Department's review:

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Carbon Monoxide (CO)	14.7 pph	17.7 tpy
Volatile Organic Compounds (VOC)	7.1 pph	4.5 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.8 pph	1.0 tpy
Toxic Air Pollutant (TAP)	3.6 pph	1.2 tpy
Green House Gas Emissions as Total CO_2e	n/a	49,472 tpy

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

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From: mschluep@alliantenv.com
To: info@pvbcradio.com
Cc: mschluep@alliantenv.com
Subject: Public Service Announcement Request
Date: Wednesday, November 16, 2022 2:31:43 PM

Dear 106.5 Roswell's Talk FM:

Fisher Sand & Gravel NM Inc. kindly requests, according to New Mexico air quality regulations, that 106.5 Roswell's Talk FM Radio make the following public services announcement:

"Fisher Sand & Gravel NM Inc. is applying for an NSR permit for a hot mix asphalt plant located at latitude:
The exact location for the proposed facility known as, hot mix asphalt plant, will be at latitude 33 deg, 38 min, 44.0 sec and longitude -104 deg, 34 min, 58.0 sec. The approximate location of this facility is 18.8 miles north of Roswell, NM in Chaves County just west of US Route 285.

The proposed construction consists of a hot mix asphalt plant including generator engines, feeders, conveyors, truck loading and hauling, storage piles and screens. Public notice of this change is being posted at the facility entrance, the USPS in Roswell, the Allsups Truck Stop, and also at the Roswell Public Library.

If you have any questions regarding this application, please contact the New Mexico Environmental Department, Air Quality Bureau located at 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico 87505-1816; (505) 476-4300; 1-800-224-7009."

Thank you,

On behalf of Fisher Sand & Gravel, NM Inc.

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
505.205.4819
www.alliantenv.com

AFFIDAVIT OF PUBLICATION
STATE OF NEW MEXICO

I, Noely Martinez
Legals Clerk

Of the Roswell Daily Record, a daily newspaper published at Roswell, New Mexico do solemnly swear that the clipping hereto attached was published in the regular and entire issue of said paper and not in a supplement thereof for a period of:

One time with the issue dated

November 20, 2022

Clerk

Sworn and subscribed to before me

this 21st day of November, 2022

Notary Public

CLAUDIA MARTINEZ
NOTARY PUBLIC
COMM # 1095094
EXPIRES 5-13-2026
STATE OF NEW MEXICO

NOTICE OF AIR QUALITY PERMIT APPLICATION

Fisher Sand & Gravel, NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the **construction** of its **hot mix asphalt** facility. The expected date of application submittal to the Air Quality Bureau is **November 28, 2022.**

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$10,000 in catalytic converters reported stolen

ROSWELL DAILY RECORD

Police Blotter

The following public records are from the Roswell Police Department and can be viewed at rpdpc2c.org. All people arrested or cited are presumed innocent.

Four catalytic converters with a combined value of $10,000 were reported stolen Nov. 16 at 2:14 p.m. from a 2600 South Main Street location.

Arrests/Citations

Manuel Madero was charged Nov. 11 at 9:30 p.m. with driving under the influence of intoxicating liquor or drugs while in the 900 block of Davidson Drive.

Patricia Lynne Trujillo was charged with aggravated driving while under the influence of intoxicating liquor or drugs Nov. 12 at 12:23 a.m. while in the 500 block of Birch Avenue.

Isaiah Thomas Ramirez was charged Nov. 12 at 11:10 p.m. with driving under the influence of intoxicating liquor or drugs while in the 1100 block of West 17th Street.

Jeremiah Allen Garcia was charged with driving while under the influence of intoxicating liquor or drugs Nov. 13 at 12:32 a.m. while in the 1700 block of Pontiac Drive.

Aldo Hugo Cerino on Nov. 13 at 2:14 a.m. was charged with aggravated driving while under the influence of intoxicating liquor or drugs while in the 1000 block of West 7th Street.

Jordan Ryan DelaCruz was charged Nov. 13 at 2:42 a.m. with possession of drug paraphernalia while in the 100 block of East Deming Street.

Armando Castro Fernandez on Nov. 13 at 4:16 a.m. was charged with aggravated driving while under the influence of intoxicating liquor or drugs while in the 900 block of West Poe Street.

Miguel Rodriguez was charged with criminal damage to property of a household member Nov. 14 at 3:59 p.m. while in the 1600 block of Jackson Drive.

Amanda Brey Morgan was charged with shoplifting from a 4500 block of North Main Street Nov. 14 at 8:05 p.m.

Ivan Gonzalez on Nov. 15 at 12:12 a.m. was charged with criminal damage to property of a household member while in the 2000 block of Juniper Street.

Esperanza Benita Tyler was charged with shoplifting from a 900 block of West 2nd Street address Nov. 16 at 7:42 a.m.

Gregory Paul Williams was charged with aggravated driving while under the influence of intoxicating liquor or drugs Nov. 17 at 2:30 p.m. while in the 200 block of East 12th Street.

Arsons/criminal damages

At 10:25 a.m. on Nov. 13 police responded to a criminal damage call in the 3000 block of Encanto Drive. A $100 coffee table, a $75 nightstand and $25 curtains were reportedly damaged.

Officers were dispatched to the 2000 block of Juniper Street Nov. 14 at 6:06 p.m. in reference to a criminal damage call. The following items were reported damaged: five doors with a combined value of $1,000; a total of $1,000 in floor tiling; a $4,000 countertop; a $1,000 door frame; a $1,000 cupboard; $2,000 of drywall; two cabinet doors valued at $500 and a $200 window.

Police responded Nov. 16 at 4:42 a.m. to a criminal damage call in the 2000 block of South Sunset Avenue. A $100 window was reported damaged.

Larcenies/thefts

Officers were dispatched Nov. 12 at 10:25 p.m. to the 800 block of North Garden Avenue address in reference to a burglary. The following items were reported stolen: three padlocks with a total value of $25; three $50 tool boxes; a $70 gas edger; $200 in lawnmower and gardening equipment; $4,000 in sheet metal; a $25 dresser; two $60 tables; a $150 Craftsman pole saw; and a $320 TV. Two $75 doors and $150 in drywall were reported damaged.

Police responded Nov. 14 at 6:57 a.m. to an unlawful taking of a motor vehicle in the 900 block of West Adams Drive. A 2005 BMW was reported stolen.

At 8:23 a.m. Nov. 14 two AC condensers with a combined value of $1,500 were reported stolen from a 700 block of West Country Club Road address.

Two catalytic converters with a combined value of $500 were reported stolen Nov. 15 at 9:23 a.m. from a 900 block of West Brasher Road address.

At 10:58 p.m. on Nov. 15 $213.36 in food items were reported stolen from a 4500 block of North Main Street address.

A $2,100 electric bicycle was reported stolen from a 1700 North Missouri Avenue address Nov. 16 at 10:15 a.m.

Merchandise with a combined value of $546.72 was reported stolen Nov. 16 at 11:08 a.m. from a 600 block of South Main Street address.

On Nov. 16 at 4:37 p.m. officers responded to a larceny shoplifting in the 4500 block of North Main Street. Some $201.36 in merchandise were reported stolen.

At 8:35 p.m. on Nov. 17 a $200 bicycle and a $57.96 USB drive were reported stolen from a 200 block of 4500 block of North Main Street address.

Police responded to a burglary call Nov. 17 at 9:02 p.m. at a 1600 block of

Southeast Main Street address. A $1300 PC gaming set up; a $1,000 Samsung TV and $40 in baby food were reported stolen.

Week Ahead

Monday

Eastern New Mexico University-Roswell Branch Community College Board work session, 1 p.m., Conference room, Student Services Center, 56 University Blvd. No action will be taken during the session. The agenda is posted on the college website, roswell.enmu.edu. Contact Dina Jenks at dina.jenks@roswell.enmu.edu or 575-624-7112 for more information.

Roswell Museum Board of Trustees, 4 p.m., Museum, 1011 N. Richardson Ave. Web link: https://meet.goto.com/184894429. Phone: 224-501-3412. Access code: 184-894-429.

Roswell City Council Public Safety Committee, 4:30 p.m., Large Conference Room, City Hall, 425 N. Richardson Ave. Web link: http://global.gotomeeting.com/join/194381933. Phone: 571-317-3112. Access code: 194-381-933.

Tuesday

New Mexico Military Institute Board of Regents, 1 p.m. Board of Regents Conference Room, Lusk Hall, NMMI campus, 101 W. College Blvd. Web link: https://nmmi.zoom.us/91902408507. Phone: 669-444-9171. Meeting ID: 919-0240-8507.

Thursday

Thanksgiving Day. Public schools, government offices and many businesses closed.

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LEGALS

IFB No. VEH-11-22-01...

Publish November 20, 27, December 4, 2022

Invitation for Bid No: VEH-11-22-01

Eastern Regional Housing Authority

Written sealed bids are invited for purchase of Eight (8) vehicles for the Eastern Regional Housing Authority. The Selections will be awarded on the basis of the lowest bid, however; delivery date of vehicles must be on or before January 6, 2023 to be considered.

Beginning November 21, 2022, bid documents may be obtained by calling the Eastern Regional Housing Authority, 575-622-0881 or emailing Irene Murillo, rha.irene@dfn.com.

All bids shall be delivered in a sealed envelope. The outside of the envelope shall bear the Name and Address of Dealer and shall identify the name of the project "VEH 11-22-01".

Bid Deadline: December 12, 2022 at 12:00 p.m.
Bid Opening: December 13, 2022 at 1:15 p.m
Via teleconference at: 1-605-313-5800, passcode 1277365#

Following its submission of bid, a bidder will be allowed to withdraw its bid, provided its request to withdraw bid is received by the Authority prior to the time specified for the opening of the bids and further provided that its identity and withdrawal are made known to the bid office and its agents opening the bids, at a time prior to commencement of the bid openings, and the party withdrawing its bid sign for the bid withdrawal. No bid shall be withdrawn after the commencement of opening of the bids.

All bidder objections whatsoever, including objections on any ground to any bid specification or legal requirement imposed by this Invitation for Bid, must set forth with specificity the grounds for the objection and shall be delivered in writing and received by Eastern Regional Housing Authority not later than 4:00 p.m. on the tenth calendar day following the first date of publication of Advertisement for Bids, with timely delivery thereof to the Chief Procurement Officer, Irene Murillo of the Eastern Regional Housing Authority, 106 E. Reed, Roswell, New Mexico 88203, whose mailing address is P.O. Drawer 2057, Roswell New Mexico, 88202

Eastern Regional Housing Authority reserves the right to accept or reject any or all bids for any reason whatsoever; to reject alternative bids and conditional bids; to award the contract to other than the lowest bidder; to waive any irregularities or informalities; to accept the bid it deems most acceptable.

The Procurement Code, Section 13-1-28 NMSA 1978, imposes civil and misdemeanor criminal penalties for its violation. In addition, the New Mexico criminal statutes impose felony penalties for its violation. In addition, the New Mexico criminal statutes impose felony penalties for bribe, gratuities, and kickbacks.

For information contact: Irene Murillo, Deputy Director, 575-622-0881 x 17 or rha.irene@dfn.com

Notice of Sale...

Publish November 20, 27, 2022

ROSWELL SELF STORAGE

NOTICE OF SALE TO SATISFY LIEN
P.O. Box 1268 - 505 E. 19th St.
Roswell, NM 88202-1268. (575) 623-8590

Cody R. Callaway #588
261 S. Murray
Colorado Springs, CO
80916

Michael or Susan
McDonald #1025
749 Robinson Rd.
Canton, MS 39046-4821

Claudia Olivarria #50, 852
or Jessica Cardona
329 E. 6th St.
Roswell, NM 88201

Sara O'Meara #68, 506
1911 S. Richardson Ave.
Roswell, NM 88203

Juan Salmon #938
9581 N. Ambassador Dr.
Kansas City, MO 64154

Josue Solarzano #135
1012 S. Mulberry Ave.
Roswell, NM 88201

John P. Young #769
1420 W. Bonita
Roswell, NM 88201

The above named persons are hereby notified that the goods, wares and merchandise left by them in self storage with Roswell Self Storage will be sold by said company at public auction or other disposition of the property, if not claimed by December 17, 2022. The purpose of the public sale or other disposition of the property is to satisfy the lien of said company for storage of said goods, wares and merchandise, together with incidental and proper charges pertaining thereto, including the reasonable expenses of this sale, all as allowed by laws of the state of New Mexico.

Michael Woods
Roswell Self Storage

Notice to Creditors...

Publish November 6, 13, 20, 2022

STATE OF NEW MEXICO
COUNTY OF CHAVES
IN THE PROBATE COURT

IN THE MATTER OF THE ESTATE
OF BILLY FORREST KEEVER SR., Deceased
PROBATE NO. PB2022138

NOTICE TO CREDITORS

The undersigned has been appointed Personal Representative of the **ESTATE OF BILLY FORREST KEEVER SR.**, Deceased. All persons having claims against this estate are required to present their claims (i) within four (4) months after the date of the first publication of this notice, or (ii) within sixty (60) days after the mailing or delivery of this notice, whichever is later, or be forever barred. Claims must be presented to the undersigned at the address listed below or filed in this cause with the Chaves County, New Mexico Probate Court located at #1 St. Mary's Place, Roswell, NM 88203.

/s/ Roetta G. Keever
ROETTA G. KEEVER
c/o Mark W. Taylor, Esq.
Mark W. Taylor & Associates, P.C.
P.O. Box 898
Roswell, NM 88202-0898
(575) 624-2000
(575) 624-0200 (Facsimile)
mark@marktaylorlawfirm.com

LEGALS

Air Quality Permit Application...

Publish November 20, 2022

NOTICE OF AIR QUALITY PERMIT APPLICATION

Fisher Sand & Gravel, NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the **construction** of its **hot mix asphalt** facility. The expected date of application submittal to the Air Quality Bureau is **November 28, 2022.**

The exact location for the proposed facility known as, **hot mix asphalt plant**, will be at latitude 33 deg, 38 min, 44.0 sec and longitude -104 deg, 34 min, 58.0 sec. The approximate location of this facility is **18.8** miles **north** of **Roswell, NM in Chaves County just west of US Route 285.**

The proposed **construction** consists of a hot mixed asphalt plant including generator engines, bins, bin feeders, conveyors, bin loading, truck loading and hauling, storage piles and screens.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM_{10}	15.9 pph	30.8 tpy
$PM_{2.5}$	3.4 pph	10.3 tpy
Sulfur Dioxide (SO_2)	7.1 pph	8.8 tpy
Nitrogen Oxides (NO_x)	34.2 pph	42.7 tpy
Carbon Monoxide (CO)	14.7 pph	17.7 tpy
Volatile Organic Compounds (VOC)	7.1 pph	4.5 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.8 pph	1.0 tpy
Toxic Air Pollutant (TAP)	3.6 pph	1.2 tpy
Green House Gas Emissions as Total CO_2e	n/a	49,472 tpy

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

Please refer to the company name and site name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location. General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section-home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8373.

Notice of Non-Discrimination
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kathryn Becker, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.

Application HC-80-B...

Publish November 20, 27, December 4, 2022

NOTICE is hereby given that on September 1st, 2022, Steve Powell, 7728 Oxford, Hagerman, NM 88232, and the Hagerman Irrigation Company, PO Box 507, Hagerman, NM 88232 filed with the STATE ENGINEER Application No. HC-80-B; RA-13254-POD-1 Application for Permit to Add an Additional Point of Diversion by Drilling New Shallow Point of Diversion No. RA-13254-POD-1 for OSE File No. HC-80-B within the Roswell Artesian Basin of the State of New Mexico.

Chaves is the County(s) affected by the diversion and in which the water has been or will be put to beneficial use. This notice is ordered to be published in the Roswell Daily Record.

Applicant seeks to Drill Shallow Point of Diversion No. RA-13254-POD-1 for Water Right No. HC-80-B, Adding a Supplemental Groundwater Well while continuing using the Hagerman Canal Surface Water for Irrigation. The locations and POD numbers of the current Authorized Points of Diversion of Hagerman Surface Water are located as following:

CURRENT/ EXISTING POINTS OF DIVERSION:

POD NO.	SUBDIVISION	SECTION	TOWNSHIP	RANGE	SOURCE	UTM X	UTM Y
Surface Points of Diversion (Hagerman Irrigation Company):							
HC-1	NE1/4 &	31	10S.	25E.	Rio Hondo	552252	3696372
	SE1/4	8	11S.	25E.	S. Spring River	553904	3692313
Groundwater Points of Diversion (Hagerman Irrigation Company):							
RA-360	NE1/4NE1/4	35	10S.	24E.	Artesian	548968	3696645
RA-361	NE1/4SW1/4NE1/4	18	13S.	26E.	Artesian	558120	3672864
RA-362, RA-363 & RA 366-Comb	NE1/NE1/4	35	10S.	24E.	Shallow	548968	3696645
RA-364	SW1/4NW1/4NE1/4	16	11S.	25E.	Artesian	555235	3691615
RA-3992	SW1/4SW1/4SW1/4	35	11S.	25E.	Shallow	557790	3685501
RA-3993	SW1/4SE1/4SE1/4	22	11S.	25E.	Shallow	557307	3688767
RA-3994	NE1/4NE1/4NW1/4	16	11S.	25E.	Shallow	555024	3691833
RA-4383	NW1/4SW1/4SE1/4	7	13S.	26E.	Shallow	557914	3673666
RA-5022-X-7	SE1/4SE1/4	6	13S.	26E.	Artesian	558402	3675180
RA-5022-X-9	NE1/4NE1/4	7	14S.	26E.	Artesian	558500	3665102
RA-5022-X-10	NE1/4NE1/4	31	12S.	26E.	Artesian	558364	3678024
RA-5560	SE1/4SW1/4SE1/4	31	12S.	26E.	Artesian	558072	3676720
RA-5022-POD-12	NE1/4SE1/4SW1/4	6	14S.	26E.	Artesian	557789	3665601
RA-5022-POD-13	SE1/4SW1/4SE1/4	6	13S.	26E.	Artesian	558099	3675088

PROPOSED POINT OF DIVERSION:

POD NO.	SUBDIVISION	SECTION	TOWNSHIP	RANGE	SOURCE	UTM X	UTM Y
RA-13254-POD-1	NW1/4NW1/4SW1/4	15	14S.	26E.	Shallow	561968	3662897

For the Continued Diversion of 27.0 acre-feet per annum for Irrigation use as follows:

SUBDIVISION	SECTION	TOWNSHIP	RANGE	ACRES
Pt. of SE1/4NW1/4 East of Railroad	15	14 S.	26 E.	7.0

OSE File No. HC-80-B is currently Authorized for Surface Hagerman Canal water only. The Place of Use of Water Right No. HC-80-B and Proposed POD No. RA-13254-POD-1 are located approximately 0.5 miles south of the intersection of Morgan Rd and Wichita Rd., approximately 0.5 miles SW of the town of Hagerman, in Chaves County, New Mexico.

To view the application and supporting documentation contact the State Engineer District Office to arrange a date and time for an appointment located at District II 1900 West Second Street, Roswell, NM 88201.

Any person, firm or corporation or other entity having standing to file objections or protests shall do so in writing (objection must be legible, signed, and include the writer's complete name, phone number, email address, and mailing address). If the protest does not include the complete name, phone number, email address, and mailing address, it may be deemed invalid and not accepted for filing unless Protestant provides with the protest an affidavit stating that it does not have one of the above-listed elements/requirements (phone number, mailing address, email address, etc.). The objection to the approval of the application must be based on: (1) Impairment; if impairment, you must specifically identify your water rights; and/or (2) Public Welfare/Conservation of Water; if public welfare or conservation of water within the state of New Mexico, you must show how you will be substantially and specifically affected. The written protest must be filed, in triplicate, with the State Engineer, District II, 1900 West Second Street, Roswell, NM 88201, on or before Friday, January 13th, 2023. Facsimiles (faxes) will be accepted as a valid protest if the hard copy is hand-delivered or mailed and postmarked within 24-hours of the facsimile. Mailing postmark will be used to validate the 24-hour period. Protests can be faxed to the Office of the State Engineer, 575-623-8859. A copy of the written protest filed with the State Engineer must also be sent to the applicant by certified mail. If no valid protest or objection is filed, the State Engineer will evaluate the application in accordance with the provisions of Chapter 72 NMSA 1978.

LEGALS

Bid# COA-22-0013...

Publish November 20, 2022

ADVERTISEMENT FOR BIDS

Sealed bids will be received by the City of Artesia at City Hall, 511 W. Texas Ave., Artesia , New Mexico 88210 for the Project listed below no later than 11:00 AM, December 08, 2022 at which time the public opening and reading of bids received will begin. The tabulation of bids will be considered by the City of Artesia at its next regular City Council meeting following the opening of bids, or at a later meeting, whichever is in the best interest of the City of Artesia. To obtain a link, at no charge, for the project plans, specifications and contract documents, please contact Angelica Castañeda at Smith Engineering Co., Roswell, NM, Email: Angelicac@smithengineering.pro, or Tel: 575-622-8866, during business hours of 7:00AM-5:00PM, Monday through Thursday, and 7:00AM-11:00AM Friday. Bidder's attention is directed to the fact that a bid bond, performance/payment bonds, wage rate requirements (as stipulated by New Mexico Procurement Code), and the "Subcontractors Fair Practices Act" will be applicable in responding to this bid invitation and in effect for this project.

There **WILL NOT** be a mandatory pre-bid meeting held for this project.

NAME OF PROJECT:
CITY OF ARTESIA STORAGE POND LINING AND SLUDGE DISPOSAL
BID# COA-22-0013

GENERAL DESCRIPTION AND LOCATION OF PROJECT:
Lining of a 2-acre reuse storage pond at the City of Artesia's Wastewater Treatment Plant. Work includes sludge and riprap removal, earthwork, and lining of an existing effluent storage pond with 60-mil textured HDPE liner. Other improvements include pond access road improvements, new multi-level outlet structure, and inlet piping replacement.

Name and Address of Contracting Agency:
City of Artesia
511 W. Texas Ave.
Artesia , New Mexico 88210
(575) 748-8290
Attn: Gabby Cronopulos

Name and Address of Engineer:
Smith Engineering Company
2201 San Pedro Dr. NE Building 4, Suite 200
Albuquerque, New Mexico 87110
505 - 884-0700
Attn: Nancy Peay, P.E.

This project is wholly or partially funded by the City of Artesia.

All qualified bidders will receive consideration without regard to race, color, religion, sex, or national origin. Bidders on this work will be required to comply with the President's Executive Order No. 11246, as amended.

LEGALS

Change of Name...

Publish November 20, 27, 2022

STATE OF NEW MEXICO COUNTY OF CHAVES FIFTH JUDICIAL DISTRICT

IN THE MATTER OF THE PETITION FOR NAME CHANGE OF Alejandra Villa

No. D-504-CV-2022-669

NOTICE OF CHANGE OF NAME

NOTICE IS GIVEN as required by NMSA 1978 §40-8-1 to §40-8-3 that the Petition for Name Change of the Petitioner Alejandra Villa shall come before the Honorable Jared G. Kallunki, District Judge of the Fifth Judicial District, Chaves County, New Mexico at the Chaves County Courthouse, 400 North Virginia Avenue, Roswell, New Mexico 88201 at 9:00 a.m. on the 9th day of January, 2023, where the Petitioner will request the entry of an order changing their name from Alejandra Villa to Alejandra Trejo.

STACY L. MORA
CLERK OF THE DISTRICT COURT

/s/ Sonia Solano
Deputy Clerk

Submitted by:
/s/ Alejandra Villa
PO Box 4306
Roswell, NM 88202
(775) 357-2387

GARAGE SALES

002 Northeast

PECANS $8 lb (shelled)
Holiday Baking Time!
575-626-2103

003 East

ESTATE SALE
One day only. Cash only.
2109 E. 2nd St, Roswell
Sun 20th, 8am-3pm

EMPLOYMENT OPPORTUNITIES

045 Employment Opportunities

IS NOW HIRING ALL POSITIONS
Apply in person or our website. 1208 N. Main St. in Roswell, NM

IS NOW HIRING all postions. Apply in person M-F between the hours of 2-4pm. 1113 N. Main St. in Roswell, NM

045 Employment Opportunities

IS NOW HIRING all positions. Apply in person M-F between the hours of 2-4pm. 1315 N. Main St. in Roswell, NM

A RARE opening has come about at a local pest control company that has been in business for over 50 years!! We are accepting applications for a full-time termite control technician position. Apply in person at 1206 W. Hobbs.

FAMILY RESOURCE & Referral is looking to hire quality individuals for our After School Care Program. Applicants must be at least 18 years old, self-motivated, and enjoy working and playing with school age children. Hours are Monday-Friday from school dismissal until 5:30 p.m. Apply at 118 E 4th Street. EOE.

OPPORTUNITIES ARE available for child care providers who are committed to providing quality care to children 6 weeks to 5 years of age. Hours are 6:30 am to 6:30 pm, Monday-Friday. Experience is preferred but not required. Apply at Family Resource & Referral, Inc. EOE

HOUSEKEEPER POSITIONS available. Must be able to work in USA legally Please call 575-653-4617

MAINTENENCE & **GROUNDSKEEPER** available. Must be able to work in USA legally Please call 575-653-4617

SMALL OFFICE hiring a part-time receptionist & an independent living specialist. No experience needed, all training provided. Apply in person at 1717 W. 2nd St. Suite 115.

ROSWELL MEDICO is now hiring a full time Certified Medical Assistant. please email resume to roswellmedico@yahoo.com or drop resume off at 1621 N Washington Ave.

NEW POSITION in Roswell for Physical Therapist Bilingual & Experience Preferred. Please call (858) 776-7472

Section 10

Written Description of the Routine Operations of the Facility

---

A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

The HMA Plant will produce asphalt concrete by mixing aggregate and asphalt cement. The facility will be a drum mix asphalt plant which dries the aggregate in a drum dryer/mixer, then heated liquid asphalt cement is added to create asphalt concrete. This process is a continuous mixing type process, using proportioning cold feed controls for the process materials. Aggregate, which has been proportioned by size gradations, is introduced to the drum at the burner end. As the drum rotates, the aggregates, as well as the combustion products, move toward the other end of the drum. Liquid asphalt cement will be controlled by a variable flow pump that is linked to the aggregate weigh scales. The asphalt cement is introduced in the drum in a lower temperature zone. The mixture is discharged at the end of the drum and is conveyed to hot mix storage silos, where it is loaded into transport trucks. The exhaust gases also exit the drum dryer/mixer and pass on to the dust collection system.

Fugitive dust generated during processing will be controlled by the inherent moisture content of the material and water spray bars. The equipment at the HMA Plant will be powered by diesel-fired generators. The generator engines will only operate at full capacity for the initial start-up of the plant. Once the plant equipment is running, the generator engines will be operated at approximately 30% capacity. Maximum capacity for normal operation was used for the emissions estimates; however, in reality, annual emissions are much lower.

Plant operating hours will include operating during any 24-hour period throughout the year. The annual asphalt production limit will be 200,000 tons per year.

Section 11
Source Determination

Source submitting under 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC

Sources applying for a construction permit, PSD permit, or operating permit shall evaluate surrounding and/or associated sources (including those sources directly connected to this source for business reasons) and complete this section. Responses to the following questions shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance, which may be found on the Applications Page in the Permitting Section of the Air Quality Bureau website.

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes. Submission of your analysis of these factors in support of the responses below is optional, unless requested by NMED.

A. Identify the emission sources evaluated in this section (list and describe)**:**
HMA Plant. See Form UA2 for a list of equipment.

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

☒ **Yes** ☐ **No**

Common Ownership or Control: Surrounding or associated sources are under common ownership or control as this source.

☒ **Yes** ☐ **No**

Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source.

☒ **Yes** ☐ **No**

C. Make a determination:

☒ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "**YES**" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "**NO**" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A
PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☒ **a minor PSD source before and after this modification (if so, delete C and D below).**
- ☐ **a major PSD source before this modification. This modification will make this a PSD minor source.**
- ☐ **an existing PSD Major Source that has never had a major modification requiring a BACT analysis.**
- ☐ **an existing PSD Major Source that has had a major modification requiring a BACT analysis**
- ☐ **a new PSD Major Source after this modification.**

B. **This facility is not one of the listed 20.2.74.501 Table I – PSD Source Categories. The "project" emissions for this application are not significant as they are below PSD significant emission rates listed in Table 2 of 20.2.74.502 NMAC. The "project" emissions listed below only result from equipment and processes described in this permit application. This project is being completed to permit the HMA Plant under a NSR permit. This project does not result in "de-bottlenecking", or other associated emissions resulting in higher emissions as are currently permitted. The project emissions for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:**

a. **NOx: 42.7 TPY**
b. **CO: 17.7 TPY**
c. **VOC: 4.5 TPY**
d. **SOx: 8.8 TPY**
e. **PM: 30.8 TPY**
f. **PM10: 30.8 TPY**
g. **PM2.5: 10.3 TPY**
h. **Fluorides: 0.0 TPY**
i. **Lead: 0.0 TPY**
j. **Sulfur compounds (listed in Table 2): 0.0 TPY**
k. **GHG: 49,472 TPY**

C. **Netting is not required (project is not significant).**

D. **BACT** is **not required for this application as it is for a minor source permit.**

E. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table 1 – PSD Source Categories), determine whether any permit modifications are related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered.

Not applicable as this is site is not an existing PSD major source and does not have emissions greater than 250 TPY.

Section 13

Determination of State & Federal Air Quality Regulations

This section lists each state and federal air quality regulation that may apply to your facility and/or equipment that are stationary sources of regulated air pollutants.

Not all state and federal air quality regulations are included in this list. Go to the Code of Federal Regulations (CFR) or to the Air Quality Bureau's regulation page to see the full set of air quality regulations.

Required Information for Specific Equipment:
For regulations that apply to specific source types, in the 'Justification' column **provide any information needed to determine if the regulation does or does not apply**. **For example**, to determine if emissions standards at 40 CFR 60, Subpart IIII apply to your three identical stationary engines, we need to know the construction date as defined in that regulation; the manufacturer date; the date of reconstruction or modification, if any; if they are or are not fire pump engines; if they are or are not emergency engines as defined in that regulation; their site ratings; and the cylinder displacement.

Required Information for Regulations that Apply to the Entire Facility:
See instructions in the 'Justification' column for the information that is needed to determine if an 'Entire Facility' type of regulation applies (e.g. 20.2.70 or 20.2.73 NMAC).

Regulatory Citations for Regulations That Do Not, but Could Apply:
If there is a state or federal air quality regulation that does not apply, but you have a piece of equipment in a source category for which a regulation has been promulgated, you must **provide the low level regulatory citation showing why your piece of equipment is not subject to or exempt from the regulation. For example** if you have a stationary internal combustion engine that is not subject to 40 CFR 63, Subpart ZZZZ because it is an existing 2 stroke lean burn stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, your citation would be 40 CFR 63.6590(b)(3)(i). **We don't want a discussion of every non-applicable regulation, but if it is possible a regulation could apply, explain why it does not. For example,** if your facility is a power plant, you do not need to include a citation to show that 40 CFR 60, Subpart OOO does not apply to your non-existent rock crusher.

Regulatory Citations for Emission Standards:
For each unit that is subject to an emission standard in a source specific regulation, such as 40 CFR 60, Subpart OOO or 40 CFR 63, Subpart HH, include the low level regulatory citation of that emission standard. Emission standards can be numerical emission limits, work practice standards, or other requirements such as maintenance. **Here are examples:** a glycol dehydrator is subject to the general standards at 63.764C(1)(i) through (iii); an engine is subject to 63.6601, Tables 2a and 2b; a crusher is subject to 60.672(b), Table 3 and all transfer points are subject to 60.672(e)(1)

Federally Enforceable Conditions:
All federal regulations are federally enforceable. All Air Quality Bureau State regulations are federally enforceable except for the following: affirmative defense portions at 20.2.7.6.B, 20.2.7.110(B)(15), 20.2.7.11 through 20.2.7.113, 20.2.7.115, and 20.2.7.116; 20.2.37; 20.2.42; 20.2.43; 20.2.62; 20.2.63; 20.2.86; 20.2.89; and 20.2.90 NMAC. Federally enforceable means that EPA can enforce the regulation as well as the Air Quality Bureau and federally enforceable regulations can count toward determining a facility's potential to emit (PTE) for the Title V, PSD, and nonattainment permit regulations.

INCLUDE ANY OTHER INFORMATION NEEDED TO COMPLETE AN APPLICABILITY DETERMINATION OR THAT IS RELEVENT TO YOUR FACILITY'S NOTICE OF INTENT OR PERMIT.

EPA Applicability Determination Index for 40 CFR 60, 61, 63, etc: http://cfpub.epa.gov/adi/

To save paper and to standardize the application format, delete this sentence, and begin your submittal for this attachment on this page.

Example of a Table for State Regulations:

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.1 NMAC	General Provisions	Yes	Facility	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	If subject, this would normally apply to the entire facility. 20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC The TSP NM ambient air quality standard was repealed by the EIB effective November 30, 2018.
20.2.7 NMAC	Excess Emissions	Yes	Facility	If subject, this would normally apply to the entire facility. If your entire facility or individual pieces of equipment are subject to emissions limits in a permit or numerical emissions standards in a federal or state regulation, this applies. This would not apply to Notices of Intent since these are not permits.
20.2.23 NMAC	Fugitive Dust Control	No for permitted facilities, possible for NOIs	Facility	This regulation may apply if, this is an application for a notice of intent (NOI) per 20.2.73 NMAC, if the activity or facility is a fugitive dust source listed at 20.2.23.108.A NMAC, **and** if the activity or facility is located in an area subject to a mitigation plan pursuant to 40 CFR 51.930. As of January 2019, the only areas of the State subject to a mitigation plan per 40 CFR 51.930 are in Doña Ana and Luna Counties. Sources exempt from 20.2.23 NMAC are activities and facilities subject to a permit issued pursuant to the NM Air Quality Control Act, the Mining Act, or the Surface Mining Act (20.2.23.108.B NMAC. **20.2.23.108 APPLICABILITY:** **A.** This part shall apply to persons owning or operating the following fugitive dust sources in areas requiring a mitigation plan in accordance with 40 CFR Part 51.930: **(1)** disturbed surface areas or inactive disturbed surface areas, or a combination thereof, encompassing an area equal to or greater than one acre; **(2)** any commercial or industrial bulk material processing, handling, transport or storage operations. **B.** The following fugitive dust sources are exempt from this part: **(1)** agricultural facilities, as defined in this part; **(2)** roadways, as defined in this part; **(3)** operations issued permits pursuant to the state of New Mexico Air Quality Control Act, Mining Act or Surface Mining Act; and **(4)** lands used for state or federal military activities. [20.2.23.108 NMAC - N, 01/01/2019]
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No		**This regulation does not apply to internal combustion equipment such as engines. It only applies to external combustion equipment such as heaters or boilers.** **Choose all that apply:** This facility does not have any gas burning equipment **(external combustion emission sources, such as gas fired boilers and heaters)** having a heat input of greater than 1,000,000 million British Thermal Units per year per unit
20.2.34 NMAC	Oil Burning Equipment: NO_2	Yes	Unit No. 7	**This regulation does not apply to internal combustion equipment such as engines. It only applies to external combustion equipment such as heaters or boilers.** This facility has oil burning equipment **(external combustion emission sources, such as oil fired boilers and heaters)** having a heat input of greater than 1,000,000 million British Thermal Units per year per unit.

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No		This regulation could apply to existing (prior to July 1, 1974) or new (on or after July 1, 1974) natural gas processing plants that use a Sulfur Recovery Unit to reduce sulfur emissions. **This facility is not a natural gas processing plant.**
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	N/A	N/A	**These regulations were repealed by the Environmental Improvement Board. If you had equipment subject to 20.2.37 NMAC before the repeal, your combustion emission sources are now subject to 20.2.61 NMAC.**
20.2.38 NMAC	Hydrocarbon Storage Facility	No		This regulation could apply to storage tanks at petroleum production facilities, processing facilities, tanks batteries, or hydrocarbon storage facilities. This facility is not a petroleum production or processing facility or a tanks battery, or hydrocarbon storage facility.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No		This regulation could apply to sulfur recovery plants that are not part of petroleum or natural gas processing facilities. N/A to this facility.
20.2.50 NMAC	Oil and Gas Sector – Ozone Precursor Pollutants	No		This regulation establishes emission standards for volatile organic compounds (VOC) and oxides of nitrogen (NOx) for oil and gas production, processing, compression, and transmission sources. 20.2.50 NMAC subparts: 113 – Engines and Turbines 114 – Compressor Seals 115 – Control Devices and Closed Vent Systems 116 – Equipment Leaks and Fugitive Emissions 117 – Natural Gas Well Liquid Unloading 118 – Glycol Dehydrators 119 – Heaters 120 – Hydrocarbon Liquid Transfers 121 – Pig Launching and Receiving 122 – Pneumatic Controllers and Pumps 123 – Storage Vessels 124 – Well Workovers 125 – Small Business Facilities 126 – Produced Water Management Units 127 – Flowback Vessels and Preproduction Operations This facility is not an oil and gas facility.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	Unit Nos. 1-8	This regulation that limits opacity to 20% applies to Stationary Combustion Equipment, such as engines, boilers, heaters, and flares unless your equipment is subject to another state regulation that limits particulate matter such as 20.2.19 NMAC (see 20.2.61.109 NMAC). **If equipment at your facility was subject to the repealed regulation 20.2.37 NMAC it is now subject to 20.2.61 NMAC.**
20.2.70 NMAC	Operating Permits	No	Facility	If subject, this would normally apply to the entire facility. Applies if your facility's potential to emit (PTE) is 100 tpy or more of any regulated air pollutant other than HAPs; and/or a HAPs PTE of 10 tpy or more for a single HAP or 25 or more tpy for combined HAPs; is subject to a 20.2.79 NMAC nonattainment permit; or is a facility subject to a federal regulation that requires you to obtain a Title V permit such as landfills or air curtain incinerators. This facility is not a major source of any pollutants.
20.2.71 NMAC	Operating Permit Fees	No	Facility	If subject to 20.2.70 NMAC and your permit includes numerical ton per year emission limits, you are subject to 20.2.71 NMAC and normally applies to the entire facility.
20.2.72 NMAC	Construction Permits	Yes	Facility	If subject, this would normally apply to the entire facility. Could apply if your facility's potential emission rate (PER) is greater than 10 pph or greater than 25 tpy for any pollutant subject to a state or federal ambient air quality standard (does not include VOCs or HAPs); if the PER of lead is 5 tpy or more; if

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
				your facility is subject to 20.2.72.400 NMAC; or if you have equipment subject to 40 CFR 60 Subparts I and OOO, 40 CFR 61 Subparts C and D. Include both stack and fugitive emissions to determine PER.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	If subject, this would normally apply to the entire facility. **A Notice of Intent application 20.2.73.200 NMAC** could apply if your facility's PER of any regulated air pollutant, including VOCs and HAPs, is 10 tpy or more or if you have lead emissions of 1 tpy or more. Include both fugitive and stack emissions to determine your PER. You could be required to submit **Emissions Inventory Reporting per** 20.2.73.300 NMAC if your facility is subject to 20.2.73.200, 20.2.72, or emits more than 1 ton of lead or 10 tons of PM10, PM2.5, SOx, NOx CO, or VOCs in any calendar year. All facilities that are a Title V Major Source as defined at 20.2.70.7.R NMAC, are subject to Emissions Inventory Reporting.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	Facility	If subject, this would normally apply to the entire facility. **If you are an existing PSD major source you are subject to the applicability determination requirements at 20.2.74.200 NMAC to determine if you are subject to a PSD permit, before commencing actual construction of any modifications at your facility.** Complete the applicability determination in Section 12 of the application. If you are constructing a new PSD major source or are proposing a major modification to an existing PSD major source, you must obtain a PSD permit. Minor NSR Exemptions at 20.2.72.200 NMAC nor Title V Insignificant Activities do not apply to the PSD permit regulation. **This facility is a minor source under PSD and TV regulations.**
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	If subject, this would apply to the entire facility. It is not necessary to include each low level regulatory citation for this regulation. This regulation applies if you are submitting an application pursuant to 20.2.72, 20.2.73, 20.2.74, and/or 20.2.79 NMAC. If this is a 20.2.73 NMAC application it is subject to the filing fee at 20.2.75.10 NMAC. If this is a 20.2.72, 20.2.74, and/or 20.2.79 NMAC application it is subject to 20.2.75.10, 11 permit fee, and 11.E annual fees. You are not subject to the 75.11.E annual fees if you are subject to 20.2.71 NMAC.
20.2.77 NMAC	New Source Performance	Yes	Units subject to 40 CFR 60	This is a stationary source which is subject to the requirements of 40 CFR Part 60.
20.2.78 NMAC	Emission Standards for HAPS	No	Units Subject to 40 CFR 61	Not applicable because no part of 40 CFR Chapter 61 is applicable to the site.
20.2.79 NMAC	Permits – Nonattainment Areas	No	Facility	If subject, this would normally apply to the entire facility. **If you are an existing nonattainment major source pursuant to 20.2.79.7.V NMAC you are subject to the applicability determination requirements at 20.2.79.109 NMAC to determine if you are subject to a nonattainment permit, before commencing actual construction of any modifications at your facility.** If you are constructing a new nonattainment major source or are proposing a major modification to an existing nonattainment major source, you must obtain a nonattainment permit. Not applicable, the facility is not located in a nonattainment area.

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.80 NMAC	Stack Heights	No	Facility	Usually not applicable for TV If applies: Cited as applicable in NSR Permit XXX.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	Units Subject to 40 CFR 63	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63.

Example of a Table for Applicable Federal Regulations (Note: This is not an exhaustive list):

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 50	NAAQS	Yes	Facility	If subject, this would normally apply to the entire facility. This applies if you are subject to 20.2.70, 20.2.72, 20.2.74, and/or 20.2.79 NMAC.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	Units subject to 40 CFR 60	Applies if any other Subpart in 40 CFR 60 applies.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for **Electric Utility Steam Generating Units**	No	Facility	Facility does not operate electric utility steam generating units.
NSPS 40 CFR60.40b Subpart Db	**Electric Utility Steam Generating Units**	No	Facility	Facility does not operate electric utility steam generating units.
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No	Facility	Facility does not operate any steam generating units
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for **Storage Vessels for Petroleum Liquids** for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and **Prior** to July 23, 1984	No	Facility	There are no tanks with storage capacity greater than 151,416 liters (40,000 gallons) at this site.
NSPS 40 CFR 60,	Standards of Performance for	No	Facility	This facility has does not have any storage vessels with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL)

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
Subpart Kb	**Volatile Organic Liquid Storage Vessels** (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced **After** July 23, 1984			for which construction, reconstruction, or modification is commenced after July 23, 1984. **Note: This regulation has several exceptions.**
NSPS 40 CFR 60.330 Subpart GG	**Stationary Gas Turbines**	No		This site does not operate any stationary gas turbines
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from **Onshore Gas Plants**	No		The facility is not a gas plant.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for **Onshore Natural Gas Processing**: SO_2 Emissions	No		The facility is not a natural gas processing plant.
NSPS 40 CFR Part 60 Subpart OOO	Standards of Performance for Nonmetallic Mineral Processing Plants	Yes	Unit Nos. 1, 9-20	This regulation is applicable to nonmetallic mineral processing plants, including each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills located at HMA facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart. Fisher will comply with any applicable requirements of Subpart OOO.
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015	No		This site is not an Oil & Gas facility.
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced **After**	No		This site is not an Oil & Gas facility.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
	September 18, 2015			
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	Yes	Unit No. 3	Unit No. 3 (diesel powered Caterpillar Generator Engine manufactured in 2014) must comply with the requirements of Subpart IIII. All other engines onsite are not required to comply with the requirements of Subpart IIII as the engines were manufactured prior to April 1, 2006.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	No		There are no natural gas powered engines at this facility.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No		There are no electric generating units per Subpart TTTT onsite.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No		There are no electric utility units onsite.
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No		This facility is not a MSW.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	Units Subject to 40 CFR 61	No other NESHAP apply to this site.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for **Mercury**	No		There are no sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge.
NESHAP 40 CFR 61 Subpart V	National Emission Standards for **Equipment Leaks** (Fugitive Emission Sources)	No		The site does not have any equipment in VHAP service (≥10% VHAP).
MACT 40 CFR 63, Subpart A	General Provisions	Yes	Units Subject to 40 CFR 63	Applies if any other Subpart in 40 CFR 63 applies.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
MACT 40 CFR 63.760 Subpart HH	**Oil and Natural Gas Production Facilities**	No		This site is not an oil and/or natural gas production facility.
MACT 40 CFR 63 Subpart HHH		No		This site does not operate natural gas transmission and storage facilities.
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No		This site is not a major source of HAP emissions; therefore, this regulation does not apply.
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	No		There are no electric generating units onsite.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (**RICE MACT**)	Yes	Unit Nos. 3 - 6	Facilities are subject to this subpart if they own or operate a stationary RICE. The engines will comply with the applicable requirements of 40 CFR 63, Subpart ZZZZ, as applicable.
40 CFR 64	**Compliance Assurance Monitoring**	No		**Applies only to Title V Major Sources** This is not a Title V major source site.
40 CFR 68	**Chemical Accident Prevention**	No		This facility does not have more than a threshold quantity of a regulated substance subject to this regulation.
Title IV – Acid Rain 40 CFR 72	**Acid Rain**	No		This site does not meet the applicability requirements of 40 CFR 72.6.
Title IV – Acid Rain 40 CFR 73	**Sulfur Dioxide** Allowance Emissions	No		This site does not meet the applicability requirements of 40 CFR 73.2.
Title IV-Acid Rain 40 CFR 75	**Continuous Emissions Monitoring**	No		Does not apply as this site does not generates commercial electric power or electric power for sale.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
Title IV – Acid Rain 40 CFR 76	**Acid Rain** Nitrogen Oxides **Emission Reduction Program**	No		This site does not meet the applicability requirements of 40 CFR 76.1, it does not include any coal-fired utility units.
Title VI – 40 CFR 82	Protection of **Stratospheric Ozone**	No		Not Applicable –facility does not "service", "maintain" or "repair" class I or class II appliances nor "disposes" of the appliances. Note: Disposal definition in 82.152: Disposal means the process leading to and including: (1) The discharge, deposit, dumping or placing of any discarded appliance into or on any land or water; (2) The disassembly of any appliance for discharge, deposit, dumping or placing of its discarded component parts into or on any land or water; or (3) The disassembly of any appliance for reuse of its component parts. "Major maintenance, service, or repair means" any maintenance, service, or repair that involves the removal of any or all of the following appliance components: compressor, condenser, evaporator, or auxiliary heat exchange coil; or any maintenance, service, or repair that involves uncovering an opening of more than four (4) square inches of "flow area" for more than 15 minutes.

Section 14

Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

☐ **Title V Sources** (20.2.70 NMAC)**:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies** defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☒ **NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown** defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☒ **Title V** (20.2.70 NMAC)**, NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.

Fisher Sand & Gravel NM Inc. will maintain the plans listed above, as applicable.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Alternative Operating Scenarios: Provide all information required by the department to define alternative operating scenarios. This includes process, material and product changes; facility emissions information; air pollution control equipment requirements; any applicable requirements; monitoring, recordkeeping, and reporting requirements; and compliance certification requirements. Please ensure applicable Tables in this application are clearly marked to show alternative operating scenario.

Construction Scenarios: When a permit is modified authorizing new construction to an existing facility, NMED includes a condition to clearly address which permit condition(s) (from the previous permit and the new permit) govern during the interval between the date of issuance of the modification permit and the completion of construction of the modification(s). There are many possible variables that need to be addressed such as: Is simultaneous operation of the old and new units permitted and, if so for example, for how long and under what restraints? In general, these types of requirements will be addressed in Section A100 of the permit, but additional requirements may be added elsewhere. Look in A100 of our NSR and/or TV permit template for sample language dealing with these requirements. Find these permit templates at: https://www.env.nm.gov/aqb/permit/aqb_pol.html. Compliance with standards must be maintained during construction, which should not usually be a problem unless simultaneous operation of old and new equipment is requested.

In this section, under the bolded title "Construction Scenarios", specify any information necessary to write these conditions, such as: conservative-realistic estimated time for completion of construction of the various units, whether simultaneous operation of old and new units is being requested (and, if so, modeled), whether the old units will be removed or decommissioned, any PSD ramifications, any temporary limits requested during phased construction, whether any increase in emissions is being requested as SSM emissions or will instead be handled as a separate Construction Scenario (with corresponding emission limits and conditions, etc.

Fisher Sand & Gravel, NM Inc. is proposing the possibility to move the plant within the plant site, as long as the determined minimum setback from the fence line is kept. Fisher would like to be able to use the proposed plant in this application at the proposed plant site or at any relocation site.

Air dispersion modeling and generic relocation air dispersion modeling has been performed for the proposed HMA plant and are included in Form UA4. Emission calculations and tables are included in Form UA2 and Section 6 of this application.

In addition, Fisher Sand & Gravel, NM Inc. would like to propose and be able to use the following alternative operating scenarios:

- Be allowed to replace the generator engines with like kind engines, a smaller engine, or a combination of two smaller engines without having to go through a minor or significant permit revision process as long as the maximum engine capacity is the same or lower and as long as total combustion emissions are the same or lower as presented in this application.

- Be allowed to replace screens, conveyors, and other operational equipment with like kind replacements with the same or lessor capacities as presented in this application.

Section 16

Air Dispersion Modeling

1) Minor Source Construction (20.2.72 NMAC) and Prevention of Significant Deterioration (PSD) (20.2.74 NMAC) ambient impact analysis (modeling): Provide an ambient impact analysis as required at 20.2.72.203.A(4) and/or 20.2.74.303 NMAC and as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines found on the Planning Section's modeling website. If air dispersion modeling has been waived for one or more pollutants, attach the AQB Modeling Section modeling waiver approval documentation.
2) SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions during routine or predictable startup, shutdown, or maintenance (SSM) using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.
3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. **Note:** Neither modeling nor a modeling waiver is required for VOC emissions.	X
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	
Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)	X
Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements.	
Other: i.e. SSM modeling. See #2 above.	
This application does not require modeling since this is a No Permit Required (NPR) application.	
This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC).	
This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling Guidelines.	

Check each box that applies:

☐ See attached, approved modeling **waiver for all** pollutants from the facility.
☐ See attached, approved modeling **waiver for some** pollutants from the facility.
☒ Attached in Universal Application Form 4 (UA4) is a **modeling report for all** pollutants from the facility.
☐ Attached in UA4 is a **modeling report for some** pollutants from the facility.
☐ No modeling is required.

Universal Application 4

Air Dispersion Modeling Report

Refer to and complete Section 16 of the Universal Application form (UA3) to assist your determination as to whether modeling is required. If, after filling out Section 16, you are still unsure if modeling is required, e-mail the completed Section 16 to the AQB Modeling Manager for assistance in making this determination. If modeling is required, a modeling protocol would be submitted and approved prior to an application submittal. The protocol should be emailed to the modeling manager. A protocol is recommended but optional for minor sources and is required for new PSD sources or PSD major modifications. Fill out and submit this portion of the Universal Application form (UA4), the "Air Dispersion Modeling Report", only if air dispersion modeling is required for this application submittal. This serves as your modeling report submittal and should contain all the information needed to describe the modeling. No other modeling report or modeling protocol should be submitted with this permit application.

16-A: Identification

1	Name of facility:	HMA Plant
2	Name of company:	Fisher Sand & Gravel NM, Inc.
3	Current Permit number:	N/A, initial permit application
4	Name of applicant's modeler:	Martin R. Schluep, Alliant Environmental, LLC
5	Phone number of modeler:	(505) 205-4819
6	E-mail of modeler:	mschluep@alliantenv.com

16-B: Brief

1	Was a modeling protocol submitted and approved?	Yes☒	No☐
2	Why is the modeling being done?	New Facility	
3	Describe the permit changes relevant to the modeling.		
	N/A		
4	What geodetic datum was used in the modeling?	NAD83	
5	How long will the facility be at this location?	One year or less	
6	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes☐	No☒
7	Identify the Air Quality Control Region (AQCR) in which the facility is located	155	

8	List the PSD baseline dates for this region (minor or major, as appropriate).			
	NO2	3/16/1988		
	SO2	7/28/1978		
	PM10	2/20/1979		
	PM2.5	11/13/2013		
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).			
	The closest Class I area is the Salt Creek Wilderness Area, approximately 16km from the facility.			
10	Is the facility located in a non-attainment area? If so describe below		Yes☐	No☒
11	Describe any special modeling requirements, such as streamline permit requirements.			
	N/A			

16-C: Modeling History of Facility

Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQS), and PSD increments modeled. (Do not include modeling waivers).

1	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO			No modeling history, this is an initial application.
	NO_2			
	SO_2			
	H_2S			
	PM2.5			
	PM10			
	Lead			
	Ozone (PSD only)			
	NM Toxic Air Pollutants (20.2.72.402 NMAC)			

16-D: Modeling performed for this application

For each pollutant, indicate the modeling performed and submitted with this application.
Choose the most complicated modeling applicable for that pollutant, i.e., culpability analysis assumes ROI and cumulative analysis were also performed.

1	Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.
	CO	☒	☐	☐	☐	☐
	NO_2	☒	☒	☐	☐	☐
	SO_2	☒	☒	☐	☐	☐
	H_2S	☐	☐	☐	☐	☒
	PM2.5	☒	☒	☐	☐	☐

	PM10	☒	☒	☐	☐	☐
	Lead	☐	☐	☐	☐	☒
	Ozone	☐	☐	☐	☐	☒
	State air toxic(s) (20.2.72.402 NMAC)	☐	☐	☐	☐	☒

16-E: New Mexico toxic air pollutants modeling

1 List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application.
Asphalt Fumes

2 List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required. N/A

Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/ Correction Factor

16-F: Modeling options

1	Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes☒	No☐

16-G: Surrounding source modeling

1	Date of surrounding source retrieval	November 2022

2 If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, describe how the sources modeled differ from the inventory provided. If changes to the surrounding source inventory were made, use the table below to describe them. Add rows as needed.

AQB Source ID	Description of Corrections
1	None

16-H: Building and structure downwash

1	How many buildings are present at the facility?	No buildings or other downwash structures will be located at this facility.	
2	How many above ground storage tanks are present at the facility?	Six small totes/tanks.	
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes☐	No☒
	There will be no buildings or structures large enough to create downwash at this facility.		

4	Building comments	

16-I: Receptors and modeled property boundary

1	"Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility. Describe the fence or other physical barrier at the facility that defines the restricted area.		
	The property is fenced and the terrain is very rugged and not accessible to the public.		
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?	Yes☐	No☒
3	Are restricted area boundary coordinates included in the modeling files?	Yes☒	No☐

4 Describe the receptor grids and their spacing. The table below may be used, adding rows as needed.

Grid Type	Shape	Spacing	Start distance from restricted area or center of facility	End distance from restricted area or center of facility	Comments
Fine	Property Outline	100m	0m	1000m	
Medium	Property Outline	250m	1000m	2500m	
Coarse	Property Outline	500m	2500m	5000m	

5	Describe receptor spacing along the fence line. Receptors are placed every 25 to 50 meters along the fence line.
6	Describe the PSD Class I area receptors. PSD Class I area receptor for the Salt Creek Wilderness Area was obtained from the NMED MergeMaster database.

16-J: Sensitive areas

1	Are there schools or hospitals or other sensitive areas near the facility? If so describe below. This information is optional (and purposely undefined) but may help determine issues related to public notice.	Yes☐	No☒
3	The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application?	Yes☐	No☒

16-K: Modeling Scenarios

1	Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3).		
	The maximum short term emission rates in pounds per hour (lb/hr) for all emission sources were modeled without any factors (limiting hours, days etc.). This is the worst case modeling scenario for the facility.		
2	Which scenario produces the highest concentrations? Why?		
	See above.		
3	Were emission factor sets used to limit emission rates or hours of operation? (This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.)	Yes☐	No☒
4	If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.) Sources:		

5

Hour of Day	Factor	Hour of Day	Factor								
1		13									
2		14									
3		15									
4		16									
5		17									
6		18									
7		19									
8		20									
9		21									
10		22									
11		23									
12		24									

If hourly, variable emission rates were used that were not described above, describe them below.

6	Were different emission rates used for short-term and annual modeling? If so describe below.	Yes☐	No☒

16-L: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply.	
	☒	ARM2
	☐	100% NO_X to NO_2 conversion

	☐	PVMRM
	☐	OLM
	☐	Other:
2	Describe the NO_2 modeling.	
	ARM2 was used to convert from NO_X to NO_2.	
3	Were default NO_2/NO_X ratios (0.5 minimum, 0.9 maximum or equilibrium) used? If not describe and justify the ratios used below.	Yes☒ No☐
4	Describe the design value used for each averaging period modeled.	
	1-hour: High eighth high Annual: Highest Annual Average of Three Years	

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.	
	☐	PM2.5
	☐	PM10
	☒	None
2	Describe the particle size distributions used. Include the source of information.	
	N/A	
3	Does the facility emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2? Sources that emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2 are considered to emit significant amounts of precursors and must account for secondary formation of PM2.5.	Yes☐ No☒
4	Was secondary PM modeled for PM2.5?	Yes☐ No☒

5	If MERPs were used to account for secondary PM2.5 fill out the information below. If another method was used describe below.			
	NO_X (ton/yr)	SO_2 (ton/yr)	$[PM2.5]_{annual}$	$[PM2.5]_{24\text{-}hour}$

16-N: Setback Distances

1	Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location.
	No relocation or setback distances are requested for this specific location.

	Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling.
2	Relocation modeling was performed to establish setbacks for this HMA plant. The Bloomfield meteorological data, as provided on NMED's website, was used and where applicable, background concentrations from the Sunland Park monitor was added to the model. The 1-hour NO2 setback distance is the most stringent at **888 meters**.

16-O: PSD Increment and Source IDs

1	The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match? If not, provide a cross-reference table between unit numbers if they do not match below.	Yes☒	No☐

Unit Number in UA-2	Unit Number in Modeling Files
Unit No. 1 and 2 are the same stack	

2	The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match? If not, explain why below.	Yes☒	No☐
3	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?	Yes☐	No☒

4 Which units consume increment for which pollutants?

N/A, minor source baseline not yet established.

Unit ID	NO_2	SO_2	PM10	PM2.5
2			X	
14 (HAUL 1-11)			X	

5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).	

6	Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling. If not please explain how increment consumption status is determined for the missing installation dates below.	Yes☒	No☐

16-P: Flare Modeling

1 For each flare or flaring scenario, complete the following: N/A, there is no flare at this facility

Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)

16-Q: Volume and Related Sources

1	Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines? If not please explain how increment consumption status is determined for the missing installation dates below.	Yes☐	No☒
	N/A		
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources.		
	All volume sources for the HMA plant (screens, conveyors/drop points) included in the model were based on AQB's modeling guidance, including haul roads. **Sample calculations of Sigma Z_o and Sigma Y_o:** Screen Sigma Z_o: Crusher or Screen Height / 2.15 = 4 m / 2.15 = 1,86 m Screen Sigma Y_o: Crusher or Screen width / 4.3 = 4 m / 4.3 = 0.93 m **Haul Road:** Large Trucks: Truck Height 4 m, Volume Height 6.8 m (per guidance) Sigma Z_o: 3.16 m; Release Height: 3.4 m Road Width = 8.37 m + 6 m = 14.37 m Sigma Y_o: 14.27 m / 2.15 = 6.68 m The number of volume sources for the haul road is 11.		
3	Describe how the volume sources are related to unit numbers. Or say they are the same.		
	They are the same		
4	Describe any open pits.		
	N/A		
5	Describe emission units included in each open pit.		
	N/A		

16-R: Background Concentrations

1	Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used.	Yes☒	No☐
	CO: N/A		
	NO_2: Outside Carlsbad (350151005)		
	PM2.5: Hobbs-Jefferson (350450019)		
	PM10: Hobbs-Jefferson (350250008)		
	SO_2: N/A		
	Other:		

	Comments:	For NO2 modeling, only added surrounding sources, not background. For SO2 modeling, surrounding sources were added according to the modeling guidance for the area.		
2	Were background concentrations refined to monthly or hourly values? If so describe below.		Yes☐	No☒

16-S: Meteorological Data

1	Was NMED provided meteorological data used? If so select the station used. Carlsbad **Dataset used: OS_CARLSBAD2014_2018**	Yes☒	No☐
2	If NMED provided meteorological data was not used describe the data set(s) used below. Discuss how missing data were handled, how stability class was determined, and how the data were processed.		

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.	Yes☒	No☐
2	What was the source of the terrain data?		
	USGS		

16-U: Modeling Files

Describe the modeling files:

File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
HMA Plant_SILs	NO2, CO, SO2, PM10, PM2.5	ROI
HMA Plant_1HR NO2_NAAQS	NO2	Cumulative
HMA Plant_1Hr SO2_NAAQS	SO2	Cumulative
HMA Plant_24Hr_PM2.5_NAAQS	PM2.5	Cumulative
HMA Plant_24Hr_PM2.5_PSD	PM2.5	Cumulative
HMA Plant_24Hr_PM10_NAAQS	PM10	Cumulative
HMA Plant_24Hr_PM10_PSD	PM10	Cumulative
HMA Plant_24Hr_PM10_PSD_Incr_Comsume	PM10	Evaluate which PM10 Sources sonsume PSD increment
HMA Plant_Annual_NO2_PSD	NO2	Cumulative
HMA Plant_Annual_PM2.5_NAAQS	PM2.5	Cumulative
HMA Plant_Annual_PM2.5_PSD	PM10	Cumulative

	HMA Plant_Annual_PM10_PSD	PM10	Cumulative
	HMA Plamt_Annual_SO2_NAAQS	SO2	Cumulative
	HMA Plant_Asphalt Fumes	Asphalt Fumes (TAP)	TAP Analysis
	HMA Plant_Relocation	NO2	Relocation

16-V: PSD New or Major Modification Applications (Not Applicable)

1	A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)?	Yes☐	No☐
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes☐	No☐
3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption.		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC.		
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below.	Yes☐	No☐

16-W: Modeling Results

1	If ambient standards are exceeded because of surrounding sources, a culpability analysis is required for the source to show that the contribution from this source is less than the significance levels for the specific pollutant. Was culpability analysis performed? If so describe below.	Yes☐	No☒
2	Identify the maximum concentrations from the modeling analysis. Rows may be modified, added and removed from the table below as necessary. Also see results tables at the end of the report. All other averaging times and pollutants were below significance levels.		

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
Annual NO2	8.63	N/A	N/A	9.30	17.93	94.02	19.1	538875.5	3723110.9	1170.65
1-hr NO2	138.62 (H1H)	136.50 (H8H)	N/A	Surr. Sources	136.50	188.03	72.6	538903.4	3723070.5	1173.51
24-hr PM2.5	9.94 (H1H)	6.0 (H8H)	0.01	16.5	22.51	35	64.3	538885.1	3723096.9	1171.39
Annual PM2.5	1.88	2.49	0.0004	7.1	9.59	12	79.9	538903.4	3723070.5	1173.51
24-hr PM10	47.47 (H1H)	35.81 (H2H)	N/A	37.3	73.11	150	48.7	539174.7	3722520.4	1159.23
1-hr SO2	29.48 (H1H)	28.59 (H4H)	N/A	N/A	28.59	196.4	14.6	539026.3	3722892.4	1170.42
Annual SO2	1.31	1.32	N/A	N/A	1.32	52.4	2.5	538871.0	3723117.4	1170.43
1-hr CO	89.68	N/A	N/A	N/A	N/A	2000 (SIL)	4.5 (of SIL)	538903.4	3723070.5	1173.5
8-hr CO	57.47	N/A	N/A	N/A	N/A	500 (SIL)	11.9 (of SIL)	539042.9	3722868.4	1168.75
Annual NO2 PSD	N/A	N/A	N/A	N/A	9.44	25	37.8	538875.5	3723110.9	1170.65
24-hr PM2.5 PSD	N/A	N/A	N/A	N/A	7.84	9	87.1	538871.0	3723117.4	1170.4

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
Annual PM2.5 PSD	N/A	N/A	N/A	N/A	1.86	4	46.5	538885.1	3723096.9	1171.39
24-hr PM10 PSD	N/A	N/A	N/A	N/A	29.35	30	97.8	539174.7	3722520.4	1159.23
Annual PM10 PSD	N/A	N/A	N/A	N/A	6.45	17	37.9	539098.7	3722787.6	1164.44
3-hr SO2 PSD	N/A	N/A	N/A	N/A	24.19	512	4.7	538899.2	3723076.5	1173.03
24-hr SO2 PSD	N/A	N/A	N/A	N/A	9.16	91	10.1	539026.3	3722892.4	1170.42
Annual SO2 PSD	N/A	N/A	N/A	N/A	1.31	20	6.6	538871.0	3723117.4	1170.43
Asphalt Fumes (TAP)	10.42	N/A	N/A	N/A	N/A	5000 (OEL)	0.21	539014.9	3722908.8	1171.40

16-X: Summary/conclusions	
1	A statement that modeling requirements have been satisfied and that the permit can be issued.
	Fisher Sand & Gravel NM, Inc. has demonstrated through this air dispersion modeling analysis that the proposed facility neither causse nor contributes to an exceedance of the applicable standards.

Table 16-1: Significant Impacts Level Analyses and ROI's

Units	Criteria Pollutant	Averaging Period	Significance Level (ug/m^3)	NAAQS (ug/m^3)	GLC_{max} (ug/m^3)	GLC_{max} < Significance Level? If Yes, NAAQS is met (ug/m^3)	ROI (m)
Site-wide	NO_2	1-hour	7.5	188.03	138.62	**No**	10,180
Site-wide	NO_2	Annual	1.0	94.02	8.63	**No**	2,282
Site-wide	$PM_{2.5}$	24-hour	1.2	35	9.94	**No**	2,021
Site-wide	$PM_{2.5}$	Annual	0.2	12	1.88	**No**	1,654
Site-wide	PM_{10}	24-hour	5.0	150	47.47	**No**	2,085
Site-wide	CO	1-hour	2000	14,998	89.68	**Yes, no further analysis required**	0
Site-wide	CO	8-hour	500	9,960	59.47	**Yes, no further analysis required**	0
Site-wide	SO_2	1-hour	7.8	196.4	29.48	**No**	2,346
Site-wide	SO_2	Annual	1.0	52.4	1.31	**No**	535

Table 16-2: N/NMAAQS Analyses

Units	Criteria Pollutant	Averaging Period	NAAQS (ug/m^3)	GLC_{max} (ug/m^3)	Background Concentration (ug/m^3)	Secondary $PM_{2.5}$ (ug/m^3)	GLC_{max} incl. Background conc. (ug/m^3)	GLC_{max} incl. Background conc. < NAAQS?	ROI (m)	Percent of Standard (%)
Site-wide	NO_2	1-hour	188.03	136.50	Surrounding Sources	--	136.50	**Yes**	10,180	72.6
Site-wide	NO_2	Annual	94.02	8.63	9.30	--	17.93	**Yes**	2,282	19.1
Site-wide	SO_2	1-hour	196.4	28.59	Surrounding Sources	--	28.59	**Yes**	2,346	14.6
Site-wide	SO_2	Annual	52.4	1.32	Surrounding Sources	--	1.32	**Yes**	535	2.5
Site-wide	$PM_{2.5}$	24-hour	35	6.00	16.50	0.01	22.51	**Yes**	2,021	64.3
Site-wide	$PM_{2.5}$	Annual	12	2.49	7.10	0.0004	9.59	**Yes**	1,654	79.9
Site-wide	PM_{10}	24-hour	150	35.81	37.30	--	73.11	**Yes**	2,085	48.7

Units	TAP	Averaging Period	OEL (ug/m3)	GLC_{max} (ug/m3)	GLC_{max} < OEL?
Hot Mix Plant	Asphalt Fumes	1-hour	5,000	10.42	**Yes**

Note:
1-hour NO_2 GLC_{max} is the high 8th high.
Annual NO_2 GLC_{max} is the high 1st high.
1-hour SO_2 GLC_{max} is the high 4th high.
$PM_{2.5}$: 24-hour modeled concentrations is the high 8th high.
$PM_{2.5}$: Annual modeled concentrations is the high 1st high.
PM_{10}: 24-hour modeled concentrations is the high 2nd high.

Background Concentrations:
Annual NO_2 background concentration added from ID: 5ZR, 350151005 Outside Carlsbad: Holland St., SE of Water Tank, Carlsbad, NM
24-hour and annual $PM_{2.5}$ background concentration added from ID: 5ZS, 350250008: Hobbs-Jefferson: 2320 N. Jefferson St., Hobbs, NM
24-hour PM_{10} background concentration added from ID: 5ZS, 350250008: Hobbs-Jefferson: 2320 N. Jefferson St., Hobbs, NM

Surrounding Sources:
Surrouding Sources, in addition to background concentrations, for PM_{10} and $PM_{2.5}$ were added within 10km of the HMA Plant.
Surrouding Sources for SO_2 were added within 25km of the HMA Plant.
Surrouding Sources for NO_2 were added within 25km of the HMA Plant.
Surrounding source data was provided by NMED.

$PM_{2.5}$ Secondary Formation based on PM2.5 MERPS for AQCR 155:

24-hr = ((NO_x emission rate (tpy) / 7331) + (SO_2 emission rate (tpy) / 1981)) x 1.2 ug/m^3
= ((33.39 tpy NO_x / 7331) + (6.06 tpy SO_2 / 1981) x 1.2 ug/m^3 = **0.01** **ug/m^3**

Annual = ((NO_x emission rate (tpy) / 26780) + (SO_2 emission rate (tpy) / 14978)) x 0.2 ug/m^3
= ((33.39 tpy NO_x / 26780) + (6.06 tpy SO_2 / 14978) x 0.2 ug/m^3 = **0.0004** **ug/m^3**

Table 16-3: PSD Increments Analysis

Units	Criteria Pollutant	Averaging Period	Class I PSD Significance Level (ug/m^3)	Class I PSD Increment Level (ug/m^3)	$GLC_{Class\ I}$ (ug/m^3)	$GLC_{Class\ I}$ < Significance Level? If Yes, PSD Incr. is met	Class II PSD Increment (ug/m^3)	GLC_{max} (HMA plus Surrounding Sources) (ug/m^3)	Secondary $PM_{2.5}$ (ug/m^3)	$GLC_{Class\ I}$ < PSD Class I Increment? (ug/m^3)	GLC_{maxALL} < PSD Class II Increment? (ug/m^3)
Site-wide	NO_2	Annual	0.1	2.5	0.80	No	25.00	9.44	--	**Yes**	**Yes**
Site-wide	$PM_{2.5}$	24-hour	0.27	2.0	0.09	Yes	9	7.84	0.01	**Yes**	**Yes**
Site-wide	$PM_{2.5}$	Annual	0.05	1.0	0.02	Yes	4	1.86	0.0004	**Yes**	**Yes**
Site-wide	PM_{10}	24-hour	0.3	8.0	0.12	Yes	30	29.35	--	**Yes**	**Yes**
Site-wide	PM_{10}	Annual	0.2	4.0	0.02	Yes	17	6.45	--	**Yes**	**Yes**
Site-wide	SO_2	3-hour	1.0	25	0.35	Yes	512	24.19	--	**Yes**	**Yes**
Site-wide	SO_2	24-hour	0.2	5	0.06	Yes	91	9.16	--	**Yes**	**Yes**
Site-wide	SO_2	Annual	0.1	2	0.01	Yes	20	1.31	--	**Yes**	**Yes**

Note:

Annual NO_2 GLC_{max} is the high 1st high.

3-hour SO_2 GLC_{max} is the high 2nd high.

24-hour SO_2 GLC_{max} is the high 2nd high.

Annual SO2 GLCmax is the high 1st high.

$PM_{2.5}$: 24-hour modeled concentrations is the high 2nd high.

$PM_{2.5}$: Annual modeled concentrations is the high 1st high.

PM_{10}: 24-hour modeled concentrations is the high 2nd high.

PM_{10}: Annual modeled concentrations is the high 1st high.

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Compliance Test History Table

Unit No.	Test Description	Test Date
5 (Caterpillar C-9 DITA, 2003)	Tested in accordance with EPA test methods.	9/5/2018

Section 20

Other Relevant Information

Other relevant information. Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

This application includes relocation air dispersion modeling to allow the Plant to relocate according to the modeled set-back distances.

Section 22: Certification

Company Name: Fisher Sand & Gravel NM Inc.

I, Brian Gambrel, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 21st day of November, 2022, upon my oath or affirmation, before a notary of the State of New Mexico.

*Signature

11/21/2022
Date

Brian Gambrel
Printed Name

Project Manager
Title

Scribed and sworn before me on this 21st day of November, 2022

My authorization as a notary of the State of New Mexico expires on the 10th day of September, 2025.

Notary's Signature

11/21/2022
Date

Notary's Printed Name

OFFICIAL SEAL
LADELL MILLER
Notary Public
State of New Mexico
My Comm. Expires 09/10/2025

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.