

**NSR MINOR SOURCE PERMIT #9027R1
REVISION APPLICATION
FOR C&E CONCRETE, INC.
GAMERCO HMA**

Gamerco, New Mexico

PREPARED FOR



Dated February 4, 2026

Prepared by

Montrose Environmental Solutions, Inc.



Mail Application To: 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		For Department use only:
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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: ☐ 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. **46247**: in the amount of **\$500**
- ☒ 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.2 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		Updating
		AI # if known: 39781 Permit/NOI #: 9027R1
1	Facility Name: Gamerco HMA	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): 708 Crystal Avenue, Gamerco, NM 87317	
2	Plant Operator Company Name: C&E Concrete, Inc.	Phone/Fax: (505) 287-2944/(505) 287-7364
a	Plant Operator Address: PO Box 2547, Milan, NM 87021	

b	Plant Operator's New Mexico Corporate ID or Tax ID: 01-804967002		
3	Plant Owner(s) name(s): C&E Concrete, Inc.	Phone/Fax: (505) 287-2944/(505) 287-7364	
a	Plant Owner(s) Mailing Address(s): PO Box 2547, Milan, NM 87021		
4	Bill To (Company): C&E Concrete, Inc.	Phone/Fax: (505) 287-2944/(505) 287-7364	
a	Mailing Address: PO Box 2547, Milan, NM 87021	E-mail: cmeech@ceconcrete.net	
5	☐ Preparer: ☒ Consultant: Paul Wade, Montrose Environmental Solutions, Inc.	Phone/Fax: (505) 830-9680x6/(505) 830-9678	
a	Mailing Address: 9100 2nd Street NW, Suite 200, Albuquerque, NM 87114-1664	E-mail: pwade@montrose-env.com	
6	Plant Operator Contact: Chris Meech	Phone/Fax: (505) 240-1153/(505) 287-7364	
a	Address: PO Box 2547, Milan, NM 87021	E-mail: cmeech@ceconcrete.net	
7	Air Permit Contact: Chris Meech	Title: Vice President	
a	E-mail: cmeech@ceconcrete.net	Phone/Fax: (505) 240-1153/(505) 287-7364	
b	Mailing Address: PO Box 2547, Milan, NM 87021		
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):
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: 9027R1
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: 200 tons	Daily: 3,200 tons	Annually: 500,000 tons
b	Proposed	Hourly: 200 tons	Daily: 2,800 tons	Annually: 500,000 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: 200 tons	Daily: 3,200 tons	Annually: 500,000 tons
b	Proposed	Hourly: 200 tons	Daily: 2,800 tons	Annually: 500,000 tons

Section 1-D: Facility Location Information

1	Latitude (decimal degrees): 35.569427	Longitude (decimal degrees): -108.761042	County: McKinley	Elevation (ft): 6700
2	UTM Zone: ☒ 12 or ☐ 13		Datum: ☒ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 702,900		UTM N (in meters, to nearest 10 meters): 3,938,500	
3	Name and zip code of nearest New Mexico town: Gallup 87317			
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From the intersection of I-40 and Highway 491 in Gallup, NM in McKinley County travel 2.9 miles north on Highway 491 to the entrance of the site on the west side of the highway.			
5	The facility is 4.0 miles north-northwest of Gallup, NM.			
6	Land Status of facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Government ☐ BLM ☐ Forest Service ☐ Military			
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: Gallup, Yah-ta-hey, Navajo Tribe, McKinley County			
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: Arizona - 26 km			
9	Name nearest Class I area: Petrified Forest National Park			
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 95.0 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: 95 meters			
12	Method(s) used to delineate the Restricted Area: Fencing and Gate "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? Concrete Batch Plant-Eagle Ready Mix, GCP-5-3488			

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	($\frac{\text{days}}{\text{week}}$):	($\frac{\text{weeks}}{\text{year}}$):	($\frac{\text{hours}}{\text{year}}$): 7468
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start:		☐ AM ☐ PM	End: ☒ AM ☒ PM
3	Month and year of anticipated start of construction: Existing Facility			
4	Month and year of anticipated construction completion: Upon issue of permit			
5	Month and year of anticipated startup of new or modified facility: Upon issue of permit			
6	Will this facility operate at this site for more than one year? ☒ Yes ☐ No			

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.)
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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):		Phone:
a	R.O. Title:	R.O. e-mail:	
b	R. O. Address:		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC):		Phone:
a	A. R.O. Title:	A. R.O. e-mail:	
b	A. R. O. Address:		
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):		
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.):		
a	Address of Parent Company:		
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.):		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:		
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:		

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 Paul Wade, Email pwade@montrose-env.com Phone number (505) 830-9680 x6.

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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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 #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One				RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #							
1	Aggregate Storage Piles	N/A	N/A	N/A	NA	135 TPH	NA	None	3-05-002-03	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							NA	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
2	Cold Aggregate Feed Bins (4)	Aztec	CMG	78-024	135 TPH	135 TPH	1978	None	3-05-002-16	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
3	Cold Aggregate Bin Feed Conveyor	Aztec	CMG	78-024	135 TPH	135 TPH	1978	C1	3-05-002-17	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
4	Cold Aggregate Conveyor	Aztec	CMG	78-024	135 TPH	135 TPH	1978	C1	3-05-002-17	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
5	Scalping Screen	Aztec	CMG	78-024	135 TPH	135 TPH	1978	C2	3-05-002-04	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
6	Scalping Screen Scale Conveyor	Aztec	CMG	78-024	135 TPH	135 TPH	1978	C1	3-05-002-17	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
7	Pug Mill	Aztec	CMG	78-024	138 TPH	138 TPH	1978	C1	3-05-002-04	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
8	Pug Mill Conveyor	Aztec	CMG	78-024	138 TPH	138 TPH	1978	C1	3-05-002-17	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
9	Slinger Conveyor	Aztec	CMG	78-024	138 TPH	138 TPH	1978	C1	3-05-002-17	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
10	Mineral Filler Silo and Screw Conveyor	Aztec	CMG	78-024	60 ton	Load - 25 tph Unload - 3 tph	1978	C3	3-05-002-13	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	1		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
11	Mineral Filler Silo Baghouse	Aztec	CMG	78-024	CE 99.0%	CE 99.0%	1978	N/A	3-05-002-13	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
12	RAP Storage Pile	N/A	N/A	N/A	NA	50 TPH	NA	None	3-05-002-03	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							NA	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
13	RAP Bin (2)	Aztec	CMG	78-024	50 TPH	50 TPH	1978	None	3-05-002-16	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
14	RAP Bin Conveyor	Aztec	CMG	78-024	50 TPH	50 TPH	1978	C1	3-05-002-17	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			
15	RAP Scalping Screen	Aztec	CMG	78-024	50 TPH	50 TPH	1978	C2	3-05-002-04	☒ Existing (unchanged)	☐ To be Removed	☐ Replacement Unit			
							Dec-21	N/A		☐ New/Additional	☐ To be Replaced	☐ To be Replaced			

Unit Number ¹	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
16	RAP Scalping Screen Conveyor	Aztec	CMG	78-024	50 TPH	50 TPH	1978 Dec-21	C1 N/A	3-05-002-17	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	
17	Drum Mixer	Aztec	CMG	78-024	200 TPH	200 TPH	1978 Dec-21	C4 2	3-05-002-1	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	
18	Drum Mixer Baghouse	Aztec	CMG	78-024	CE 99.88%	CE 99.88%	1978 Dec-21	N/A N/A	3-05-002-1	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	
19a	Asphalt Incline Conveyor	Aztec	TBD	TBD	200 TPH	200 TPH	2025 Feb-26	None N/A	3-05-002-21	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	
20a, 20b, 20c	Asphalt Silos (3)	Aztec	TBD	TBD	300 ton each	200 TPH	2025 Feb-26	None N/A	3-05-002-13	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	
21	Asphalt Heater	Heatec	HC-200	25-375	2.353 MMBtu Input	2.0 MMBtu Output	2025 TBD	None 3	3-05-002-08	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To be Removed ☒ Replacement Unit ☐ To be Replaced	
22	Asphalt Cement Tanks (2)	Aztec / CEI	CMG / 20 HOC SMS	78-024 / 120 6001	20,000/ 20,000 Gallons	20,000/ 20,000 Gallons	1978 Dec-21	None N/A	3-05-002-12	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	
23	Road Traffic	N/A	N/A	N/A	N/A	251 Truck/Day	NA NA	None N/A	3-05-020-11	☐ Existing (unchanged) ☐ New/Additional ☒ To Be Modified	☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	
24	Yard	N/A	N/A	N/A	N/A	200 TPH	NA NA	None N/A	3-05-002-14	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	

Table 2-B: Insignificant Activities¹ (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 <https://www.env.nm.gov/wp-content/uploads/sites/2/2017/10/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.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction ²	For Each Piece of Equipment, Check One		
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction ²			
T3	Burner Fuel Tank	N/A	N/A	20,000 Gallons	20.2.72.202.B.2.a	N/A	☒ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
			N/A	20,000 Gallons	NA	Dec-21	☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
T4	Water Storage Tank	N/A	N/A	10,000 Gallons	NA	N/A	☒ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
			N/A	10,000 Gallons	1.a	Dec-21	☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
T5	Evotherm Tank	N/A	N/A	275 Gallons	NA	N/A	☒ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
			N/A	275 Gallons	1.a	Jan-26	☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
							☐ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
							☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
							☐ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
							☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
							☐ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
							☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
							☐ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
							☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
							☐ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
							☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
							☐ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
							☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
							☐ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
							☐ New/Additional	☐ To Be Replaced	☐ To Be Modified
							☐ Existing (unchanged)	☐ To Be Removed	☐ Replacement Unit
							☐ New/Additional	☐ To Be Replaced	☐ To Be Modified

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.

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.

[illegible]

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

[illegible]

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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		PM ¹		PM10 ¹		PM2.5 ¹		H ₂ S		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	lb/hr	ton/yr
1	-	-	-	-	-	-	-	-	0.89	0.62	0.42	0.29	0.064	0.044	-	-	-	-
2	-	-	-	-	-	-	-	-	0.89	0.62	0.42	0.29	0.064	0.044	-	-	-	-
3	-	-	-	-	-	-	-	-	0.019	0.024	0.0062	0.0078	0.0018	0.0022	-	-	-	-
4	-	-	-	-	-	-	-	-	0.019	0.024	0.0062	0.0078	0.0018	0.0022	-	-	-	-
5	-	-	-	-	-	-	-	-	0.30	0.37	0.10	0.12	0.0068	0.0084	-	-	-	-
6	-	-	-	-	-	-	-	-	0.019	0.024	0.0062	0.0078	0.0018	0.0022	-	-	-	-
7	-	-	-	-	-	-	-	-	0.019	0.024	0.0063	0.0079	0.0018	0.0022	-	-	-	-
8	-	-	-	-	-	-	-	-	0.019	0.024	0.0063	0.0079	0.0018	0.0022	-	-	-	-
9	-	-	-	-	-	-	-	-	0.019	0.024	0.0063	0.0079	0.0018	0.0022	-	-	-	-
10, 11	-	-	-	-	-	-	-	-	0.18	0.027	0.12	0.018	0.018	0.0026	-	-	-	-
12	-	-	-	-	-	-	-	-	0.33	0.23	0.16	0.11	0.024	0.016	-	-	-	-
13	-	-	-	-	-	-	-	-	0.33	0.23	0.16	0.11	0.024	0.016	-	-	-	-
14	-	-	-	-	-	-	-	-	0.0070	0.0088	0.0023	0.0029	0.00065	0.00081	-	-	-	-
15	-	-	-	-	-	-	-	-	0.11	0.14	0.037	0.046	0.0025	0.0031	-	-	-	-
16	-	-	-	-	-	-	-	-	0.0070	0.0088	0.0023	0.0029	0.00065	0.00081	-	-	-	-
17, 18	11.0	13.8	26.0	32.5	6.40	8.00	11.6	14.5	6.60	8.25	4.60	5.75	4.60	5.75	-	-	3.00E-03	3.75E-03
19a	-	-	0.24	0.29	2.44	3.05	-	-	0.12	0.15	0.12	0.15	0.12	0.15	-	-	-	-
20a,20b,20c	-	-	0.27	0.34	0.83	1.04	-	-	0.10	0.13	0.10	0.13	0.10	0.13	-	-	-	-
21	0.39	1.71	0.19	0.84	0.026	0.11	0.13	0.57	0.037	0.16	0.037	0.16	0.037	0.16	-	-	2.10E-04	3.70E-04
22	-	-	-	-	0.023	0.10	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	2.41	2.43	0.61	0.62	0.061	0.062	-	-	-	-
24	-	-	0.070	0.088	0.22	0.28	-	-	-	-	-	-	-	-	-	-	-	-
Totals	11.4	15.5	26.8	34.1	9.94	12.6	11.7	15.1	12.4	13.5	6.92	7.85	5.13	6.40			3.00E-03	3.80E-03

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 standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

All applications for facilities that have emissions during routine or 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 (e.g. 0.41, 1.41, or 1.41E-4).

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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.

[illegible]

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:

[illegible]

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)
						(acfs)	(dscfs)			

Table 2-1: 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.

[illegible]

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
17	Natural Gas	purchased commercial	1,026 Btu/cubic feet	50,000 scf	125 million cubic feet	0.75 grains/100scf	0
	Burner Fuel Oil	purchased commercial	141,000 Btu/Gallon	2603 gallons	6,507,592 gallons	0.5	0
	Propane	purchased commercial	91,500 Btu/Gallon	4011.2 gallons	10,028,000 gallons	0.2 grains/100scf	0
21	Natural Gas	purchased commercial	1,026 Btu/cubic feet	2293 scf	20.09 million cubic feet	0.75 grains/100scf	0
	Propane	purchased commercial	91,500 Btu/Gallon	25.7 gallons	225,265 gallons	0.2 grains/100scf	0
	Diesel Fuel	purchased commercial	128,000 Btu/Gallon	18.4 gallons	161,026 gallons	0.05	0

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.

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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

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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 M³ = 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)
Aggregate	Aggregate	Solid	115 - 165 TPH	Asphalt	Aggregate, RAP, Mineral Filler, Asphalt Cement	Solid	200 TPH
RAP	Recycled Asphalt Products	Solid	20 - 70 TPH				
Mineral Filler	Rock dust, Slag dust, Hydrated lime, Cement, Versabind, and/or Loess	Solid	3 TPH (if used this eliminates Evotherm use)				
Asphalt Cement	Asphalt Cement	Heated Liquid	12 TPH				
Evotherm	Evotherm	Liquid	0.6 TPH (if used this eliminates mineral filler use)				

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.

[illegible]

Table 2-O: Parametric Emissions Measurement Equipment

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

[illegible]

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 processes.

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.

C&E Concrete, Inc. (C&E) is applying for a 20.2.72 NMAC significant revision to Air Quality Permit #9027R1 for the existing 200 TPH hot mix asphalt plant (HMA) operating within the county of McKinley, state of New Mexico. Regulation governing this permit application is 20.2.72.200.A(2) NMAC.

C&E has retained Montrose Air Quality Services (Montrose) to assist with the permit application. The plant is identified as Gamerco HMA and is located at 708 Crystal Avenue, Gamerco, NM 87317. The exact location of the facility known as Gamerco HMA, is 708 Crystal Avenue, Gamerco, NM 87317. The exact location of the Gamerco HMA Plant is at Latitude (decimal degrees): 35.569427 and Longitude (decimal degrees): -108.761042. The approximate location of this site is 4.0 miles north-northwest of Gallup, NM in McKinley County.

C&E Concrete's Gamerco HMA is an existing site that operates a hot mix asphalt plant. The HMA plant will limit hourly processing rate to 200 tph and 500,000 tons per year (tpy). This will not change with this permit revision application. The 200 tph hot mix asphalt plant includes a 4-bin cold aggregate feeder, scalping screen, pug mill, 2-bin RAP feeder, RAP scalping screen, mineral filler silo with baghouse, drum dryer with baghouse, incline conveyor, asphalt silos, asphalt heater, and seven (7) transfer conveyors. The plant is powered by commercial line power. Processed asphalt is transported from the HMA plant to off-site sales. The significant revision consists of; 1) the installation a new higher output asphalt heater, 2) allowing nighttime operations for projects required by the New Mexico Department of Transportation (NMDOT) to be completed during nighttime hours, 3) reduction on maximum daily production from 3200 tons to 2800 tons, 4) revise the regulated property boundaries, and 5) updating facility coordinate information to match as-built conditions. There will be a slight increase in regulated emissions from the new asphalt heater and truck traffic haul road regulated particulate emissions.

The plant operating hours are broken up into three different scenarios: asphalt production, asphalt transport and truck loading, and aggregate delivery and storage pile loading. The daily hours for each process are presented below in Tables 1 through 3. Maximum daily asphalt production and maximum daily modeled hours of operation based on the daily asphalt production rate are presented below in Table 4.

TABLE 3-1: HMA Plant Asphalt Production Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	1	1	1	1	1	1	1	0	0
1:00 AM	0	0	0	1	1	1	1	1	1	1	0	0
2:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
3:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
4:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
5:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
6:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
8:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
9:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
10:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
11:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
Total	11	11	22	24	24	24	24	24	24	24	22	11

TABLE 3-2: HMA Asphalt Truck Traffic and Loading Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
1:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
2:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
3:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
4:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
5:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
6:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
8:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
9:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
10:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
11:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
Total	11	11	24	24	24	24	24	24	24	24	24	11

TABLE 3-3: HMA Aggregate Truck Delivery Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	1	1	1	1	1	0	0	0	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
6:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	11	13	14	14	14	14	14	13	13	13	11

TABLE 3-4: HMA Daily Production Rates and Corresponding Max Hours of Production

Months	Tons Per Day	Hours per Day at Max Hourly Throughput
December - February	2000	10
November, October	2000	10
March, September	2400	12
April - August	2800	14

Nighttime operations will follow the existing permit conditions in Permit 9027R1 Condition A112.C and the guidelines issued by the department "Air Quality Permitting Guidelines for Night Operations of Crushing and Screening Plants, Hot Mix Asphalt Plants, and Concrete Batch Plants" (Ver.08/14/06). Nighttime conditions acceptable to C&E Concrete, Inc. include:

Construction and Operation

The permittee shall install data logger(s) capable of continuously recording differential pressure measured by magnahelic gauges or equivalent differential pressure gauges installed on the Drum Dryer/Mixer Baghouse (Unit 18).

Monitoring

The permittee shall, during nighttime loading of the Mineral Filler Silo (Unit 10), monitor the differential pressure across the Mineral Filler Silo Baghouse (Unit 11) by the use of a differential pressure gauge to ensure it is within the manufacturers or facility determined specified operating range. One reading shall be taken during the silo loading operation.

The permittee shall, during nighttime operation of the plant continuously monitor and record the differential pressure across the Drum Dryer/Mixer Baghouse (Unit 18) by the use of a differential pressure gauge with a data recording system to ensure it is within the manufacturers or facility determined specified operating range.

The permittee shall, during nighttime operating hours, ensure fugitive dust control systems are functioning correctly for Units 3, 4, 5, 6, 7, 8, 9, 14, 15, and 16 per {CONDITION X}.

Recordkeeping

During night operation, the permittee shall record, by the use of a data logger, a continuous record of the differential pressure across Drum Dryer/Mixer Baghouse (Unit 18).

During silo loading of the Mineral Filler Silo (Unit 10), the baghouse (Unit 11) differential pressure shall be recorded once.

RAP (recycled asphalt products) will be included in the asphalt production. The % weight of RAP used in asphalt production will range from 10 to 35%. To determine emission rates input into the model a RAP percentage of 25% was used as the worst-case scenario. This scenario allows for the most material to be processed through the most equipment generating the worst-case emissions.

Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM)

No SSM emissions are predicted for this permit application. All control systems will be operational prior to the start or shutdown of asphalt production. Maintenance will be performed during period with no production.

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.

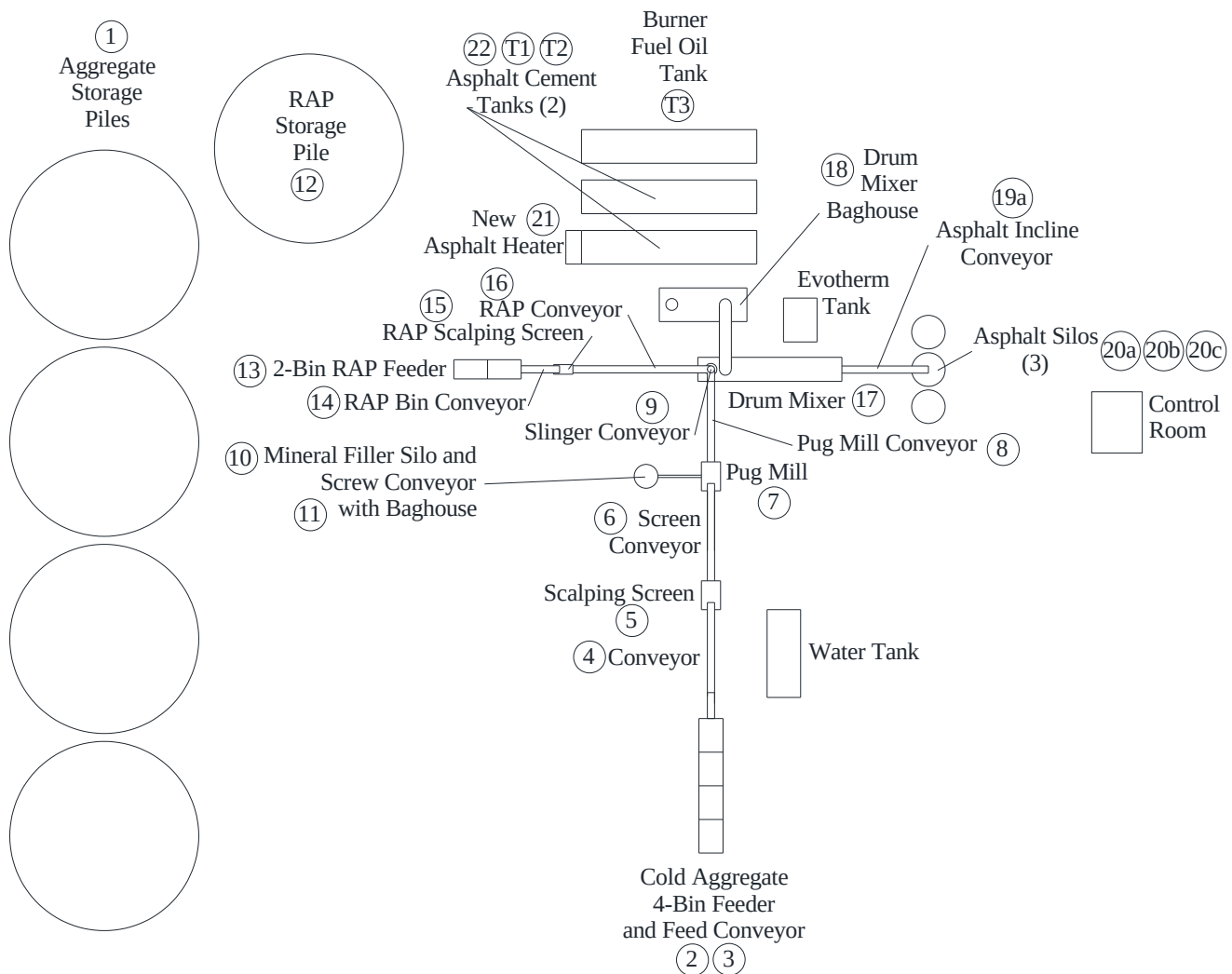


Figure 4-1: Gamerco HMA Plant Layout and Process Flow

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.



Figure 5-1: HMA Plant Site Layout

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.

Pre-Control Particulate Emission Rates

The changes requested for this permit modification include replacing the asphalt heater and increasing the length of the haul truck haul road. For both emission source changes, the pre-controlled emissions are the same as the requested allowable emissions. No other changes in emission calculations are proposed for this permit revision application.

The asphalt heater will have a higher Btu rating, so emissions will increase. The asphalt heater has no emission control equipment and will be allowed to operate 8760 hours per year. Both pre-controlled and requested allowable are the same.

The haul road particulate emissions (Unit 23) will increase with a longer truck route distance. Per Table 105 in Permit 9027R1, the roads are required to be paved with water washing. Per Condition A402.B in Permit 9027R1 the maximum production rate is 200 tons per hour and 500,000 tons per year. Since this requirement will not change in this permit modification, both pre-controlled and requested allowable are the same.

Section 6 will only address the controlled emissions that are summarized in Table 2-E.

Controlled Particulate Emission Rates

No controls or emission reductions for combustion emissions (NO_x, CO, SO₂, or VOC) are proposed for the drum dryer (Unit 17). No controls or emission reductions are proposed from unloading the drum mixer unload (Unit 19a), and asphalt silo unload (Unit 20a,20b,20c) with the exception of limiting annual production rates for production equipment. No controls or emission reductions for the asphalt heater (Unit 21).

Controlled Material Handling (PM_{2.5}, PM₁₀, and PM)

No fugitive dust controls or emission reductions are proposed for the aggregate/RAP storage piles (Units 1, 12) or loading of the cold aggregate/RAP feed bins (Units 2, 13) with the exception of limiting annual production rates.

Fugitive dust control for unloading the cold aggregate feed bins onto the cold aggregate feed bin conveyor (Unit 3) will be controlled, as needed, with enclosures and/or water sprays at the exit of the feed bins. Fugitive dust control for unloading the RAP feed bins onto the RAP feed bin conveyor (Unit 14) will be controlled, as needed, with enclosures and/or water sprays at the exit of the RAP feed bins. It is estimated that these methods will control to an efficiency of 95.3 percent per AP42 Section 11.19.2, Table 11.19.2-2. Additional emission reductions include limiting annual production rates.

Fugitive dust control for loading and unloading the pug mill (Unit 7, 8) will be controlled, as needed, with enclosures and/or water sprays. It is estimated that these methods will control to an efficiency of 95.3 percent per AP42 Section 11.19.2, Table 11.19.2-2. Additional emission reductions include limiting annual production rates.

Fugitive dust control for the scalping screen (Unit 6), and RAP screen (Unit 15) will be controlled, as needed, with enclosures and/or water sprays. It is estimated that these methods will control to an efficiency of 91.2 percent for screening operations per AP42 Section 11.19.2, Table 11.19.2-2. Additional emission reductions include limiting annual production rates.

Fugitive dust control for the conveyor transfer from the scalping screen (Unit 5) unloading to the scalping screen conveyor (Unit 6) and RAP screen (Unit 15) unloading to the RAP transfer conveyor (Unit 16) will be controlled with material moisture content and/or enclosure. Fugitive dust control for the conveyor transfer from the cold aggregate feed bin conveyor (Unit 3) unloading to the cold aggregate conveyor (Unit 4) and pug mill conveyor (Unit 8) transfer to the slinger conveyor (Unit 9) will be controlled with material moisture content and/or enclosure. It is estimated that this method will control to an efficiency of 95.3 percent per AP42 Section 11.19.2, Table 11.19.2-2. Additional emission reductions include limiting annual production rates.

Particulate emissions from loading the mineral filler silo (Unit 10) will be controlled with a baghouse dust collector (Unit 11) on the exhaust vent. This dust collector consists of filter bags and is passive with no fan. It functions only when material is loaded into the silo. The filter bags are cleaned by air pulses at set intervals. Baghouse fines are dumped back into the silo. It is estimated that this method will control to an efficiency of 99 percent or greater based on information from filter bag specifications. Additional emission reductions include limiting annual production rates. To determine missing $PM_{2.5}$ emission factors the ratio of 0.32/0.048 from $PM_{10}/PM_{2.5}$ controlled emission equations found in AP-42 Section 11.12 (06/06), Table 11.12-3 k Factor for "Cement Unloading to Elevated Storage Silo" was used. Hourly loading rate is approximately 25 tons per hour

Particulate emissions from the drum dryer/mixer (Unit 17) will be controlled with a baghouse dust collector (Unit 18) on the exhaust vent. It is estimated that this method will control to an efficiency of 99.88 percent per AP42 Section 11.1, Table 11.1-3 "controlled PM emission factor vs. uncontrolled PM emission factor". Baghouse fines are returned to the drum dryer/mixer via a closed loop system. Additional emission reductions include limiting annual production rates.

To estimate material handling control particulate emissions rates for screening, pug mill and conveyor transfer operations, emission factors were obtained from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Aug. 2004, Section 11.19.2, Table 11.19.2-2.

To estimate material handling pre-control particulate emission rates for aggregate handling operations (aggregate storage piles/RAP storage piles/cold aggregate loading feed bins/RAP feed bins), an emission equation was obtained from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition, Section 13.2.4 (11/2004), where the k ($PM = 0.74$, $PM_{10} = 0.35$, $PM_{2.5} = 0.053$), wind speed for determining the maximum hourly emission rate is the NMED default of 11 MPH, for determining annual emission rate is based on the average wind speed for Gallup for the years of 2001 through 2011 of 7.0 mph, and the NMED default moisture content of 2 percent.

The asphalt will contain approximately 1.5% mineral filler. Control particulate emissions rates for mineral filler silo loading was obtained from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition, Section 11.12 (06/06), Table 11.12-2 uncontrolled "Cement Unloading to Elevated Storage Silo" and a control efficiency of 99% for the baghouse. To determine missing $PM_{2.5}$ emission factors the ratio of 0.32/0.048 from $PM_{10}/PM_{2.5}$ controlled emission equations found in AP-42 Section 11.12 (06/06), Table 11.12-3 k Factor for "Cement Unloading to Elevated Storage Silo" was used.

Maximum hourly asphalt production is 200 tons per hours. Virgin aggregate/ RAP/Mineral filler/Asphalt cement ratios used in estimating material handling particulate emission rates is equal to 67.5/25.0/1.5/6.0. These ratios are estimates and ratios may change with mix requirements, these are not requested permit conditions. Annual emissions in tons per year (tpy) were calculated assuming an annual production throughput of 500,000 tons of asphalt per year.

Aggregate Storage Piles and Feed Bin Loading Emission Equation:**Maximum Hour Emission Factor**

$$E \text{ (lbs/ton)} = k \times 0.0032 \times (U/5)^{1.3} / (M/2)^{1.4}$$

$$E_{PM} \text{ (lbs/ton)} = 0.74 \times 0.0032 \times (11/5)^{1.3} / (2/2)^{1.4}$$

$$E_{PM10} \text{ (lbs/ton)} = 0.35 \times 0.0032 \times (11/5)^{1.3} / (2/2)^{1.4}$$

$$E_{PM2.5} \text{ (lbs/ton)} = 0.053 \times 0.0032 \times (11/5)^{1.3} / (2/2)^{1.4}$$

$$E_{PM} \text{ (lbs/ton)} = 0.00660 \text{ lbs/ton};$$

$$E_{PM10} \text{ (lbs/ton)} = 0.00312 \text{ lbs/ton}$$

$$E_{PM2.5} \text{ (lbs/ton)} = 0.00047 \text{ lbs/ton}$$

Aggregate Storage Piles and Feed Bin Loading Emission Equation:**Annual Emission Factor**

$$E \text{ (lbs/ton)} = k \times 0.0032 \times (U/5)^{1.3} / (M/2)^{1.4}$$

$$E_{PM} \text{ (lbs/ton)} = 0.74 \times 0.0032 \times (7.0/5)^{1.3} / (2/2)^{1.4}$$

$$E_{PM10} \text{ (lbs/ton)} = 0.35 \times 0.0032 \times (7.0/5)^{1.3} / (2/2)^{1.4}$$

$$E_{PM2.5} \text{ (lbs/ton)} = 0.053 \times 0.0032 \times (7.0/5)^{1.3} / (2/2)^{1.4}$$

$$E_{PM} \text{ (lbs/ton)} = 0.00367 \text{ lbs/ton};$$

$$E_{PM10} \text{ (lbs/ton)} = 0.00173 \text{ lbs/ton}$$

$$E_{PM2.5} \text{ (lbs/ton)} = 0.00026 \text{ lbs/ton}$$

AP-42 Emission Factors:

Feed Bin Unloading = Controlled Conveyor Transfer Point Emission Factor

Screen = Controlled Screening Emission Factor

Transfer Conveyor = Controlled Conveyor Transfer Point Emission Factor

Scalping Screen Conveyor = Controlled Conveyor Transfer Point Emission Factor

Pug Mill = Controlled Conveyor Transfer Point Emission Factor

Pug Mill Conveyor = Controlled Conveyor Transfer Point Emission Factor

Material Handling Emission Factors:

Process Unit	PM Emission Factor (lbs/ton)	PM ₁₀ Emission Factor (lbs/ton)	PM _{2.5} Emission Factor (lbs/ton)
Feed Bin Unloading	0.00014	0.00005	0.000013
Controlled Screening	0.00220	0.00074	0.00005
Controlled Transfer Conveyor	0.00014	0.00005	0.000013
Controlled Screen Unloading and Pug Mill Loading and Unloading	0.00014	0.00005	0.000013
Uncontrolled Aggregate Storage Piles, Cold Aggregate Feeder Loading Max Hourly	0.00660	0.00312	0.00047
Uncontrolled Aggregate Storage Piles, Cold Aggregate Feeder Loading Annual	0.00367	0.00173	0.00026

AP-42 Section 11.12 Table 11.12-2 Uncontrolled Emission Factors with 99% Control Efficiency:

Process Unit	PM Emission Factor (lbs/ton)	PM ₁₀ Emission Factor (lbs/ton)	PM _{2.5} Emission Factor (lbs/ton)
Mineral Filler Silo Loading	0.0073	0.0047	0.00007

The following equation was used to calculate the hourly emission rate for each process unit:

$$\text{Emission Rate (lbs/hour)} = \text{Process Rate (tons/hour)} * \text{Emission Factor (lbs/ton)}$$

The following equation was used to calculate the annual emission rate for each process unit:

$$\text{Emission Rate (tons/year)} = \frac{\text{Emission Factor (lbs/ton)} * \text{Annual Throughput (tons/year)}}{2000 \text{ lbs/ton}}$$

Table 6-4 summarizes the controlled emission rates for material handling.

Table 6-4 Controlled Material Handling Emission Rates

Unit #	Process Unit Description	Process Rate (tph)	PM Emission Rate (lbs/hr)	PM Emission Rate (tons/yr)	PM ₁₀ Emission Rate (lbs/hr)	PM ₁₀ Emission Rate (tons/yr)	PM _{2.5} Emission Rate (lbs/hr)	PM _{2.5} Emission Rate (tons/yr)
1	Aggregate Pile Handling	135	0.89	0.62	0.42	0.29	0.064	0.044
2	Aggregate Bin Loading	135	0.89	0.62	0.42	0.29	0.064	0.044
3	Bin Unloading	135	0.019	0.024	0.0062	0.0078	0.0018	0.0022
4	Conveyor to Conveyor TP	135	0.019	0.024	0.0062	0.0078	0.0018	0.0022
5	Scalping Screen	135	0.30	0.37	0.10	0.12	0.0068	0.0084
6	Scalping Screen Unloading	135	0.019	0.024	0.0062	0.0078	0.0018	0.0022
7	Pug Mill Load	138	0.019	0.024	0.0063	0.0079	0.0018	0.0022
8	Pug Mill Unload	138	0.019	0.024	0.0063	0.0079	0.0018	0.0022
9	Conveyor to Slinger Conveyor	138	0.019	0.024	0.0063	0.0079	0.0018	0.0022
10	Mineral Filler Silo	25 Max Hr 7,500 tpy Annual	0.18	0.027	0.12	0.018	0.018	0.0026
12	RAP Pile Handling	50	0.33	0.23	0.16	0.11	0.024	0.016
13	RAP Bin Loading	50	0.33	0.23	0.16	0.11	0.024	0.016
14	RAP Bin Unloading	50	0.0070	0.0088	0.0023	0.0029	0.00065	0.00081

Unit #	Process Unit Description	Process Rate (tph)	PM Emission Rate (lbs/hr)	PM Emission Rate (tons/yr)	PM ₁₀ Emission Rate (lbs/hr)	PM ₁₀ Emission Rate (tons/yr)	PM _{2.5} Emission Rate (lbs/hr)	PM _{2.5} Emission Rate (tons/yr)
15	RAP Scalping Screen	50	0.11	0.14	0.037	0.046	0.0025	0.0031
16	RAP Scalping Screen Unloading	50	0.0070	0.0088	0.0023	0.0029	0.00065	0.00081
TOTALS			3.16	2.39	1.45	1.04	0.21	0.15

HMA Haul Truck Travel

Haul truck travel emissions were estimated using AP-42, Section 13.2.2 (ver.11/06) "Unpaved Roads" emission equation. The haul road is unpaved that will be controlled with pavement and water washing. Haul road traffic emission rates controlled by pavement and water washing have applied a control efficiency of 95%. See Figure 5-1 for identification of haul road. Table 6-17 summarizes the emission rate for each haul truck category.

Unpaved Roads Plant HMA

AP-42, Section 13.2.2 (ver.11/06) "Unpaved Roads"

$$E = k * (s/12)^a * (W/3)^b * [(365 - p)/365] * VMT$$

Where k = constant PM_{2.5} = 0.15
 PM₁₀ = 1.5
 PM = 4.9

s = % silt content (Table 13.2.2-1, "Sand and Gravel" 4.8%)

W = mean vehicle weight (28.8 tons – 17.5 tons truck, 22.5 tons load)

p = number of days with at least 0.01 in of precip. (70 days)

a = Constant PM_{2.5} = 0.9
 PM₁₀ = 0.9
 PM = 0.7

b = Constant PM_{2.5} = 0.45
 PM₁₀ = 0.45
 PM = 0.45

Vehicle Dust Control 95%

Trucks per Hour

Mineral Fill Trucks = 0.13 truck per hour average
 Asphalt Cement Trucks = 0.53 truck per hour average
 Asphalt Trucks = 8.9 truck per hour average
 RAP Trucks = 7.0 truck per hour average

Trucks per Year (Controlled)

Mineral Fill Trucks = 333 truck per year
 Asphalt Cement Trucks = 1,333 truck per year
 Asphalt Trucks = 22,222 truck per year
 RAP Trucks = 20,889 truck per year

VMT = Vehicle Miles Traveled

Mineral Fill Trucks Unpaved – 0.377235 miles per vehicle
 Asphalt Cement Trucks Unpaved – 0.377235 miles per vehicle
 Aggregate Trucks Unpaved – 0.377235 miles per vehicle
 RAP Trucks Unpaved – 0.377235 miles per vehicle

Miles Traveled

HMA Plant

Unpaved – 6.7567 miles per hour; 16,892 miles per year

Reduction in emissions due to precipitation was only accounted for in the annual emission rate. Particulate emission rate per vehicle mile traveled for each particle size category is:

Hourly Emission Rate Factor – 95% Control

PM = 0.35669 lbs/VMT

PM₁₀ = 0.09091 lbs/VMTPM_{2.5} = 0.00909 lbs/VMT**Annual Emission Rate Factor – 95% Control**

PM = 0.28828 lbs/VMT

PM₁₀ = 0.07347 lbs/VMTPM_{2.5} = 0.00735 lbs/VMT**Table 6-17: Controlled Haul Road Fugitive Dust Emission Rates**

Process Unit Description	Process Rate	PM Emission Rate (lbs/hr)	PM Emission Rate (tons/yr)	PM ₁₀ Emission Rate (lbs/hr)	PM ₁₀ Emission Rate (tons/yr)	PM _{2.5} Emission Rate (lbs/hr)	PM _{2.5} Emission Rate (tons/yr)
Mineral Filler Truck Emissions	0.05030 miles/hr; 126 miles/yr	0.018	0.018	0.0046	0.0046	0.00046	0.00046
Asphalt Cement Truck Emissions	0.20119 miles/hr; 503 miles/yr	0.072	0.073	0.018	0.018	0.0018	0.0018
Asphalt Truck Emissions Paved	3.35320 miles/hr; 8,383 miles/yr	1.20	1.21	0.30	0.31	0.030	0.031
Aggregate/RAP Truck Emissions	3.15201 miles/hr; 7,880 miles/yr	1.12	1.14	0.29	0.29	0.029	0.029
	Total	2.41	2.43	0.61	0.62	0.061	0.062

Drum Mix Hot Mix Asphalt Plant

Particulate emissions from the drum dryer/mixer (Unit 17) will be controlled with a baghouse dust collector (Unit 18) on the exhaust vent. This dust collector consists of filter bags and a fan that draws all the drum mixer exhaust through the dust collector. It is estimated that this method will control to an efficiency of 99.88 percent per AP42 Section 11.1, Table 11.1-3. Additional emission reductions include limiting annual production rates. No fugitive controls are proposed for unloading the drum dryer/mixer or asphalt silos (Units 19a, 20a, 20b, 20c) with the exception of limiting annual production rates. No fugitive controls are proposed for yard emissions (Unit 24) or asphalt storage tank (Unit 22) emissions.

Drum mix hot mix asphalt plant controlled emissions were estimated using AP-42, Section 11.1 "Hot Mix Asphalt Plants" (revised 03/04), tables 11.1-3, -4, -7, -8 and -14 emission rates for all pollutants. The drum dryer is permitted to combust either burner fuel oil or natural gas/propane. The worst-case emission factor from either combusting burner fuel oil or natural gas/propane was used to estimate emission rates. Hourly emission rates are based on maximum hourly asphalt production (200 tph) and annual emission rates are based on maximum annual asphalt production (500,000 tpy). PM (PM, PM₁₀, PM_{2.5}) emission rates were estimated using the controlled Total PM emission factor found in Table 11.1-3, Fabric Filter. PM₁₀ and PM_{2.5} emission rates were estimated using the controlled Total PM₁₀ emission factor found in Table 11.1-3, Fabric Filter. Drum dryer/mixer unloading and silo filling emission factors were calculated using the default value of -0.5 for asphalt volatility and a tank temperature setting of 325° F for HMA mix temperature. Yard emissions were found in AP-42 Section 11.1.2.5. TOC emission equation is 0.0011 lbs/ton of asphalt produced and CO is equal to the TOC emission rate times 0.32. Percent sulfur content of the burner fuel will not exceed 0.5 percent.

Emissions of VOCs (TOCs) from the asphalt cement storage tank (Unit 22) were determined with EPA's TANK 4.0.9d program and the procedures found in EPA's "Emission Factor Documentation for AP-42 Section 11.1 (12/2000) Section 4.4.5" for input to the TANK program.

Table 6-6 summarizes the uncontrolled emission rates for the HMA drum mixer.

AP-42 Section 11.1 Table 11.1-3, 7, 8, and 14 Controlled Emission Factors:

Process Unit	Pollutant	Emission Factor (lbs/ton)
Asphalt Drum	NO _x	0.055
	CO	0.13
	VOC	0.032
	SO ₂	0.058
	PM	0.033
	PM ₁₀	0.023
	PM _{2.5}	0.023
Drum Unloading (Silo Filling)	CO	0.001179981
	TOC	0.012186685
	PM	0.000585889
	PM ₁₀	0.000585889
	PM _{2.5}	0.000585889
Plant load-out (Silo Unload)	CO	0.001349240
	TOC	0.004158948
	PM	0.000521937
	PM ₁₀	0.000521937
	PM _{2.5}	0.000521937
Yard	CO	0.000352000
	TOC	0.001100000

The following equation was used to calculate the hourly emission rate for each process unit:

$$\text{Emission Rate (lbs/hour)} = \text{Process Rate (tons/hour)} * \text{Emission Factor (lbs/ton)}$$

The following equation was used to calculate the annual emission rate for each process unit:

$$\text{Emission Rate (tons/year)} = \frac{\text{Emission Factor (lbs/ton)} * \text{Annual Throughput (tons/yr)}}{2000 \text{ lbs/ton}}$$

Table 6-6: Controlled Hot Mix Plant Emission Rates

Process Unit Number	Process Unit Description	Pollutant	Average Hourly Process Rate (tons/hour)	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
17, 18	Asphalt Drum Dryer and Baghouse	NO _x	200	11.00	13.75
		CO	200	26.00	32.50
		SO ₂	200	11.60	14.50
		VOC	200	6.40	8.00
		PM	200	6.60	8.25
		PM ₁₀	200	4.60	5.75
		PM _{2.5}	200	4.60	5.75
19a	Drum Mixer Unloading	CO	200	0.24	0.29
		TOC	200	2.44	3.05
		PM	200	0.12	0.15
		PM ₁₀	200	0.12	0.15
		PM _{2.5}	200	0.12	0.15
20a,20b,20c	Asphalt Silo Unloading	CO	200	0.27	0.34
		TOC	200	0.83	1.04
		PM	200	0.10	0.13
		PM ₁₀	200	0.10	0.13
		PM _{2.5}	200	0.10	0.13
22	Asphalt Cement Storage Tanks	TOC	200	0.023	0.099
24	YARD	CO	200	0.070	0.088
		TOC	200	0.22	0.28

Diesel-Fired or Natural Gas/Propane Asphalt Heater

One distillate diesel fuel or natural gas/propane asphalt heater (Unit 21) heats the asphalt oil before it is mixed with the aggregate in the drum dryer/mixer. The unit is rated at 2,352,941 Btu/hr input or 2293.3 scf per hour natural gas (1026 Btu/scf). The estimated hourly diesel fuel usage for the heater is approximately 18.4 gallons per hour (128,000 Btu/gal) or propane fuel usage for the heater is approximately 25.7 gallons per hour (91,500 Btu/gal). Review of the emission factors to determine which fuel combusted will produce the highest emission rate was performed. Emissions of nitrogen oxides (NO_x) are estimated using AP-42 Section 1.4 "Natural Gas Combustion" (rev 7/98). Emissions of sulfur dioxide (SO₂) and particulate (PM) are estimated using AP-42 Section 1.3 "External Combustion Sources" (rev 9/98). Emissions of carbon monoxides (CO), and hydrocarbons (VOC) are estimated using AP-42 Section 1.5 "Liquefied Petroleum Gas Combustion" (rev 7/08). Sulfur content of the diesel fuel is not to exceed 0.05% fuel content. No controls are proposed for the fuel asphalt heater. Uncontrolled annual emissions in tons per year (tpy) were calculated assuming operation of 8760 hours per year. Controlled annual emissions in tons per year (tpy) were calculated assuming operation of 8760 hours per year. Table 6-8 summarizes the controlled emission rates for the asphalt heater.

AP-42 Emission Factors: Section 1.4

Natural Gas Emission Factors

Pollutant	Emission Factor
Nitrogen Oxides	170 lbs/mmscf
Carbon Monoxides	24 lbs/mmscf
Particulate	7.6 lbs/mmscf
Hydrocarbons	11 lbs/mmscf
Sulfur Dioxides	0.75 grains/100 scf

S = % Fuel Sulfur Content = 0.05%

AP-42 Emission Factors: Section 1.3

Diesel Emission Factors

Pollutant	Emission Factor
Nitrogen Oxides	0.02 lbs/gal-hr
Carbon Monoxides	0.005 lbs/gal-hr
Particulate	0.002 lbs/gal-hr
Hydrocarbons	0.00034 lbs/gal-hr
Sulfur Dioxides	0.142S lbs/gal-hr

S = % Fuel Sulfur Content = 0.05%

AP-42 Emission Factors: Section 1.5

Propane Emission Factors

Pollutant	Emission Factor
Nitrogen Oxides	0.013 lbs/gal-hr
Carbon Monoxides	0.0075 lbs/gal-hr
Particulate	0.0007 lbs/gal-hr
Hydrocarbons	0.001 lbs/gal-hr
Sulfur Dioxides	0.000018 lbs/gal-hr

Emission Rate (lbs/hr) = EF (lbs/gal-hr) * fuel usage (gal)

CO₂ emission rates are found in EPA's "Emission Factors for Greenhouse Gas Inventories" (February 13, 2024) (Diesel).

CO₂ = 10.2 kg/gal (GWP = 1)

CH₄ = 0.41 g/gal (GWP = 25)

N₂O = 0.08 g/gal (GWP = 298)

The following equation was used to calculate the annual emission rate for each heater pollutant:

$$\text{Emission Rate (tons/year)} = \frac{\text{Emission Rate (lbs/hour)} * \text{Operating Hour (hrs/year)}}{2000 \text{ lbs/ton}}$$

Table 6-8: Controlled Combustion Emission Rates for Asphalt Heater

Process Unit Number	Pollutant	Fuel Usage	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
21	NO _x	2293.3 scf/hr	0.39	1.71
	CO	24.7 gal/hr	0.19	0.84
	VOC	24.7 gal/hr	0.026	0.11
	SO ₂	18.4 gal/hr	0.13	0.57
	PM	18.4 gal/hr	0.037	0.16

GHG emission rate hourly (lbs/hr) = Emission Factor * SCF/hour * GWP * 2.20462 lbs/kg

GHG emission rate annual (tons/yr) = lbs/hr * annual hours/2000 lbs/ton

Table 6-9: Controlled GHG Combustion Emission Rates

Process Unit Number	Pollutant	Emission Factor	Gallon/Hour	GWP (lbs/hr)	GHG Emission Rate (lbs/hr)	GHG Emission Rate (tons/yr)
21	CO ₂	10.2 kg/gal	18.4	1	85.1	372.8
	CH ₄	0.41 g/gal	18.4	25	0.42	1.82
	N ₂ O	0.08 g/gal	18.4	298	0.97	4.23
	GHG	0.00010 kg/scf			86.5	378.9

Table 6-11 present the controlled emission rates from the facility.

Table 6-10 Summary of Requested Allowable NOx, CO, SO2, and PM Emission Rates

Allowable Emission Totals															
Unit #	Description	NOx		CO		SO ₂		VOC		PM		PM ₁₀		PM _{2.5}	
		lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
1	Cold Aggregate Storage Pile									0.89	0.62	0.42	0.29	0.064	0.044
2	Feed Bin Loading									0.89	0.62	0.42	0.29	0.064	0.044
3	Feed Bin Unloading									0.019	0.024	0.0062	0.0078	0.0018	0.0022
4	Conveyor to Conveyor									0.019	0.024	0.0062	0.0078	0.0018	0.0022
5	Scalping Screen									0.30	0.37	0.10	0.12	0.0068	0.0084
6	Scalping Screen Unloading									0.019	0.024	0.0062	0.0078	0.0018	0.0022
7	Pug Mill Load									0.019	0.024	0.0063	0.0079	0.0018	0.0022
8	Pug Mill Unload									0.019	0.024	0.0063	0.0079	0.0018	0.0022
9	Conveyor Transfer to Slinger Conveyor									0.019	0.024	0.0063	0.0079	0.0018	0.0022
12	RAP Storage Pile									0.33	0.23	0.16	0.11	0.024	0.016
13	RAP Feed Bin Loading									0.33	0.23	0.16	0.11	0.024	0.016
14	RAP Feed Bin Unloading									0.0070	0.0088	0.0023	0.0029	0.00065	0.00081
15	RAP Scalping Screen									0.11	0.14	0.037	0.046	0.0025	0.0031
16	RAP Scalping Screen Unloading									0.0070	0.0088	0.0023	0.0029	0.00065	0.00081
10, 11	Mineral Filler Silo and Baghouse									0.18	0.027	0.12	0.018	0.018	0.0026
17, 18	Drum Dryer and Baghouse	11.0	13.8	26.0	32.5	11.6	14.5	6.40	8.00	6.60	8.25	4.60	5.75	4.60	5.75
19a	Drum Mixer Unloading			0.24	0.29			2.44	3.05	0.12	0.15	0.12	0.15	0.12	0.15
20a, 20b, 20c	Asphalt Silo Unloading			0.27	0.34			0.83	1.04	0.10	0.13	0.10	0.13	0.10	0.13

Table 6-10 Summary of Requested Allowable NOx, CO, SO2, and PM Emission Rates

Allowable Emission Totals															
Unit #	Description	NOx		CO		SO ₂		VOC		PM		PM ₁₀		PM _{2.5}	
		lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
21	Asphalt Heater	0.39	1.71	0.19	0.84	0.13	0.57	0.026	0.11	0.037	0.16	0.037	0.16	0.037	0.16
22	Asphalt Cement Storage Tank							0.023	0.10						
23	Haul Road Traffic									2.41	2.43	0.61	0.62	0.061	0.062
24	Yard			0.070	0.088			0.22	0.28						
Total		11.4	15.5	26.8	34.1	11.7	15.1	9.94	12.6	12.4	13.5	6.92	7.85	5.13	6.40

Estimates for Hydrogen Sulfide Pollutants

The Hot Mix Asphalt Plant (HMA) drum dryer/mixer, asphalt silo loading, and asphalt silo unloading are sources of hydrogen sulfide (H₂S) listed as a state regulated ambient air quality standard. Emission factors of H₂S from the drum dryer/mixer, asphalt silo loading, and asphalt silo unloading are based on a 2001 study performed by the North Carolina Division of Air Quality and the city of Salisbury, NC. From the study the H₂S emission factors from these sources are:

Process Unit Number	Process Unit Description	H ₂ S Emission Factor
17, 18	Drum Dryer/Mixer and Baghouse	0.0000518 lbs/ton
19a	Drum Mixer Unloading	0.000001460 lbs/ton
20a,20b,20c	Asphalt Silo Unloading	0.000001460 lbs/ton

Table 6-27: Controlled Hot Mix Plant Emission Rates

Process Unit Number	Process Unit Description	Pollutant	Average Hourly Process Rate (tons/hour)	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
17, 18	Drum Dryer/Mixer and Baghouse	H ₂ S	200	0.010	0.013
19a	Drum Mixer Unloading	H ₂ S	200	0.00029	0.00037
20a,20b,20c	Asphalt Silo Unloading	H ₂ S	200	0.00029	0.00037
Total H₂S				0.011	0.014

Estimates for State Toxic Air Pollutants (Asphalt Fumes)

The Hot Mix Asphalt Plant (HMA) drum dryer/mixer, asphalt silo loading, asphalt silo unloading, yard emissions, and heated asphalt cement storage tank are 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 PM organic condensable emission factors found in AP-42 Section 11.1, Table 11.1-3 (0.012 pounds per ton x 200 tons/hr) from the drum dryer/mixer baghouse stack or 2.4 pounds per hour.

Emissions of asphalt fumes from the asphalt silo filling (Unit 19a), asphalt silo (plant) unloading (Unit 20a,20b,20c), yard (asphalt transported in asphalt trucks-Unit 24), and hot oil asphalt storage tanks (Unit 22) were based on the assumption that the emissions of concern from the silo filling, silo unloading, hot oil asphalt storage tanks, and yard asphalt fumes sources are the PAH HAPs plus other semi-volatile HAPs from the particulate (PM) organics and the volatile organic HAPs from the Total Organic Compounds (TOC). These two combined make up asphalt fume emissions from the silo filling, silo unloading, hot oil asphalt storage tanks, and yard sources. Using information found in AP-42 Section 11.1, Tables 11.1-14, 15, and 16 were reviewed and the following emission equations or emission factors were used to estimate asphalt fumes emissions from silo filling, silo unloading, hot oil asphalt storage tanks, and yard.

Silo Filling

Asphalt Fumes $EF = 0.00078(-V)e^{((0.0251)(T+460)-20.43)}$

Plant Loadout

Asphalt Fumes $EF = 0.00036(-V)e^{((0.0251)(T+460)-20.43)}$

Asphalt Storage Tanks

Asphalt Fumes $EF = \text{VOC emissions from TANKs} * 1.3\%$

Yard

Asphalt Fumes $EF = 0.0000165 \text{ lbs/ton of asphalt loaded}$

Asphalt silo filling and asphalt silo unloading emission factors were calculated using the default value of –0.5 for asphalt volatility and an asphalt material temperature of 325° F for HMA mix temperature. Inputting these values into the equations gives you a pound per ton value of 0.00011886 lbs/ton and 0.0000870 lbs/ton or asphalt fumes emission rates of 0.038 and 0.017 pounds per hour, respectively.

Emissions of asphalt fumes from the Yard were based on 1.5 percent of the TOC emission. Yard (Unit 24) emission factors are found in AP-42 Section 11.1.2.5. TOC emission factor is 0.0011 lbs/ton of asphalt produced. Asphalt fumes emissions are 0.0000165 lbs/ton of asphalt produced or 0.0033 pounds per hour (200 tph of asphalt production).

Emissions of asphalt fumes from the asphalt cement storage tanks (Unit 22) were determined with EPA's TANK 4.0.9d program and the procedures found in EPA's "Emission Factor Documentation for AP-42 Section 11.1 (12/2000) Section 4.4.5" for input to the TANK program. The annual VOC emissions for working and breathing losses from two 20,000 gallon tanks were estimated at 198.34 pounds per year (0.023 pounds per hour). Based on 1.3 percent of the VOC emissions (total 0.023 pounds per hour), the asphalt fumes emission rate is 0.00029 pounds per hour.

Total asphalt fumes from the HMA plant is 2.46 pounds per hour and 3.07 tons per year.

Estimates for State Toxic Air Pollutants (Calcium Hydroxide)

A potential mineral filler that will be used is lime (calcium hydroxide). Calcium hydroxide is listed in the NMED's 20.2.72 NMAC, 502 "Toxic Air Pollutants and Emissions", Table A. Controlled emissions of lime from the mineral filler silo during loading is 0.18 pounds per hour.

Estimates for Federal HAPs Air Pollutants

The Hot Mix Asphalt Plant (HMA) drum dryer (Unit 17) and asphalt heater (Unit 21), are sources of HAPs as it appears in Section 112 (b) of the 1990 CAAA. Emissions of HAPs were determined for the drum mixer using AP-42 Section 11.1 Tables 11.1-10, 11.1-12. Emissions of HAPs were determined for the asphalt heater using AP-42 Section 1.3.

The following tables summarize the HAPs emission rates from the drum mixer and asphalt heater. Total combined HAPs emissions from Gamerco HMA is 2.10 pounds per hour and 2.63 tons per year.

Table 6-11: HAPs Emission Rates from the Drum Dryer/Mixer
EPA HAPS Emissions Drum Mixer Hot Mix Asphalt Plant with Fabric Filter

Average Hourly Production Rate: 200 tons per hour
 Yearly Production Rate: 500000 tons per year

Type of Fuel: Waste Fuel Oil
 Emission Factors AP-42 Section 11.1 Tables 11.1-10, 11.1-12

Non-PAH HAPS	CAS#	Emission Factor (lbs/ton)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
Acetaldehyde	75-07-0	1.3E-03	0.260000	0.325000
Acrolein	107-02-8	2.6E-05	0.005200	0.006500
Benzene	71-43-2	3.9E-04	0.078000	0.097500
Ethylbenzene	100-41-4	2.4E-04	0.048000	0.060000
Formaldehyde	50-00-0	3.1E-03	0.620000	0.775000
Hexane	110-54-3	9.2E-04	0.184000	0.230000
Isooctane	540-84-1	4.0E-05	0.008000	0.010000
Methyl Ethyl Ketone	78-93-3	2.0E-05	0.004000	0.005000
Propionaldehyde	123-38-6	1.3E-04	0.026000	0.032500
Quinone	106-51-4	1.6E-04	0.032000	0.040000
Methyl chlorlform	71-55-6	4.8E-05	0.009600	0.012000
Toluene	108-88-3	2.9E-03	0.580000	0.725000
Xylene	1330-20-7	2.0E-04	0.040000	0.050000
Total Non-PAH HAPS		9.5E-03	1.894800	2.368500
PAH HAPS	CAS#	Emission Factor (lbs/ton)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
2-Methylnaphthalene	91-57-6	1.7E-04	0.034000	0.042500
Acenaphthene	83-32-9	1.4E-06	0.000280	0.000350
Acenaphthylene	208-96-8	2.2E-05	0.004400	0.005500
Anthracene	120-12-7	3.1E-06	0.000620	0.000775
Benzo(a)anthracene	56-55-3	2.1E-07	0.000042	0.000053
Benzo(a)pyrene	50-32-8	9.8E-09	0.000002	0.000002
Benzo(b)fluoranthene	205-99-2	1.0E-07	0.000020	0.000025
Benzo(b)pyrene	192-97-2	1.1E-07	0.000022	0.000028
Benzo(g,h,i)perylene	191-24-2	4.0E-08	0.000008	0.000010
Benzo(k)fluoranthene	207-08-9	4.1E-08	0.000008	0.000010
Chrysene	218-01-9	1.8E-07	0.000036	0.000045
Fluoranthene	206-44-0	6.1E-07	0.000122	0.000153
Fluorene	86-73-7	1.1E-05	0.002200	0.002750
Indeno(1,2,3-cd)pyrene	193-39-5	7.0E-09	0.000001	0.000002
Naphthalene	91-20-3	6.5E-04	0.130000	0.162500
Perylene	198-55-0	8.8E-09	0.000002	0.000002
Phenanthrene	85-01-8	2.3E-05	0.004600	0.005750
Pyrene	129-00-0	3.0E-06	0.000600	0.000750
Total PAH HAPS		8.8E-04	0.176963	0.221204

	Emission Factor (lbs/ton)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
HAPS Metals			
Arsenic	5.6E-07	0.000112	0.000140
Beryllium	0.0E+00	0.000000	0.000000
Cadmium	4.1E-07	0.000082	0.000103
Chromium	5.5E-06	0.001100	0.001375
Cobalt	2.6E-08	0.000005	0.000007
Hexavalent Chromium	4.5E-07	0.000090	0.000113
Lead	1.5E-05	0.003000	0.003750
Manganese	7.7E-06	0.001540	0.001925
Mercury	2.6E-06	0.000520	0.000650
Nickel	6.3E-05	0.012600	0.015750
Phosphorus	2.8E-05	0.005600	0.007000
Selenium	3.5E-07	0.000070	0.000088
Total Metals HAPS	1.2E-04	0.024719	0.030899
Total HAPS		2.10	2.62

Table 6-12: HAPs Emission Rates from the Asphalt Heater

Btu Rating	2352941	Btu/hr	(based on 1026 Btu/scf)
Fuel Usage:	2293.3	scf/hr	
Btu x 10 ⁻¹² /hr:	0.002293315	MMscf/hr	(based on 1026 Btu/scf)
Yearly Operating Hours:	8760	hours per year	

Type of Fuel: Natural Gas
Emission Factors AP-42 Section 1.4

Organic Compounds	CAS#	Emission Factor (lbs/MM scf)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
Benzene	71-43-2	2.10E-03	0.000005	0.000021
Formaldehyde	50-00-0	7.50E-02	0.000172	0.000753
Hexane	110-54-3	1.80E+00	0.004128	0.018080
Naphthalene	91-20-3	6.10E-04	0.000001	0.000006
Toluene	108-88-3	3.40E-03	0.000008	0.000034
Total Organic Compounds		1.88E+00	0.004314	0.018895
HAPS Metals		Emission Factor (lbs/MM scf)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
Arsenic		2.00E-04	0.000000	0.000002
Beryllium		1.20E-05	0.000000	0.000000
Cadmium		1.10E-03	0.000003	0.000011
Chromium		1.40E-03	0.000003	0.000014
Cobalt		8.40E-05	0.000000	0.000001
Lead		5.00E-04	0.000001	0.000005
Manganese		3.80E-04	0.000001	0.000004
Mercury		2.60E-04	0.000001	0.000003
Nickel		2.10E-03	0.000005	0.000021
Selenium		2.40E-05	0.000000	0.000000
Total Metals HAPS		6.06E-03	0.000014	0.000061
Total HAPS			0.004328	0.018956

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 (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO₂e 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 CO₂e 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 CO₂e 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 CO₂ 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)

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.

A-9027-7-AP42S1-3
 A-9027-7-AP42S11-1
 A-9027-7-AP42S11-12
 A-9027-7-AP42S11-19-2
 A-9027-7-AP42S13-2-1
 A-9027-7-AP42S13-2-4
 A-9027-7-WindspeedsNewMexico
 A-9027-7-ACTANK1
 A-9027-7-ACTANK2
 A-9027-7-GHG
 A-9027-7-HMA.xls
 A-9027-7-Baghouse.xls
 A-9027-7-Heater
 A-9027-17-HMA_Test

Asphalt Heater Combustion and HAPs Emission Factors
 HMA Plant and HAPs Emission Factors
 Mineral Filler Silo Emission Factors
 Screens, and Transfer Point Emission Factors
 Paved Road Emission Factors
 Material Handling Emission Factors
 Gallup Wind Speed Annual Average 2001 to 2011
 Unit 22: Asphalt Cement Storage Tank - 20,000 gallons
 Unit 22: Asphalt Cement Storage Tank - 20,000 gallons
 EPA Greenhouse Gas Inventory Emission Factors
 Gamerco HMA Plant Emissions Spreadsheet (Electronic File)
 Mineral Filler Fabric Filter – Pulse-Jet Control Efficiency
 Asphalt Heater Manufacturer Specification
 Initial HMA Stack Test

11.1 Hot Mix Asphalt Plants

11.1.1 General^{1-3,23, 392-394}

Hot mix asphalt (HMA) paving materials are a mixture of size-graded, high quality aggregate (which can include reclaimed asphalt pavement [RAP]), and liquid asphalt cement, which is heated and mixed in measured quantities to produce HMA. Aggregate and RAP (if used) constitute over 92 percent by weight of the total mixture. Aside from the amount and grade of asphalt cement used, mix characteristics are determined by the relative amounts and types of aggregate and RAP used. A certain percentage of fine aggregate (less than 74 micrometers [μm] in physical diameter) is required for the production of good quality HMA.

Hot mix asphalt paving materials can be manufactured by: (1) batch mix plants, (2) continuous mix (mix outside dryer drum) plants, (3) parallel flow drum mix plants, and (4) counterflow drum mix plants. This order of listing generally reflects the chronological order of development and use within the HMA industry.

In 1996, approximately 500 million tons of HMA were produced at the 3,600 (estimated) active asphalt plants in the United States. Of these 3,600 plants, approximately 2,300 are batch plants, 1,000 are parallel flow drum mix plants, and 300 are counterflow drum mix plants. The total 1996 HMA production from batch and drum mix plants is estimated at about 240 million tons and 260 million tons, respectively. About 85 percent of plants being manufactured today are of the counterflow drum mix design, while batch plants and parallel flow drum mix plants account for 10 percent and 5 percent respectively. Continuous mix plants represent a very small fraction of the plants in use (≤ 0.5 percent) and, therefore, are not discussed further.

An HMA plant can be constructed as a permanent plant, a skid-mounted (easily relocated) plant, or a portable plant. All plants can have RAP processing capabilities. Virtually all plants being manufactured today have RAP processing capability. Most plants have the capability to use either gaseous fuels (natural gas) or fuel oil. However, based upon Department of Energy and limited State inventory information, between 70 and 90 percent of the HMA is produced using natural gas as the fuel to dry and heat the aggregate.

11.1.1.1 Batch Mix Plants –

Figure 11.1-1 shows the batch mix HMA production process. Raw aggregate normally is stockpiled near the production unit. The bulk aggregate moisture content typically stabilizes between 3 to 5 percent by weight.

Processing begins as the aggregate is hauled from the storage piles and is placed in the appropriate hoppers of the cold feed unit. The material is metered from the hoppers onto a conveyer belt and is transported into a rotary dryer (typically gas- or oil-fired). Dryers are equipped with flights designed to shower the aggregate inside the drum to promote drying efficiency.

As the hot aggregate leaves the dryer, it drops into a bucket elevator and is transferred to a set of vibrating screens, where it is classified into as many as four different grades (sizes) and is dropped into individual “hot” bins according to size. At newer facilities, RAP also may be transferred to a separate heated storage bin. To control aggregate size distribution in the final batch mix, the operator opens various hot bins over a weigh hopper until the desired mix and weight are obtained. Concurrent with the aggregate being weighed, liquid asphalt cement is pumped from a heated storage tank to an asphalt bucket, where it is weighed to achieve the desired aggregate-to-asphalt cement ratio in the final mix.

bins or storage silos. The fugitive dust sources associated with drum mix plants are similar to those of batch mix plants with regard to truck traffic and to aggregate material feed and handling operations.

Table 11.1-1 presents emission factors for filterable PM and PM-10, condensable PM, and total PM for batch mix HMA plants. Particle size data for batch mix HMA plants, based on the control technology used, are shown in Table 11.1-2. Table 11.1-3 presents filterable PM and PM-10, condensable PM, and total PM emission factors for drum mix HMA plants. Particle size data for drum mix HMA plants, based on the control technology used, are shown in Table 11.1-4. Tables 11.1-5 and -6 present emission factors for CO, CO₂, NO_x, sulfur dioxide (SO₂), total organic compounds (TOC), formaldehyde, CH₄, and VOC from batch mix plants. Tables 11.1-7 and -8 present emission factors for CO, CO₂, NO_x, SO₂, TOC, CH₄, VOC, and hydrochloric acid (HCl) from drum mix plants. The emission factors for CO, NO_x, and organic compounds represent normal plant operations without scrutiny of the burner design, operation, and maintenance. Information provided in Reference 390 indicates that attention to burner design, periodic evaluation of burner operation, and appropriate maintenance can reduce these emissions. Table 11.1-9 presents organic pollutant emission factors for batch mix plants. Table 11.1-10 presents organic pollutant emission factors for drum mix plants. Tables 11.1-11 and -12 present metals emission factors for batch and drum mix plants, respectively. Table 11.1-13 presents organic pollutant emission factors for hot (asphalt) oil systems.

11.1.2.5 Fugitive Emissions from Production Operations –

Emission factors for HMA load-out and silo filling operations can be estimated using the data in Tables 11.1-14, -15, and -16. Table 11.1-14 presents predictive emission factor equations for HMA load-out and silo filling operations. Separate equations are presented for total PM, extractable organic PM (as measured by EPA Method 315), TOC, and CO. For example, to estimate total PM emissions from drum mix or batch mix plant load-out operations using an asphalt loss-on-heating of 0.41 percent and temperature of 290°F, the following calculation is made:

$$\begin{aligned}
 EF &= 0.000181 + 0.00141(-V)e^{((0.0251)(290 + 460) - 20.43)} \\
 &= 0.000181 + 0.00141(-(-0.41))e^{((0.0251)(290 + 460) - 20.43)} \\
 &= 0.000181 + 0.00141(0.41)e^{(-1.605)} \\
 &= 0.000181 + 0.00141(0.41)(0.2009) \\
 &= 0.000181 + 0.000116 \\
 &= 0.00030 \text{ lb total PM/ton of asphalt loaded}
 \end{aligned}$$

Tables 11.1-15 and -16 present speciation profiles for organic particulate-based and volatile particulate-based compounds, respectively. The speciation profile shown in Table 11.1-15 can be applied to the extractable organic PM emission factors estimated by the equations in Table 11.1-14 to estimate emission factors for specific organic PM compounds. The speciation profile presented in Table 11.1-16 can be applied to the TOC emission factors estimated by the equations in Table 11.1-14 to estimate emission factors for specific volatile organic compounds. The derivations of the predictive emission factor equations and the speciation profiles can be found in Reference 1.

For example, to estimate TOC emissions from drum mix plant load-out operations using an asphalt loss-on-heating of 0.41 percent and temperature of 290°F, the following calculation is made:

$$\begin{aligned}
 EF &= 0.0172(-V)e^{((0.0251)(290 + 460) - 20.43)} \\
 &= 0.0172(-(-0.41))e^{((0.0251)(290 + 460) - 20.43)} \\
 &= 0.0172(0.41)e^{(-1.605)} \\
 &= 0.0172(0.41)(0.2009) \\
 &= 0.0014 \text{ lb TOC/ton of asphalt loaded}
 \end{aligned}$$

To estimate the benzene emissions from the same operation, use the TOC emission factor calculated above and apply the benzene fraction for load-out emissions from Table 11.1-16:

$$\begin{aligned} \text{EF} &= 0.0014 (0.00052) \\ &= 7.3 \times 10^{-7} \text{ lb benzene/ton of asphalt loaded} \end{aligned}$$

Emissions from asphalt storage tanks can be estimated using the procedures described in AP-42 Section 7.1, Organic Liquid Storage Tanks, and the TANKS software. Site-specific data should be used for storage tank specifications and operating parameters, such as temperature. If site-specific data for Antoine's constants for an average asphalt binder used by the facility are unavailable, the following values for an average liquid asphalt binder can be used:

$$\begin{aligned} A &= 75,350.06 \\ B &= 9.00346 \end{aligned}$$

These values should be inserted into the Antoine's equation in the following form:

$$\log_{10} P = \frac{-0.05223A}{T} + B$$

where:

P = vapor pressure, mm Hg

T = absolute temperature, Kelvin

The assumed average liquid molecular weight associated with these Antoine's constants is 1,000 atomic mass units and the average vapor molecular weight is 105. Emission factors estimated using these default values should be assigned a rating of E. Carbon monoxide emissions can be estimated by multiplying the THC emissions calculated by the TANKS program by 0.097 (the ratio of silo filling CO emissions to silo filling TOC emissions).

Vapors from the HMA loaded into transport trucks continue following load-out operations. The TOC emissions for the 8-minute period immediately following load-out (yard emissions) can be estimated using an emission factor of 0.00055 kg/Mg (0.0011 lb/ton) of asphalt loaded. This factor is assigned a rating of E. The derivation of this emission factor is described in Reference 1. Carbon monoxide emissions can be estimated by multiplying the TOC emissions by 0.32 (the ratio of truck load-out CO emissions to truck load-out THC emissions).

11.2.3 Updates Since the Fifth Edition

The Fifth Edition was released in January 1995. Revisions to this section since that date are summarized below. For further detail, consult the background report for this section. This and other documents can be found on the CHIEF Web Site at <http://www.epa.gov/ttn/chief/>, or by calling the Info CHIEF Help Desk at (919)541-1000.

December 2000

- All emission factors were revised and new factors were added. For selected pollutant emissions, separate factors were developed for distillate oil, No. 6 oil and waste oil fired dryers. Dioxin and Furan emission factors were developed for oil fired drum mix plants. Particulate, VOC and CO factors were developed for silo filling, truck load out and post truck load out operations at batch plants and drum mix plants. Organic species profiles were developed for silo filling, truck load out and post truck load out operations.

March 2004

- The emission factor for formaldehyde for oil fired hot oil heaters was revised. An emission factor for formaldehyde for gas fired hot oil heaters and emission factors for CO and CO₂ for gas and oil fired hot oil heaters were developed. (Table 11.1-13)

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 11.1-7. EMISSION FACTORS FOR CO, CO₂, NO_x, AND SO₂ FROM
DRUM MIX HOT MIX ASPHALT PLANTS^a

Process	CO ^b	EMISSION FACTOR RATING	CO ₂ ^c	EMISSION FACTOR RATING	NO _x	EMISSION FACTOR RATING	SO ₂ ^c	EMISSION FACTOR RATING
Natural gas-fired dryer (SCC 3-05-002-55,-56,-57)	0.13	B	33 ^d	A	0.026 ^e	D	0.0034 ^f	D
No. 2 fuel oil-fired dryer (SCC 3-05-002-58,-59,-60)	0.13	B	33 ^d	A	0.055 ^g	C	0.011 ^h	E
Waste oil-fired dryer (SCC 3-05-002-61,-62,-63)	0.13	B	33 ^d	A	0.055 ^g	C	0.058 ^j	B
Coal-fired dryer ^k (SCC 3-05-002-98)	ND	NA	33 ^d	A	ND	NA	0.19 ^m	E

^a Emission factor units are lb per ton of HMA produced. SCC = Source Classification Code. ND = no data available. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

^b References 25, 44, 48, 50, 149, 154, 197, 214, 229, 254, 339-342, 344, 346, 347, 390. The CO emission factors represent normal plant operations without scrutiny of the burner design, operation, and maintenance. Information is available that indicates that attention to burner design, periodic evaluation of burner operation, and appropriate maintenance can reduce CO emissions. Data for dryers firing natural gas, No. 2 fuel oil, and No. 6 fuel oil were combined to develop a single emission factor because the magnitude of emissions was similar for dryers fired with these fuels.

^c Emissions of CO₂ and SO₂ can also be estimated based on fuel usage and the fuel combustion emission factors (for the appropriate fuel) presented in AP-42 Chapter 1. The CO₂ emission factors are an average of all available data, regardless of the dryer fuel (emissions were similar from dryers firing any of the various fuels). Fifty percent of the fuel-bound sulfur, up to a maximum (as SO₂) of 0.1 lb/ton of product, is expected to be retained in the product, with the remainder emitted as SO₂.

^d Reference 1, Table 4-15. Average of data from 180 facilities. Range: 2.6 to 96 lb/ton. Median: 31 lb/ton. Standard deviation: 13 lb/ton.

^e References 44-45, 48, 209, 341, 342.

^f References 44-45, 48.

^g References 25, 50, 153, 214, 229, 344, 346, 347, 352-354.

^h References 50, 119, 255, 340

^j References 25, 299, 300, 339, 345, 351, 371-377, 379, 380, 386-388.

^k Dryer fired with coal and supplemental natural gas or fuel oil.

^m References 88, 108, 189-190.

Table 11.1-8. EMISSION FACTORS FOR TOC, METHANE, VOC, AND HCl FROM
DRUM MIX HOT MIX ASPHALT PLANTS^a

Process	TOC ^b	EMISSION FACTOR RATING	CH ₄ ^c	EMISSION FACTOR RATING	VOC ^d	EMISSION FACTOR RATING	HCl ^e	EMISSION FACTOR RATING
Natural gas-fired dryer (SCC 3-05-002-55, -56,-57)	0.044 ^f	B	0.012	C	0.032	C	ND	NA
No. 2 fuel oil-fired dryer (SCC 3-05-002-58, -59,-60)	0.044 ^f	B	0.012	C	0.032	C	ND	NA
Waste oil-fired dryer (SCC 3-05-002-61, -62,-63)	0.044 ^f	E	0.012	C	0.032	E	0.00021	D

^a Emission factor units are lb per ton of HMA produced. SCC = Source Classification Code. ND = no data available. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

^b TOC equals total hydrocarbons as propane as measured with an EPA Method 25A or equivalent sampling train plus formaldehyde.

^c References 25, 44-45, 48, 50, 339-340, 355. Factor includes data from natural gas-, No. 2 fuel oil, and waste oil-fired dryers. Methane measured with an EPA Method 18 or equivalent sampling train.

^d The VOC emission factors are equal to the TOC factors minus the sum of the methane emission factors and the emission factors for compounds with negligible photochemical reactivity shown in Table 11.1-10; differences in values reported are due to rounding.

^e References 348, 374, 376, 379, 380.

^f References 25, 44-45, 48, 50, 149, 153-154, 209-212, 214, 241, 242, 339-340, 355.

**Table 11.1-10. EMISSION FACTORS FOR ORGANIC POLLUTANT
EMISSIONS FROM DRUM MIX HOT MIX ASPHALT PLANTS^a**

Process	Pollutant		Emission Factor, lb/ton	Emission Factor Rating	Ref. No.
	CASRN	Name			
Natural gas-fired dryer with fabric filter ^b (SCC 3-05-002-55, -56,-57)	Non-PAH hazardous air pollutants ^c				
	71-43-2	Benzene ^d	0.00039	A	25,44,45,50, 341, 342, 344-351, 373, 376, 377, 383, 384
	100-41-4	Ethylbenzene	0.00024	D	25,44,45
	50-00-0	Formaldehyde ^e	0.0031	A	25,35,44,45,50, 339- 344, 347-349, 371- 373, 384, 388
	110-54-3	Hexane	0.00092	E	339-340
	540-84-1	Isooctane (2,2,4-trimethylpentane)	4.0x10 ⁻⁵	E	339-340
	71-55-6	Methyl chloroform ^f	4.8x10 ⁻⁵	E	35
	108-88-3	Toluene	0.00015	D	35,44,45
	1330-20-7	Xylene	0.00020	D	25,44,45
		Total non-PAH HAPs	0.0051		
	PAH HAPs				
	91-57-6	2-Methylnaphthalene ^g	7.4x10 ⁻⁵	D	44,45,48
	83-32-9	Acenaphthene ^g	1.4x10 ⁻⁶	E	48
	208-96-8	Acenaphthylene ^g	8.6x10 ⁻⁶	D	35,45,48
	120-12-7	Anthracene ^g	2.2x10 ⁻⁷	E	35,48
	56-55-3	Benzo(a)anthracene ^g	2.1x10 ⁻⁷	E	48
	50-32-8	Benzo(a)pyrene ^g	9.8x10 ⁻⁹	E	48
	205-99-2	Benzo(b)fluoranthene ^g	1.0x10 ⁻⁷	E	35,48
	192-97-2	Benzo(e)pyrene ^g	1.1x10 ⁻⁷	E	48
	191-24-2	Benzo(g,h,i)perylene ^g	4.0x10 ⁻⁸	E	48
	207-08-9	Benzo(k)fluoranthene ^g	4.1x10 ⁻⁸	E	35,48
	218-01-9	Chrysene ^g	1.8x10 ⁻⁷	E	35,48
	206-44-0	Fluoranthene ^g	6.1x10 ⁻⁷	D	35,45,48
	86-73-7	Fluorene ^g	3.8x10 ⁻⁶	D	35,45,48,163
	193-39-5	Indeno(1,2,3-cd)pyrene ^g	7.0x10 ⁻⁹	E	48
	91-20-3	Naphthalene ^g	9.0x10 ⁻⁵	D	35,44,45,48,163
	198-55-0	Perylene ^g	8.8x10 ⁻⁹	E	48
	85-01-8	Phenanthrene ^g	7.6x10 ⁻⁶	D	35,44,45,48,163
	129-00-0	Pyrene ^g	5.4x10 ⁻⁷	D	45,48
		Total PAH HAPs	0.00019		

Table 11.1-10 (cont.)

Process	Pollutant		Emission Factor, lb/ton	Emission Factor Rating	Ref. No.
	CASRN	Name			
Natural gas-fired dryer with fabric filter ^b (SCC 3-05-002-55, -56,-57) (cont.)	Total HAPs		0.0053		
	Non-HAP organic compounds				
	106-97-8	Butane	0.00067	E	339
	74-85-1	Ethylene	0.0070	E	339-340
	142-82-5	Heptane	0.0094	E	339-340
	763-29-1	2-Methyl-1-pentene	0.0040	E	339,340
	513-35-9	2-Methyl-2-butene	0.00058	E	339,340
	96-14-0	3-Methylpentane	0.00019	D	339,340
	109-67-1	1-Pentene	0.0022	E	339-340
	109-66-0	n-Pentane	0.00021	E	339-340
		Total non-HAP organics	0.024		
No. 2 fuel oil-fired dryer with fabric filter (SCC 3-05-002-58, -59,-60)	Non-PAH HAPs ^c				
	71-43-2	Benzene ^d	0.00039	A	25,44,45,50, 341, 342, 344-351, 373, 376, 377, 383, 384
	100-41-4	Ethylbenzene	0.00024	D	25,44,45
	50-00-0	Formaldehyde ^e	0.0031	A	25,35,44,45,50, 339-344, 347-349, 371-373, 384, 388
	110-54-3	Hexane	0.00092	E	339-340
	540-84-1	Isooctane (2,2,4-trimethylpentane)	4.0x10 ⁻⁵	E	339-340
	71-55-6	Methyl chloroform ^f	4.8x10 ⁻⁵	E	35
	108-88-3	Toluene	0.0029	E	25, 50, 339-340
	1330-20-7	Xylene	0.00020	D	25,44,45
		Total non-PAH HAPs	0.0078		
	PAH HAPs				
	91-57-6	2-Methylnaphthalene ^g	0.00017	E	50
	83-32-9	Acenaphthene ^g	1.4x10 ⁻⁶	E	48
	208-96-8	Acenaphthylene ^g	2.2x10 ⁻⁵	E	50
	120-12-7	Anthracene ^g	3.1x10 ⁻⁶	E	50,162
	56-55-3	Benzo(a)anthracene ^g	2.1x10 ⁻⁷	E	48
	50-32-8	Benzo(a)pyrene ^g	9.8x10 ⁻⁹	E	48
	205-99-2	Benzo(b)fluoranthene ^g	1.0x10 ⁻⁷	E	35,48
	192-97-2	Benzo(e)pyrene ^g	1.1x10 ⁻⁷	E	48

Table 11.1-10 (cont.)

Process	Pollutant		Emission Factor, lb/ton	Emission Factor Rating	Ref. No.
	CASRN	Name			
No. 2 fuel oil-fired dryer with fabric filter (SCC 3-05-002-58, -59,-60) (cont.)	191-24-2	Benzo(g,h,i)perylene ^g	4.0x10 ⁻⁸	E	48
	207-08-9	Benzo(k)fluoranthene ^g	4.1x10 ⁻⁸	E	35,48
	218-01-9	Chrysene ^g	1.8x10 ⁻⁷	E	35,48
	206-44-0	Fluoranthene ^g	6.1x10 ⁻⁷	D	35,45,48
	86-73-7	Fluorene ^g	1.1x10 ⁻⁵	E	50,164
	193-39-5	Indeno(1,2,3-cd)pyrene ^g	7.0x10 ⁻⁹	E	48
	91-20-3	Naphthalene ^g	0.00065	D	25,50,162,164
	198-55-0	Perylene ^g	8.8x10 ⁻⁹	E	48
	85-01-8	Phenanthrene ^g	2.3x10 ⁻⁵	D	50,162,164
	129-00-0	Pyrene ^g	3.0x10 ⁻⁶	E	50
		Total PAH HAPs	0.00088		
		Total HAPs	0.0087		
	Non-HAP organic compounds				
	106-97-8	Butane	0.00067	E	339
	74-85-1	Ethylene	0.0070	E	339-340
	142-82-5	Heptane	0.0094	E	339-340
	763-29-1	2-Methyl-1-pentene	0.0040	E	339,340
	513-35-9	2-Methyl-2-butene	0.00058	E	339,340
	96-14-0	3-Methylpentane	0.00019	D	339,340
	109-67-1	1-Pentene	0.0022	E	339-340
	109-66-0	n-Pentane	0.00021	E	339-340
		Total non-HAP organics	0.024		

Table 11.1-10 (cont.)

Process	Pollutant		Emission Factor, lb/ton	Emission Factor Rating	Ref. No.
	CASRN	Name			
Fuel oil- or waste oil-fired dryer with fabric filter (SCC 3-05-002-58, -59, -60, -61, -62, -63)	Dioxins				
	1746-01-6	2,3,7,8-TCDD ^g	2.1x10 ⁻¹³	E	339
		Total TCDD ^g	9.3x10 ⁻¹³	E	339
	40321-76-4	1,2,3,7,8-PeCDD ^g	3.1x10 ⁻¹³	E	339
		Total PeCDD ^g	2.2x10 ⁻¹¹	E	339-340
	39227-28-6	1,2,3,4,7,8-HxCDD ^g	4.2x10 ⁻¹³	E	339
	57653-85-7	1,2,3,6,7,8-HxCDD ^g	1.3x10 ⁻¹²	E	339
	19408-24-3	1,2,3,7,8,9-HxCDD ^g	9.8x10 ⁻¹³	E	339
		Total HxCDD ^g	1.2x10 ⁻¹¹	E	339-340
	35822-46-9	1,2,3,4,6,7,8-HpCDD ^g	4.8x10 ⁻¹²	E	339
		Total HpCDD ^g	1.9x10 ⁻¹¹	E	339-340
	3268-87-9	Octa CDD ^g	2.5x10 ⁻¹¹	E	339
		Total PCDD ^g	7.9x10 ⁻¹¹	E	339-340
	Furans				
	51207-31-9	2,3,7,8-TCDF ^g	9.7x10 ⁻¹³	E	339
		Total TCDF ^g	3.7x10 ⁻¹²	E	339-340
		1,2,3,7,8-PeCDF ^g	4.3x10 ⁻¹²	E	339-340
		2,3,4,7,8-PeCDF ^g	8.4x10 ⁻¹³	E	339
		Total PeCDF ^g	8.4x10 ⁻¹¹	E	339-340
		1,2,3,4,7,8-HxCDF ^g	4.0x10 ⁻¹²	E	339
		1,2,3,6,7,8-HxCDF ^g	1.2x10 ⁻¹²	E	339
		2,3,4,6,7,8-HxCDF ^g	1.9x10 ⁻¹²	E	339
		1,2,3,7,8,9-HxCDF ^g	8.4x10 ⁻¹²	E	340
		Total HxCDF ^g	1.3x10 ⁻¹¹	E	339-340
		1,2,3,4,6,7,8-HpCDF ^g	6.5x10 ⁻¹²	E	339
		1,2,3,4,7,8,9-HpCDF ^g	2.7x10 ⁻¹²	E	339
		Total HpCDF ^g	1.0x10 ⁻¹¹	E	339-340
	39001-02-0	Octa CDF ^g	4.8x10 ⁻¹²	E	339
		Total PCDF ^g	4.0x10 ⁻¹¹	E	339-340
		Total PCDD/PCDF ^g	1.2x10 ⁻¹⁰	E	339-340

Table 11.1-10 (cont.)

Process	Pollutant		Emission Factor, lb/ton	Emission Factor Rating	Ref. No.		
	CASRN	Name					
Fuel oil- or waste oil-fired dryer (uncontrolled) (SCC 3-05-002-58, -59,-60,-61,-62, -63)	Hazardous air pollutants ^c		5.4x10 ⁻¹²	E	340		
	Dioxins						
	35822-46-9	Total HxCDD ^g				3.4x10 ⁻¹¹	E
		1,2,3,4,6,7,8-HpCDD ^g	7.1x10 ⁻¹¹	E	340		
		3268-87-9	Octa CDD ^g	2.7x10 ⁻⁹	E	340	
		Total PCDD ^g	2.8x10 ⁻⁹	E	340		
	Furans			E	340		
		Total TCDF ^g	3.3x10 ⁻¹¹				
		Total PeCDF ^g	7.4x10 ⁻¹¹			E	340
		1,2,3,4,7,8-HxCDF ^g	5.4x10 ⁻¹²			E	340
		2,3,4,6,7,8-HxCDF ^g	1.6x10 ⁻¹²			E	340
		Total HxCDF ^g	8.1x10 ⁻¹²			E	340
	Fuel oil- or waste oil-fired dryer (uncontrolled) (SCC 3-05-002-58, -59,-60,-61,-62, -63) (cont.)		1,2,3,4,6,7,8-HpCDF ^g	1.1x10 ⁻¹¹	E	340	
Total HpCDF ^g			3.8x10 ⁻¹¹	E	340		
Total PCDF ^g			1.5x10 ⁻¹⁰	E	340		
Total PCDD/PCDF ^g			3.0x10 ⁻⁹	E	340		

Table 11.1-10 (cont.)

Process	Pollutant		Emission Factor, lb/ton	Emission Factor Rating	Ref. No.
	CASRN	Name			
Waste oil-fired dryer with fabric filter (SCC 3-05-002-61, -62, -63)	Non-PAH HAPs ^c				
	75-07-0	Acetaldehyde	0.0013	E	25
	107-02-8	Acrolein	2.6x10 ⁻⁵	E	25
	71-43-2	Benzene ^d	0.00039	A	25,44,45,50,341,342, 344-351, 373, 376, 377, 383, 384
	100-41-4	Ethylbenzene	0.00024	D	25,44,45
	50-00-0	Formaldehyde ^e	0.0031	A	25,35,44,45,50,339-344,347-349,371-373, 384, 388
	110-54-3	Hexane	0.00092	E	339-340
	540-84-1	Isooctane (2,2,4-trimethylpentane)	4.0x10 ⁻⁵	E	339-340
	78-93-3	Methyl Ethyl Ketone	2.0x10 ⁻⁵	E	25
	123-38-6	Propionaldehyde	0.00013	E	25
	106-51-4	Quinone	0.00016	E	25
	71-55-6	Methyl chloroform ^f	4.8x10 ⁻⁵	E	35
	108-88-3	Toluene	0.0029	E	25, 50, 339-340
	1330-20-7	Xylene	0.00020	D	25,44,45
	Total non-PAH HAPs		0.0095		
	PAH HAPs				
	91-57-6	2-Methylnaphthalene ^g	0.00017	E	50
	83-32-9	Acenaphthene ^g	1.4x10 ⁻⁶	E	48
	208-96-8	Acenaphthylene ^g	2.2x10 ⁻⁵	E	50
	120-12-7	Anthracene ^g	3.1x10 ⁻⁶	E	50,162
	56-55-3	Benzo(a)anthracene ^g	2.1x10 ⁻⁷	E	48
	50-32-8	Benzo(a)pyrene ^g	9.8x10 ⁻⁹	E	48
	205-99-2	Benzo(b)fluoranthene ^g	1.0x10 ⁻⁷	E	35,48
	192-97-2	Benzo(e)pyrene ^g	1.1x10 ⁻⁷	E	48
	191-24-2	Benzo(g,h,i)perylene ^g	4.0x10 ⁻⁸	E	48

Table 11.1-10 (cont.)

Process	Pollutant		Emission Factor, lb/ton	Emission Factor Rating	Ref. No.
	CASRN	Name			
Waste oil-fired dryer with fabric filter (SCC 3-05-002-61, -62, -63) (cont.)	207-08-9	Benzo(k)fluoranthene ^g	4.1x10 ⁻⁸	E	35,48
	218-01-9	Chrysene ^g	1.8x10 ⁻⁷	E	35,48
	206-44-0	Fluoranthene ^g	6.1x10 ⁻⁷	D	35,45,48
	86-73-7	Fluorene ^g	1.1x10 ⁻⁵	E	50,164
	193-39-5	Indeno(1,2,3-cd)pyrene ^g	7.0x10 ⁻⁹	E	48
	91-20-3	Naphthalene ^g	0.00065	D	25,50,162,164
	198-55-0	Perylene ^g	8.8x10 ⁻⁹	E	48
	85-01-8	Phenanthrene ^g	2.3x10 ⁻⁵	D	50,162,164
	129-00-0	Pyrene ^g	3.0x10 ⁻⁶	E	50
		Total PAH HAPs	0.00088		
		Total HAPs	0.010		
	Non-HAP organic compounds				
	67-64-1	Acetone ^f	0.00083	E	25
	100-52-7	Benzaldehyde	0.00011	E	25
	106-97-8	Butane	0.00067	E	339
	78-84-2	Butyraldehyde	0.00016	E	25
	4170-30-3	Crotonaldehyde	8.6x10 ⁻⁵	E	25
	74-85-1	Ethylene	0.0070	E	339, 340
	142-82-5	Heptane	0.0094	E	339, 340
	66-25-1	Hexanal	0.00011	E	25
	590-86-3	Isovaleraldehyde	3.2x10 ⁻⁵	E	25
	763-29-1	2-Methyl-1-pentene	0.0040	E	339, 340
	513-35-9	2-Methyl-2-butene	0.00058	E	339, 340
	96-14-0	3-Methylpentane	0.00019	D	339, 340
	109-67-1	1-Pentene	0.0022	E	339, 340
	109-66-0	n-Pentane	0.00021	E	339, 340
	110-62-3	Valeraldehyde	6.7x10 ⁻⁵	E	25
		Total non-HAP organics	0.026		

^a Emission factor units are lb/ton of hot mix asphalt produced. Table includes data from both parallel flow and counterflow drum mix dryers. Organic compound emissions from counterflow systems are expected to be less than from parallel flow systems, but the available data are insufficient to quantify

Table 11.1-10 (cont.)

accurately the difference in these emissions. CASRN = Chemical Abstracts Service Registry Number. SCC = Source Classification Code. To convert from lb/ton to kg/Mg, multiply by 0.5.

- ^b Tests included dryers that were processing reclaimed asphalt pavement. Because of limited data, the effect of RAP processing on emissions could not be determined.
- ^c Hazardous air pollutants (HAP) as defined in the 1990 Clean Air Act Amendments (CAAA).
- ^d Based on data from 19 tests. Range: 0.000063 to 0.0012 lb/ton; median: 0.00030; Standard deviation: 0.00031.
- ^e Based on data from 21 tests. Range: 0.0030 to 0.014 lb/ton; median: 0.0020; Standard deviation: 0.0036.
- ^f Compound has negligible photochemical reactivity.
- ^g Compound is classified as polycyclic organic matter, as defined in the 1990 CAAA. Total PCDD is the sum of the total tetra through octa dioxins; total PCDF is sum of the total tetra through octa furans; and total PCDD/PCDF is the sum of total PCDD and total PCDF.

**Table 11.1-12. EMISSION FACTORS FOR METAL EMISSIONS
FROM DRUM MIX HOT MIX ASPHALT PLANTS^a**

Process	Pollutant	Emission Factor, lb/ton	Emission Factor Rating	Reference Numbers
Fuel oil-fired dryer, uncontrolled (SCC 3-05-002-58, -59,-60)	Arsenic ^b	1.3x10 ⁻⁶	E	340
	Barium	0.00025	E	340
	Beryllium ^b	0.0	E	340
	Cadmium ^b	4.2x10 ⁻⁶	E	340
	Chromium ^b	2.4x10 ⁻⁵	E	340
	Cobalt ^b	1.5x10 ⁻⁵	E	340
	Copper	0.00017	E	340
	Lead ^b	0.00054	E	340
	Manganese ^b	0.00065	E	340
	Nickel ^b	0.0013	E	340
	Phosphorus ^b	0.0012	E	340
	Selenium ^b	2.4x10 ⁻⁶	E	340
	Thallium	2.2x10 ⁻⁶	E	340
	Zinc	0.00018	E	340
Natural gas- or propane-fired dryer, with fabric filter (SCC 3-05-002-55, -56,-57))	Antimony	1.8x10 ⁻⁷	E	339
	Arsenic ^b	5.6x10 ⁻⁷	D	25, 35, 339-340
	Barium	5.8x10 ⁻⁶	E	25, 339-340
	Beryllium ^b	0.0	E	339-340
	Cadmium ^b	4.1x10 ⁻⁷	D	25, 35, 162, 301, 339-340
	Chromium ^b	5.5x10 ⁻⁶	C	25, 162-164, 301, 339-340
	Cobalt ^b	2.6x10 ⁻⁸	E	339-340
	Copper	3.1x10 ⁻⁶	D	25, 162-164, 339-340
	Hexavalent chromium ^b	4.5x10 ⁻⁷	E	163
	Lead ^b	6.2x10 ⁻⁷	E	35
	Manganese ^b	7.7x10 ⁻⁶	D	25, 162-164, 339-340
	Mercury ^b	2.4x10 ⁻⁷	E	35, 163
	Nickel ^b	6.3x10 ⁻⁵	D	25, 163-164, 339-340
	Phosphorus ^b	2.8x10 ⁻⁵	E	25, 339-340
	Silver	4.8x10 ⁻⁷	E	25, 339-340
	Selenium ^b	3.5x10 ⁻⁷	E	339-340
	Thallium	4.1x10 ⁻⁹	E	339-340
	Zinc	6.1x10 ⁻⁵	C	25, 35, 162-164, 339-340

Table 11.1-12 (cont.)

Process	Pollutant	Emission Factor, lb/ton	Emission Factor Rating	Reference Numbers
No. 2 fuel oil-fired dryer or waste oil/drain oil/No. 6 fuel oil-fired dryer, with fabric filter (SCC 3-05-002-58, -59, -60, -61, -62, -63)	Antimony	1.8×10^{-7}	E	339
	Arsenic ^b	5.6×10^{-7}	D	25, 35, 339-340
	Barium	5.8×10^{-6}	E	25, 339-340
	Beryllium ^b	0.0	E	339-340
	Cadmium ^b	4.1×10^{-7}	D	25, 35, 162, 301, 339-340
	Chromium ^b	5.5×10^{-6}	C	25, 162-164, 301, 339-340
	Cobalt ^b	2.6×10^{-8}	E	339-340
	Copper	3.1×10^{-6}	D	25, 162-164, 339-340
	Hexavalent chromium ^b	4.5×10^{-7}	E	163
	Lead ^b	1.5×10^{-5}	C	25, 162, 164, 178-179, 183, 301, 315, 339-340
	Manganese ^b	7.7×10^{-6}	D	25, 162-164, 339-340
	Mercury ^b	2.6×10^{-6}	D	162, 164, 339-340
	Nickel ^b	6.3×10^{-5}	D	25, 163-164, 339-340
	Phosphorus ^b	2.8×10^{-5}	E	25, 339-340
	Silver	4.8×10^{-7}	E	25, 339-340
	Selenium ^b	3.5×10^{-7}	E	339-340
	Thallium	4.1×10^{-9}	E	339-340
	Zinc	6.1×10^{-5}	C	25, 35, 162-164, 339-340

^a Emission factor units are lb/ton of HMA produced. SCC = Source Classification Code. To convert from lb/ton to kg/Mg, multiply by 0.5. Emission factors apply to facilities processing virgin aggregate or a combination of virgin aggregate and RAP.

^b Arsenic, beryllium, cadmium, chromium, hexavalent chromium, cobalt, lead, manganese, mercury, nickel, and selenium compounds are HAPs as defined in the 1990 CAAA. Elemental phosphorus also is a listed HAP, but the phosphorus measured by Method 29 is not elemental phosphorus.

**Table 11.1-14. PREDICTIVE EMISSION FACTOR EQUATIONS
FOR LOAD-OUT AND SILO FILLING OPERATIONS^a**

EMISSION FACTOR RATING: C

Source	Pollutant	Equation
Drum mix or batch mix plant load-out (SCC 3-05-002-14)	Total PM ^b	$EF = 0.000181 + 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)}$
	Organic PM ^c	$EF = 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)}$
	TOC ^d	$EF = 0.0172(-V)e^{((0.0251)(T + 460) - 20.43)}$
	CO	$EF = 0.00558(-V)e^{((0.0251)(T + 460) - 20.43)}$
Silo filling (SCC 3-05-002-13)	Total PM ^b	$EF = 0.000332 + 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)}$
	Organic PM ^c	$EF = 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)}$
	TOC ^d	$EF = 0.0504(-V)e^{((0.0251)(T + 460) - 20.43)}$
	CO	$EF = 0.00488(-V)e^{((0.0251)(T + 460) - 20.43)}$

^a Emission factor units are lb/ton of HMA produced. SCC = Source Classification Code. To convert from lb/ton to kg/Mg, multiply by 0.5. EF = emission factor; V = asphalt volatility, as determined by ASTM Method D2872-88 “Effects of Heat and Air on a Moving Film of Asphalt (Rolling Thin Film Oven Test - RTFOT),” where a 0.5 percent loss-on-heating is expressed as “-0.5.” Regional- or site-specific data for asphalt volatility should be used, whenever possible; otherwise, a default value of -0.5 should be used for V in these equations. T = HMA mix temperature in °F. Site-specific temperature data should be used, whenever possible; otherwise a default temperature of 325°F can be used. Reference 1, Tables 4-27 through 4-31, 4-34 through 4-36, and 4-38 through 4-41.

^b Total PM, as measured by EPA Method 315 (EPA Method 5 plus the extractable organic particulate from the impingers). Total PM is assumed to be predominantly PM-2.5 since emissions consist of condensed vapors.

^c Extractable organic PM, as measured by EPA Method 315 (methylene chloride extract of EPA Method 5 particulate plus methylene chloride extract of impinger particulate).

^d TOC as propane, as measured with an EPA Method 25A sampling train or equivalent sampling train.

Table 11.1-15. SPECIATION PROFILES FOR LOAD-OUT, SILO FILLING, AND ASPHALT STORAGE EMISSIONS—ORGANIC PARTICULATE-BASED COMPOUNDS

EMISSION FACTOR RATING: C

Pollutant	CASRN ^a	Speciation Profile for Load-out and Yard Emissions ^b	Speciation Profile for Silo Filling and Asphalt Storage Tank Emissions
		Compound/Organic PM ^c	Compound/Organic PM ^c
<u>PAH HAPs</u>			
Acenaphthene	83-32-9	0.26%	0.47%
Acenaphthylene	208-96-8	0.028%	0.014%
Anthracene	120-1207	0.070%	0.13%
Benzo(a)anthracene	56-55-3	0.019%	0.056%
Benzo(b)fluoranthene	205-99-2	0.0076%	ND ^d
Benzo(k)fluoranthene	207-08-9	0.0022%	ND ^d
Benzo(g,h,i)perylene	191-24-2	0.0019%	ND ^d
Benzo(a)pyrene	50-32-8	0.0023%	ND ^d
Benzo(e)pyrene	192-97-2	0.0078%	0.0095%
Chrysene	218-01-9	0.103%	0.21%
Dibenz(a,h)anthracene	53-70-3	0.00037%	ND ^d
Fluoranthene	206-44-0	0.050%	0.15%
Fluorene	86-73-7	0.77%	1.01%
Indeno(1,2,3-cd)pyrene	193-39-5	0.00047%	ND ^d
2-Methylnaphthalene	91-57-6	2.38%	5.27%
Naphthalene	91-20-3	1.25%	1.82%
Perylene	198-55-0	0.022%	0.030%
Phenanthrene	85-01-8	0.81%	1.80%
Pyrene	129-00-0	0.15%	0.44%
Total PAH HAPs		5.93%	11.40%
<u>Other semi-volatile HAPs</u>			
Phenol		1.18%	ND ^d

^a Chemical Abstract Service Registry Number.

^b Emissions from loaded trucks during the period between load-out and the time the truck departs the plant.

^c Emission factor for compound is determined by multiplying the percentage presented for the compound by the emission factor for extractable organic particulate (organic PM) as determined from Table 11.1-14.

^d ND = Measured data below detection limits.

Table 11.1-16. SPECIATION PROFILES FOR LOAD-OUT, SILO FILLING, AND ASPHALT STORAGE EMISSIONS—ORGANIC VOLATILE-BASED COMPOUNDS

EMISSION FACTOR RATING: C

Pollutant	CASRN	Speciation Profile for Load-Out and Yard Emissions	Speciation Profile for Silo Filling and Asphalt Storage Tank Emissions
		Compound/TOC ^a	Compound/TOC (%) ^a
VOC ^b		94% ^b	100%
<u>Non-VOC/non-HAPs</u>			
Methane	74-82-8	6.5%	0.26%
Acetone	67-64-1	0.046%	0.055%
Ethylene	74-85-1	0.71%	1.1%
Total non-VOC/non-HAPS		7.3%	1.4%
<u>Volatile organic HAPS</u>			
Benzene	71-43-2	0.052%	0.032%
Bromomethane	74-83-9	0.0096%	0.0049%
2-Butanone	78-93-3	0.049%	0.039%
Carbon Disulfide	75-15-0	0.013%	0.016%
Chloroethane	75-00-3	0.00021%	0.0040%
Chloromethane	74-87-3	0.015%	0.023%
Cumene	92-82-8	0.11%	ND ^c
Ethylbenzene	100-41-4	0.28%	0.038%
Formaldehyde	50-00-0	0.088%	0.69%
n-Hexane	100-54-3	0.15%	0.10%
Isooctane	540-84-1	0.0018%	0.00031%
Methylene Chloride	75-09-2	0.0% ^d	0.00027%
MTBE	596899	0.0% ^d	ND ^c
Styrene	100-42-5	0.0073%	0.0054%
Tetrachloroethene	127-18-4	0.0077%	ND ^c
Toluene	100-88-3	0.21%	0.062%
1,1,1-Trichloroethane	71-55-6	0.0% ^d	ND ^c
Trichloroethene	79-01-6	0.0% ^d	ND ^c
Trichlorofluoromethane	75-69-4	0.0013%	ND ^c
m-/p-Xylene	1330-20-7	0.41%	0.2%
o-Xylene	95-47-6	0.08%	0.057%
Total volatile organic HAPs		1.5%	1.3%

Table 11.1-16 (cont.)

- ^a Emission factor for compound is determined by multiplying the percentage presented for the compound by the emission factor for total organic compounds (TOC) as determined from Table 11.1-14.
- ^b The VOC percentages are equal to 100 percent of TOC minus the methane, acetone, methylene chloride, and 1,1,1-trichloroethane percentages.
- ^c ND = Measured data below detection limits. Additional compounds that were not detected are: acrylonitrile, allyl chloride, bromodichloromethane, bromoform, 1,3-butadiene, carbon tetrachloride, chlorobenzene, chloroform, dibromochloromethane, 1,2-dibromoethane, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,2-dichloropropane, cis-1,3-dichloropropene, trans-1,3-dichloropropene, 1,2-epoxybutane, ethyl acrylate, 2-hexanone, iodomethane, methyl methacrylate, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, vinyl acetate, vinyl bromide, and vinyl chloride
- ^d Values presented as 0.0% had background concentrations higher than the capture efficiency-corrected measured concentration.



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.

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 ^f	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 x 10 ^{-5j}	D	1.3 x 10 ^{-5q}	E
Wet Drilling - Unfragmented Stone (SCC 3-05-020-10)	ND		8.0 x 10 ^{-5j}	E	ND	
Truck Unloading - Fragmented Stone (SCC 3-05-020-31)	ND		1.6 x 10 ^{-5j}	E	ND	
Truck Unloading - 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.

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1.3 Fuel Oil Combustion

1.3.1 General¹⁻³

Two major categories of fuel oil are burned by combustion sources: distillate oils and residual oils. These oils are further distinguished by grade numbers, with Nos. 1 and 2 being distillate oils; Nos. 5 and 6 being residual oils; and No. 4 being either distillate oil or a mixture of distillate and residual oils. No. 6 fuel oil is sometimes referred to as Bunker C. Distillate oils are more volatile and less viscous than residual oils. They have negligible nitrogen and ash contents and usually contain less than 0.3 percent sulfur (by weight). Distillate oils are used mainly in domestic and small commercial applications, and include kerosene and diesel fuels. Being more viscous and less volatile than distillate oils, the heavier residual oils (Nos. 5 and 6) may need to be heated for ease of handling and to facilitate proper atomization. Because residual oils are produced from the residue remaining after the lighter fractions (gasoline, kerosene, and distillate oils) have been removed from the crude oil, they contain significant quantities of ash, nitrogen, and sulfur. Residual oils are used mainly in utility, industrial, and large commercial applications.

1.3.2 Firing Practices⁴

The major boiler configurations for fuel oil-fired combustors are watertube, firetube, cast iron, and tubeless design. Boilers are classified according to design and orientation of heat transfer surfaces, burner configuration, and size. These factors can all strongly influence emissions as well as the potential for controlling emissions.

Watertube boilers are used in a variety of applications ranging from supplying large amounts of process steam to providing space heat for industrial facilities. In a watertube boiler, combustion heat is transferred to water flowing through tubes which line the furnace walls and boiler passes. The tube surfaces in the furnace (which houses the burner flame) absorb heat primarily by radiation from the flames. The tube surfaces in the boiler passes (adjacent to the primary furnace) absorb heat primarily by convective heat transfer.

Firetube boilers are used primarily for heating systems, industrial process steam generators, and portable power boilers. In firetube boilers, the hot combustion gases flow through the tubes while the water being heated circulates outside of the tubes. At high pressures and when subjected to large variations in steam demand, firetube units are more susceptible to structural failure than watertube boilers. This is because the high-pressure steam in firetube units is contained by the boiler walls rather than by multiple small-diameter watertubes, which are inherently stronger. As a consequence, firetube boilers are typically small and are used primarily where boiler loads are relatively constant. Nearly all firetube boilers are sold as packaged units because of their relatively small size.

A cast iron boiler is one in which combustion gases rise through a vertical heat exchanger and out through an exhaust duct. Water in the heat exchanger tubes is heated as it moves upward through the tubes. Cast iron boilers produce low pressure steam or hot water, and generally burn oil or natural gas. They are used primarily in the residential and commercial sectors.

Another type of heat transfer configuration used on smaller boilers is the tubeless design. This design incorporates nested pressure vessels with water in between the shells. Combustion gases are fired into the inner pressure vessel and are then sometimes recirculated outside the second vessel.

Table 1.3-1. (cont.)

Firing Configuration (SCC) ^a	SO ₂ ^b		SO ₃ ^c		NO _x ^d		CO ^e		Filterable PM ^f	
	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING
Boilers < 100 Million Btu/hr										
No. 6 oil fired (1-02-004-02/03) (1-03-004-02/03)	157S	A	2S	A	55	A	5	A	9.19(S)+3.22 ⁱ	B
No. 5 oil fired (1-03-004-04)	157S	A	2S	A	55	A	5	A	10 ⁱ	A
No. 4 oil fired (1-03-005-04)	150S	A	2S	A	20	A	5	A	7	B
Distillate oil fired (1-02-005-02/03) (1-03-005-02/03)	142S	A	2S	A	20	A	5	A	2	A
Residential furnace (A2104004/A2104011)	142S	A	2S	A	18	A	5	A	0.4 ^g	B

a To convert from lb/103 gal to kg/103 L, multiply by 0.120. SCC = Source Classification Code.

b References 1-2,6-9,14,56-60. S indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1% sulfur, then S = 1.

c References 1-2,6-8,16,57-60. S indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1% sulfur, then S = 1.

d References 6-7,15,19,22,56-62. Expressed as NO₂. Test results indicate that at least 95% by weight of NO_x is NO for all boiler types except residential furnaces, where about 75% is NO. For utility vertical fired boilers use 105 lb/103 gal at full load and normal (>15%) excess air. Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are related to fuel nitrogen content, estimated by the following empirical relationship: lb NO₂ /103 gal = 20.54 + 104.39(N), where N is the weight % of nitrogen in the oil. For example, if the fuel is 1% nitrogen, then N = 1.

e References 6-8,14,17-19,56-61. CO emissions may increase by factors of 10 to 100 if the unit is improperly operated or not well maintained.

f References 6-8,10,13-15,56-60,62-63. Filterable PM is that particulate collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Particulate emission factors for residual oil combustion are, on average, a function of fuel oil sulfur content where S is the weight % of sulfur in oil. For example, if fuel oil is 1% sulfur, then S = 1.

g Based on data from new burner designs. Pre-1970's burner designs may emit filterable PM as high as 3.0 lb/103 gal.

h The SO₂ emission factor for both no. 2 oil fired and for no. 2 oil fired with LNB/FGR, is 142S, not 157S. Errata dated April 28, 2000. Section corrected May 2010.

i The PM factors for No.6 and No. 5 fuel were reversed. Errata dated April 28, 2000. Section corrected May 2010.

Table 1.3-2. CONDENSABLE PARTICULATE MATTER EMISSION FACTORS FOR OIL COMBUSTION^a

Firing Configuration ^b (SCC)	Controls	CPM - TOT ^{c, d}		CPM - IOR ^{c, d}		CPM - ORG ^{c, d}	
		Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING
No. 2 oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	All controls, or uncontrolled	1.3 ^{d, e}	D	65% of CPM-TOT emission factor ^c	D	35% of CPM-TOT emission factor ^c	D
No. 6 oil fired (1-01-004-01/04, 1-02-004-01, 1-03-004-01)	All controls, or uncontrolled	1.5 ^f	D	85% of CPM-TOT emission factor ^d	E	15% of CPM-TOT emission factor ^d	E

^a All condensable PM is assumed to be less than 1.0 micron in diameter.

^b No data are available for numbers 3, 4, and 5 oil. For number 3 oil, use the factors provided for number 2 oil. For numbers 4 and 5 oil, use the factors provided for number 6 oil.

^c CPM-TOT = total condensable particulate matter.

CPM-IOR = inorganic condensable particulate matter.

CPM-ORG = organic condensable particulate matter.

^d To convert to lb/MMBtu of No. 2 oil, divide by 140 MMBtu/10³ gal. To convert to lb/MMBtu of No. 6 oil, divide by 150 MMBtu/10³ gal.

^e References: 76-78.

^f References: 79-82.

Table 1.3-3. EMISSION FACTORS FOR TOTAL ORGANIC COMPOUNDS (TOC), METHANE, AND NONMETHANE TOC (NMTOC) FROM UNCONTROLLED FUEL OIL COMBUSTION^a

EMISSION FACTOR RATING: A

Firing Configuration (SCC)	TOC ^b Emission Factor (lb/10 ³ gal)	Methane ^b Emission Factor (lb/10 ³ gal)	NMTOC ^b Emission Factor (lb/10 ³ gal)
Utility boilers			
No. 6 oil fired, normal firing (1-01-004-01)	1.04	0.28	0.76
No. 6 oil fired, tangential firing (1-01-004-04)	1.04	0.28	0.76
No. 5 oil fired, normal firing (1-01-004-05)	1.04	0.28	0.76
No. 5 oil fired, tangential firing (1-01-004-06)	1.04	0.28	0.76
No. 4 oil fired, normal firing (1-01-005-04)	1.04	0.28	0.76
No. 4 oil fired, tangential firing (1-01-005-05)	1.04	0.28	0.76
Industrial boilers			
No. 6 oil fired (1-02-004-01/02/03)	1.28	1.00	0.28
No. 5 oil fired (1-02-004-04)	1.28	1.00	0.28
Distillate oil fired (1-02-005-01/02/03)	0.252	0.052	0.2
No. 4 oil fired (1-02-005-04)	0.252	0.052	0.2
Commercial/institutional/residential combustors			
No. 6 oil fired (1-03-004-01/02/03)	1.605	0.475	1.13
No. 5 oil fired (1-03-004-04)	1.605	0.475	1.13
Distillate oil fired (1-03-005-01/02/03)	0.556	0.216	0.34
No. 4 oil fired (1-03-005-04)	0.556	0.216	0.34
Residential furnace (A2104004/A2104011)	2.493	1.78	0.713

a To convert from lb/103 gal to kg/103 L, multiply by 0.12. SCC = Source Classification Code.

b References 29-32. Volatile organic compound emissions can increase by several orders of magnitude if the boiler is improperly operated or is not well maintained.

Table 1.3-9. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS
FROM FUEL OIL COMBUSTION^a

Organic Compound	Average Emission Factor ^b (lb/10 ³ Gal)	EMISSION FACTOR RATING
Benzene	2.14E-04	C
Ethylbenzene	6.36E-05 ^c	E
Formaldehyde ^d	3.30E-02	C
Naphthalene	1.13E-03	C
1,1,1-Trichloroethane	2.36E-04 ^c	E
Toluene	6.20E-03	D
o-Xylene	1.09E-04 ^c	E
Acenaphthene	2.11E-05	C
Acenaphthylene	2.53E-07	D
Anthracene	1.22E-06	C
Benz(a)anthracene	4.01E-06	C
Benzo(b,k)fluoranthene	1.48E-06	C
Benzo(g,h,i)perylene	2.26E-06	C
Chrysene	2.38E-06	C
Dibenzo(a,h) anthracene	1.67E-06	D
Fluoranthene	4.84E-06	C
Fluorene	4.47E-06	C
Indo(1,2,3-cd)pyrene	2.14E-06	C
Phenanthrene	1.05E-05	C
Pyrene	4.25E-06	C
OCDD	3.10E-09 ^c	E

^a Data are for residual oil fired boilers, Source Classification Codes (SCCs) 1-01-004-01/04.

^b References 64-72. To convert from lb/10³ gal to kg/10³ L, multiply by 0.12.

^c Based on data from one source test (Reference 67).

^d The formaldehyde number presented here is based only on data from utilities using No. 6 oil. The number presented in Table 1.3-7 is based on utility, commercial, and industrial boilers.

Table 1.3-10. EMISSION FACTORS FOR TRACE ELEMENTS FROM DISTILLATE FUEL OIL COMBUSTION SOURCES^a

EMISSION FACTOR RATING: E

Firing Configuration (SCC)	Emission Factor (lb/10 ¹² Btu)										
	As	Be	Cd	Cr	Cu	Pb	Hg	Mn	Ni	Se	Zn
Distillate oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	4	3	3	3	6	9	3	6	3	15	4

^a Data are for distillate oil fired boilers, SCC codes 1-01-005-01, 1-02-005-01, and 1-03-005-01. References 29-32, 40-44 and 83. To convert from lb/10¹² Btu to pg/J, multiply by 0.43.

13.2.1 Paved Roads

13.2.1.1 General

Particulate emissions occur whenever vehicles travel over a paved surface such as a road or parking lot. Particulate emissions from paved roads are due to direct emissions from vehicles in the form of exhaust, brake wear and tire wear emissions and resuspension of loose material on the road surface. In general terms, resuspended particulate emissions from paved roads originate from, and result in the depletion of, the loose material present on the surface (i.e., the surface loading). In turn, that surface loading is continuously replenished by other sources. At industrial sites, surface loading is replenished by spillage of material and trackout from unpaved roads and staging areas. Figure 13.2.1-1 illustrates several transfer processes occurring on public streets.

Various field studies have found that public streets and highways, as well as roadways at industrial facilities, can be major sources of the atmospheric particulate matter within an area.¹⁻⁹ Of particular interest in many parts of the United States are the increased levels of emissions from public paved roads when the equilibrium between deposition and removal processes is upset. This situation can occur for various reasons, including application of granular materials for snow and ice control, mud/dirt carryout from construction activities in the area, and deposition from wind and/or water erosion of surrounding unstabilized areas. In the absence of continuous addition of fresh material (through localized track out or application of antiskid material), paved road surface loading should reach an equilibrium value in which the amount of material resuspended matches the amount replenished. The equilibrium surface loading value depends upon numerous factors. It is believed that the most important factors are: mean speed of vehicles traveling the road; the average daily traffic (ADT); the number of lanes and ADT per lane; the fraction of heavy vehicles (buses and trucks); and the presence/absence of curbs, storm sewers and parking lanes.¹⁰

The particulate emission factors presented in a previous version of this section of AP-42, dated October 2002, implicitly included the emissions from vehicles in the form of exhaust, brake wear, and tire wear as well as resuspended road surface material. EPA included these sources in the emission factor equation for paved roads since the field testing data used to develop the equation included both the direct emissions from vehicles and emissions from resuspension of road dust.

This version of the paved road emission factor equation only estimates particulate emissions from resuspended road surface material²⁸. The particulate emissions from vehicle exhaust, brake wear, and tire wear are now estimated separately using EPA's MOVES²⁹ model. This approach eliminates the possibility of double counting emissions. Double counting results when employing the previous version of the emission factor equation in this section and MOVES to estimate particulate emissions from vehicle traffic on paved roads. It also incorporates the decrease in exhaust emissions that has occurred since the paved road emission factor equation was developed. Earlier versions of the paved road emission factor equation includes estimates of emissions from exhaust, brake wear, and tire wear based on emission rates for vehicles in the 1980 calendar year fleet. The amount of PM released from vehicle exhaust has decreased since 1980 due to lower new vehicle emission standards and changes in fuel characteristics.

13.2.1.3 Predictive Emission Factor Equations^{10,29}

The quantity of particulate emissions from resuspension of loose material on the road surface due to vehicle travel on a dry paved road may be estimated using the following empirical expression:

$$E = k (sL)^{0.91} \times (W)^{1.02} \quad (1)$$

where: E = particulate emission factor (having units matching the units of k),
 k = particle size multiplier for particle size range and units of interest (see below),
 sL = road surface silt loading (grams per square meter) (g/m^2), and
 W = average weight (tons) of the vehicles traveling the road.

It is important to note that Equation 1 calls for the average weight of all vehicles traveling the road. For example, if 99 percent of traffic on the road are 2 ton cars/trucks while the remaining 1 percent consists of 20 ton trucks, then the mean weight "W" is 2.2 tons. More specifically, Equation 1 is *not* intended to be used to calculate a separate emission factor for each vehicle weight class. Instead, only one emission factor should be calculated to represent the "fleet" average weight of all vehicles traveling the road.

The particle size multiplier (k) above varies with aerodynamic size range as shown in Table 13.2.1-1. To determine particulate emissions for a specific particle size range, use the appropriate value of k shown in Table 13.2.1-1.

To obtain the total emissions factor, the emission factors for the exhaust, brake wear and tire wear obtained from either EPA's MOBILE6.2²⁷ or MOVES2010²⁹ model should be added to the emissions factor calculated from the empirical equation.

Table 13.2.1-1. PARTICLE SIZE MULTIPLIERS FOR PAVED ROAD EQUATION

Size range ^a	Particle Size Multiplier k^b		
	g/VKT	g/VMT	lb/VMT
PM-2.5 ^c	0.15	0.25	0.00054
PM-10	0.62	1.00	0.0022
PM-15	0.77	1.23	0.0027
PM-30 ^d	3.23	5.24	0.011

^a Refers to airborne particulate matter (PM-x) with an aerodynamic diameter equal to or less than x micrometers.

^b Units shown are grams per vehicle kilometer traveled (g/VKT), grams per vehicle mile traveled (g/VMT), and pounds per vehicle mile traveled (lb/VMT). The multiplier k includes unit conversions to produce emission factors in the units shown for the indicated size range from the mixed units required in Equation 1.

^c The k -factors for PM_{2.5} were based on the average PM_{2.5}:PM₁₀ ratio of test runs in Reference 30.

^d PM-30 is sometimes termed "suspendable particulate" (SP) and is often used as a surrogate for TSP.

Equation 1 is based on a regression analysis of 83 tests for PM-10.^{3, 5-6, 8, 27-29, 31-36} Sources tested include public paved roads, as well as controlled and uncontrolled industrial paved roads. The majority of tests involved freely flowing vehicles traveling at constant speed on relatively level roads. However, 22 tests of slow moving or "stop-and-go" traffic or vehicles under load were available for inclusion in the data base.³²⁻³⁶ Engine exhaust, tire wear and break wear were subtracted from the emissions measured in the test programs prior to stepwise regression to determine Equation 1.^{37, 39} The equations retain the quality rating of A (D for PM-2.5), if applied within the range of source conditions that were tested in developing the equation as follows:

Silt loading:	0.03 - 400 g/m ² 0.04 - 570 grains/square foot (ft ²)
Mean vehicle weight:	1.8 - 38 megagrams (Mg) 2.0 - 42 tons
Mean vehicle speed:	1 - 88 kilometers per hour (kph) 1 - 55 miles per hour (mph)

The upper and lower 95% confidence levels of equation 1 for PM₁₀ is best described with equations using an exponents of 1.14 and 0.677 for silt loading and an exponents of 1.19 and 0.85 for weight. Users are cautioned that application of equation 1 outside of the range of variables and operating conditions specified above, e.g., application to roadways or road networks with speeds above 55 mph and average vehicle weights of 42 tons, will result in emission estimates with a higher level of uncertainty. In these situations, users are encouraged to consider an assessment of the impacts of the influence of extrapolation to the overall emissions and alternative methods that are equally or more plausible in light of local emissions data and/or ambient concentration or compositional data.

To retain the quality rating for the emission factor equation when it is applied to a specific paved road, it is necessary that reliable correction parameter values for the specific road in question be determined. With the exception of limited access roadways, which are difficult to sample, the collection and use of site-specific silt loading (sL) data for public paved road emission inventories are strongly recommended. The field and laboratory procedures for determining surface material silt content and surface dust loading are summarized in Appendices C.1 and C.2. In the event that site-specific values cannot be obtained, an appropriate value for a paved public road may be selected from the values in Table 13.2.1-2, but the quality rating of the equation should be reduced by 2 levels.

Equation 1 may be extrapolated to average uncontrolled conditions (but including natural mitigation) under the simplifying assumption that annual (or other long-term) average emissions are inversely proportional to the frequency of measurable (> 0.254 mm [0.01 inch]) precipitation by application of a precipitation correction term. The precipitation correction term can be applied on a daily or an hourly basis^{26, 38}.

For the daily basis, Equation 1 becomes:

$$E_{ext} = [k (sL)^{0.91} \times (W)^{1.02}] (1 - P/4N) \quad (2)$$

where k , sL , W , and S are as defined in Equation 1 and

E_{ext} = annual or other long-term average emission factor in the same units as k ,

P = number of "wet" days with at least 0.254 mm (0.01 in) of precipitation during the averaging period, and

N = number of days in the averaging period (e.g., 365 for annual, 91 for seasonal, 30 for monthly).

Note that the assumption leading to Equation 2 is based on analogy with the approach used to develop long-term average unpaved road emission factors in Section 13.2.2. However, Equation 2 above incorporates an additional factor of "4" in the denominator to account for the fact that paved roads dry more quickly than unpaved roads and that the precipitation may not occur over the complete 24-hour day.

For the hourly basis, equation 1 becomes:

$$E_{ext} = [k (sL)^{0.91} \times (W)^{1.02}] (1 - 1.2P/N) \quad (3)$$

where k , sL , W , and S are as defined in Equation 1 and

E_{ext} = annual or other long-term average emission factor in the same units as k ,
 P = number of hours with at least 0.254 mm (0.01 in) of precipitation during the averaging period, and
 N = number of hours in the averaging period (e.g., 8760 for annual, 2124 for season 720 for monthly)

Note: In the hourly moisture correction term $(1 - 1.2P/N)$ for equation 3, the 1.2 multiplier is applied to account for the residual mitigative effect of moisture. For most applications, this equation will produce satisfactory results. Users should select a time interval to include sufficient "dry" hours such that a reasonable emissions averaging period is evaluated. For the special case where this equation is used to calculate emissions on an hour by hour basis, such as would be done in some emissions modeling situations, the moisture correction term should be modified so that the moisture correction "credit" is applied to the first hours following cessation of precipitation. In this special case, it is suggested that this 20% "credit" be applied on a basis of one hour credit for each hour of precipitation up to a maximum of 12 hours.

Note that the assumption leading to Equation 3 is based on analogy with the approach used to develop long-term average unpaved road emission factors in Section 13.2.2.

Figure 13.2.1-2 presents the geographical distribution of "wet" days on an annual basis for the United States. Maps showing this information on a monthly basis are available in the *Climatic Atlas of the United States*²³. Alternative sources include other Department of Commerce publications (such as local climatological data summaries). The National Climatic Data Center (NCDC) offers several products that provide hourly precipitation data. In particular, NCDC offers *Solar and Meteorological Surface Observation Network 1961-1990* (SAMSON) CD-ROM, which contains 30 years worth of hourly meteorological data for first-order National Weather Service locations. Whatever meteorological data are used, the source of that data and the averaging period should be clearly specified.

It is emphasized that the simple assumption underlying Equations 2 and 3 has not been verified in any rigorous manner. For that reason, the quality ratings for Equations 2 and 3 should be downgraded one letter from the rating that would be applied to Equation 1.

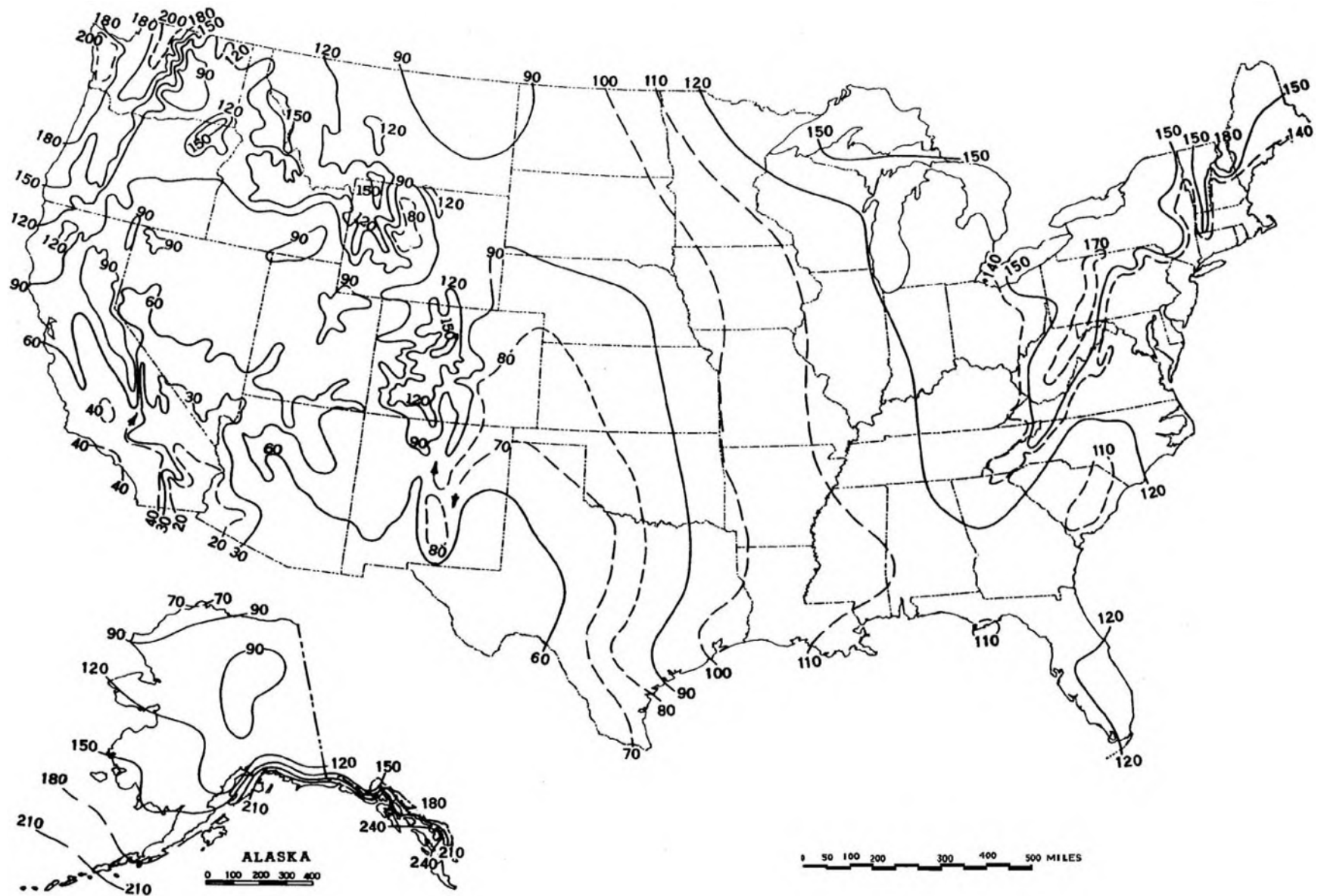


Figure 13.2.1-2. Mean number of days with 0.01 inch or more of precipitation in the United States.

Table 13.2.1-2 presents recommended default silt loadings for normal baseline conditions and for wintertime baseline conditions in areas that experience frozen precipitation with periodic application of antiskid material²⁴. The winter baseline is represented as a multiple of the non-winter baseline, depending on the ADT value for the road in question. As shown, a multiplier of 4 is applied for low volume roads (< 500 ADT) to obtain a wintertime baseline silt loading of $4 \times 0.6 = 2.4 \text{ g/m}^2$.

Table 13.2.1-2. Ubiquitous Silt Loading Default Values with Hot Spot Contributions from Anti-Skid Abrasives (g/m^2)

ADT Category	< 500	500-5,000	5,000-10,000	> 10,000
Ubiquitous Baseline g/m^2	0.6	0.2	0.06	0.03 0.015 limited access
Ubiquitous Winter Baseline Multiplier during months with frozen precipitation	X4	X3	X2	X1
Initial peak additive contribution from application of antiskid abrasive (g/m^2)	2	2	2	2
Days to return to baseline conditions (assume linear decay)	7	3	1	0.5

It is suggested that an additional (but temporary) silt loading contribution of 2 g/m^2 occurs with each application of antiskid abrasive for snow/ice control. This was determined based on a typical application rate of 500 lb per lane mile and an initial silt content of 1 % silt content. Ordinary rock salt and other chemical deicers add little to the silt loading, because most of the chemical dissolves during the snow/ice melting process.

To adjust the baseline silt loadings for mud/dirt trackout, the number of trackout points is required. It is recommended that in calculating PM_{10} emissions, six additional miles of road be added for each active trackout point from an active construction site, to the paved road mileage of the specified category within the county. In calculating $\text{PM}_{2.5}$ emissions, it is recommended that three additional miles of road be added for each trackout point from an active construction site.

It is suggested the number of trackout points for activities other than road and building construction areas be related to land use. For example, in rural farming areas, each mile of paved road would have a specified number of trackout points at intersections with unpaved roads. This value could be estimated from the unpaved road density (mi/sq. mi.).

The use of a default value from Table 13.2.1-2 should be expected to yield only an order-of-magnitude estimate of the emission factor. Public paved road silt loadings are dependent

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

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

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

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 Controls¹²⁻¹³

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.

NEW MEXICO

STATION	Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
ALBUQUERQUE INTL SUNPORT AP (KABQ)	2001-2011	7.0	7.7	8.8	10.4	9.7	9.2	8.1	7.7	7.5	7.3	7.1	6.7	8.1
CARLSBAD-CAVERN CITY AP (KCNM)	2001-2011	8.7	9.7	10.6	11.4	10.1	9.7	7.9	7.2	7.6	8.1	8.3	8.4	9.0
CLAYTON MUNICIPAL AIRPARK AP (KCAO)	2001-2011	11.8	12.3	13.0	14.5	13.4	12.8	11.5	11.1	11.7	12.0	12.4	11.9	12.4
CLINES CORNERS (KCQC)	2001-2011	15.9	15.9	15.7	16.7	14.3	13.0	10.0	10.1	11.2	13.4	14.8	16.3	14.0
DEMING MUNICIPAL AIRPORT (KDMN)	2001-2011	8.1	9.0	9.8	11.0	10.0	9.3	7.9	7.1	7.4	7.4	7.6	7.7	8.5
FARMINGTON-FOUR CORNERS AP (KFMN)	2001-2011	6.6	7.6	8.6	9.8	9.0	8.7	8.1	7.5	7.4	7.3	7.2	7.0	7.9
GALLUP MUNICIPAL AIRPORT (KGUP)	2001-2011	5.1	6.6	8.1	10.5	9.2	8.6	6.6	5.9	6.1	6.1	5.8	5.5	7.0
GRANTS-MILAN MUNI AIRPORT (KGNT)	2001-2011	7.6	8.3	9.2	10.6	9.6	9.0	7.7	6.9	7.4	7.7	7.9	7.5	8.3
LAS VEGAS MUNICIPAL ARPT (KLVS)	2001-2011	10.2	11.6	12.0	14.0	12.5	11.6	9.2	9.1	10.0	10.3	10.7	10.6	11.0
RATON MUNI/CREWS FIELD APT (KRTN)	2001-2011	8.1	9.0	9.9	11.9	10.9	10.0	8.0	7.8	8.2	8.7	8.4	8.1	9.1
ROSWELL INTERNATIONAL AP (KROW)	2001-2011	7.2	8.5	9.5	10.6	9.9	10.0	8.3	7.5	7.7	7.6	7.4	7.0	8.4
SANTA FE MUNICIPAL AIRPORT (KSAF)	2001-2011	8.7	8.7	9.4	10.6	10.3	9.6	8.4	8.1	8.1	8.3	8.3	8.3	8.9
TRUTH OR CONSEQUENCES AP (KTCS)	2001-2011	7.1	8.4	9.6	10.6	10.0	9.2	7.4	7.1	7.0	7.6	7.5	6.9	8.2
TUCUMCARI MUNICIPAL ARPT (KTCC)	2001-2011	9.7	10.4	11.4	13.1	11.8	11.6	9.5	9.2	9.7	9.9	10.3	10.1	10.6

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	C&EGamerco
City:	Albuquerque
State:	New Mexico
Company:	C&E Concrete, Inc
Type of Tank:	Horizontal Tank
Description:	C&E Gamerco HMA Tank #1

Tank Dimensions

Shell Length (ft):	54.00
Diameter (ft):	8.00
Volume (gallons):	20,000.00
Turnovers:	162.69
Net Throughput(gal/yr):	3,253,800.00
Is Tank Heated (y/n):	Y
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Aluminum/Diffuse
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Albuquerque, New Mexico (Avg Atmospheric Pressure = 12.15 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

C&EGamerco - Horizontal Tank
Albuquerque, New Mexico

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Asphalt Cement	All	350.00	350.00	350.00	350.00	0.0347	0.0347	0.0347	105.0000			1,000.00	Option 3: A=75350.06, B=9.00346

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

C&EGamerco - Horizontal Tank Albuquerque, New Mexico

Annual Emission Calculations

Standing Losses (lb):	0.0000
Vapor Space Volume (cu ft):	1,728.8765
Vapor Density (lb/cu ft):	0.0004
Vapor Space Expansion Factor:	0.0000
Vented Vapor Saturation Factor:	0.9927
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	1,728.8765
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	23.4589
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	54.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0004
Vapor Molecular Weight (lb/lb-mole):	105.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0347
Daily Avg. Liquid Surface Temp. (deg. R):	809.6700
Daily Average Ambient Temp. (deg. F):	56.1542
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	809.6700
Tank Paint Solar Absorptance (Shell):	0.6000
Daily Total Solar Insulation Factor (Btu/sqft day):	1,765.3167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0000
Daily Vapor Temperature Range (deg. R):	0.0000
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0347
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0347
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0347
Daily Avg. Liquid Surface Temp. (deg R):	809.6700
Daily Min. Liquid Surface Temp. (deg R):	809.6700
Daily Max. Liquid Surface Temp. (deg R):	809.6700
Daily Ambient Temp. Range (deg. R):	27.9250
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9927
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0347
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	99.1679
Vapor Molecular Weight (lb/lb-mole):	105.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0347
Annual Net Throughput (gal/yr.):	3,253,800.0000
Annual Turnovers:	162.6900
Turnover Factor:	0.3511
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	99.1679

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

C&EGamerco - Horizontal Tank
Albuquerque, New Mexico

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Asphalt Cement	99.17	0.00	99.17

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	C&EGamerco2
City:	Albuquerque
State:	New Mexico
Company:	C&E Concrete, Inc
Type of Tank:	Horizontal Tank
Description:	C&E Gamerco HMA Tank #2

Tank Dimensions

Shell Length (ft):	54.00
Diameter (ft):	8.00
Volume (gallons):	20,000.00
Turnovers:	162.69
Net Throughput(gal/yr):	3,253,800.00
Is Tank Heated (y/n):	Y
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Aluminum/Diffuse
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Albuquerque, New Mexico (Avg Atmospheric Pressure = 12.15 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

C&EGamerco2 - Horizontal Tank
Albuquerque, New Mexico

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Asphalt Cement	All	350.00	350.00	350.00	350.00	0.0347	0.0347	0.0347	105.0000			1,000.00	Option 3: A=75350.06, B=9.00346

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

C&EGamerco2 - Horizontal Tank Albuquerque, New Mexico

Annual Emission Calculations

Standing Losses (lb):	0.0000
Vapor Space Volume (cu ft):	1,728.8765
Vapor Density (lb/cu ft):	0.0004
Vapor Space Expansion Factor:	0.0000
Vented Vapor Saturation Factor:	0.9927
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	1,728.8765
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	23.4589
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	54.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0004
Vapor Molecular Weight (lb/lb-mole):	105.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0347
Daily Avg. Liquid Surface Temp. (deg. R):	809.6700
Daily Average Ambient Temp. (deg. F):	56.1542
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	809.6700
Tank Paint Solar Absorptance (Shell):	0.6000
Daily Total Solar Insulation Factor (Btu/sqft day):	1,765.3167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0000
Daily Vapor Temperature Range (deg. R):	0.0000
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0347
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0347
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0347
Daily Avg. Liquid Surface Temp. (deg R):	809.6700
Daily Min. Liquid Surface Temp. (deg R):	809.6700
Daily Max. Liquid Surface Temp. (deg R):	809.6700
Daily Ambient Temp. Range (deg. R):	27.9250
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9927
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0347
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	99.1679
Vapor Molecular Weight (lb/lb-mole):	105.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0347
Annual Net Throughput (gal/yr.):	3,253,800.0000
Annual Turnovers:	162.6900
Turnover Factor:	0.3511
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	99.1679

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

C&EGamerco2 - Horizontal Tank
Albuquerque, New Mexico

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Asphalt Cement	99.17	0.00	99.17



Emission Factors for Greenhouse Gas Inventories

Last Modified: 9 March 2018

Red text indicates an update from the 2015 version of this document.

Typically, greenhouse gas emissions are reported in units of carbon dioxide equivalent (CO₂e). Gases are converted to CO₂e by multiplying by their global warming potential (GWP). The emission factors listed in this document

Gas	100-Year GWP
CH ₄	25
N ₂ O	298

Source: Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment

Table 1	Stationary Combustion						
Fuel Type	Heat Content (HHV)	CO ₂ Factor	CH ₄ Factor	N ₂ O Factor	CO ₂ Factor	CH ₄ Factor	N ₂ O Factor
	mmBtu per short ton	kg CO ₂ per mmBtu	g CH ₄ per mmBtu	g N ₂ O per mmBtu	kg CO ₂ per short ton	g CH ₄ per short ton	g N ₂ O per short ton
Coal and Coke							
Anthracite Coal	25.09	103.69	11	1.6	2,602	276	40
Bituminous Coal	24.93	93.28	11	1.6	2,325	274	40
Sub-bituminous Coal	17.25	97.17	11	1.6	1,676	190	28
Lignite Coal	14.21	97.72	11	1.6	1,389	156	23
Mixed (Commercial Sector)	21.39	94.27	11	1.6	2,016	235	34
Mixed (Electric Power Sector)	19.73	95.52	11	1.6	1,885	217	32
Mixed (Industrial Coking)	26.28	93.90	11	1.6	2,468	289	42
Mixed (Industrial Sector)	22.35	94.67	11	1.6	2,116	246	36
Coal Coke	24.80	113.67	11	1.6	2,819	273	40
Other Fuels - Solid							
Municipal Solid Waste	9.95	90.70	32	4.2	902	318	42
Petroleum Coke (Solid)	30.00	102.41	32	4.2	3,072	960	126
Plastics	38.00	75.00	32	4.2	2,850	1,216	160
Tires	28.00	85.97	32	4.2	2,407	896	118
Biomass Fuels - Solid							
Agricultural Byproducts	8.25	118.17	32	4.2	975	264	35
Peat	8.00	111.84	32	4.2	895	256	34
Solid Byproducts	10.39	105.51	32	4.2	1,096	332	44
Wood and Wood Residuals	17.48	93.80	7.2	3.6	1,640	126	63
	mmBtu per scf	kg CO ₂ per mmBtu	g CH ₄ per mmBtu	g N ₂ O per mmBtu	kg CO ₂ per scf	g CH ₄ per scf	g N ₂ O per scf
Natural Gas							
Natural Gas	0.001026	53.06	1.0	0.10	0.05444	0.00103	0.00010
Other Fuels - Gaseous							
Blast Furnace Gas	0.000092	274.32	0.022	0.10	0.02524	0.000002	0.000009
Coke Oven Gas	0.000599	46.85	0.48	0.10	0.02806	0.000288	0.000060
Fuel Gas	0.001388	59.00	3.0	0.60	0.08189	0.004164	0.000833
Propane Gas	0.002516	61.46	3.0	0.60	0.15463	0.007548	0.001510
Biomass Fuels - Gaseous							
Landfill Gas	0.000485	52.07	3.2	0.63	0.025254	0.001552	0.000306
Other Biomass Gases	0.000655	52.07	3.2	0.63	0.034106	0.002096	0.000413
	mmBtu per gallon	kg CO ₂ per mmBtu	g CH ₄ per mmBtu	g N ₂ O per mmBtu	kg CO ₂ per gallon	g CH ₄ per gallon	g N ₂ O per gallon
Petroleum Products							
Asphalt and Road Oil	0.158	75.36	3.0	0.60	11.91	0.47	0.09
Aviation Gasoline	0.120	69.25	3.0	0.60	8.31	0.36	0.07
Butane	0.103	64.77	3.0	0.60	6.67	0.31	0.06
Butylene	0.105	68.72	3.0	0.60	7.22	0.32	0.06
Crude Oil	0.138	74.54	3.0	0.60	10.29	0.41	0.08
Distillate Fuel Oil No. 1	0.139	73.25	3.0	0.60	10.18	0.42	0.08
Distillate Fuel Oil No. 2	0.138	73.96	3.0	0.60	10.21	0.41	0.08
Distillate Fuel Oil No. 4	0.146	75.04	3.0	0.60	10.96	0.44	0.09
Ethane	0.068	59.60	3.0	0.60	4.05	0.20	0.04
Ethylene	0.058	65.96	3.0	0.60	3.83	0.17	0.03
Heavy Gas Oils	0.148	74.92	3.0	0.60	11.09	0.44	0.09
Isobutane	0.099	64.94	3.0	0.60	6.43	0.30	0.06
Isobutylene	0.103	68.86	3.0	0.60	7.09	0.31	0.06
Kerosene	0.135	75.20	3.0	0.60	10.15	0.41	0.08
Kerosene-Type Jet Fuel	0.135	72.22	3.0	0.60	9.75	0.41	0.08
Liquefied Petroleum Gases (LPG)	0.092	61.71	3.0	0.60	5.68	0.28	0.06
Lubricants	0.144	74.27	3.0	0.60	10.69	0.43	0.09
Motor Gasoline	0.125	70.22	3.0	0.60	8.78	0.38	0.08
Naphtha (<401 deg F)	0.125	68.02	3.0	0.60	8.50	0.38	0.08
Natural Gasoline	0.110	66.88	3.0	0.60	7.36	0.33	0.07
Other Oil (>401 deg F)	0.139	76.22	3.0	0.60	10.59	0.42	0.08
Pentanes Plus	0.110	70.02	3.0	0.60	7.70	0.33	0.07
Petrochemical Feedstocks	0.125	71.02	3.0	0.60	8.88	0.38	0.08
Petroleum Coke	0.143	102.41	3.0	0.60	14.64	0.43	0.09
Propane	0.091	62.87	3.0	0.60	5.72	0.27	0.05
Propylene	0.091	67.77	3.0	0.60	6.17	0.27	0.05
Residual Fuel Oil No. 5	0.140	72.93	3.0	0.60	10.21	0.42	0.08
Residual Fuel Oil No. 6	0.150	75.10	3.0	0.60	11.27	0.45	0.09
Special Naphtha	0.125	72.34	3.0	0.60	9.04	0.38	0.08
Unfinished Oils	0.139	74.54	3.0	0.60	10.36	0.42	0.08
Used Oil	0.138	74.00	3.0	0.60	10.21	0.41	0.08
Biomass Fuels - Liquid							
Biodiesel (100%)	0.128	73.84	1.1	0.11	9.45	0.14	0.01
Ethanol (100%)	0.084	68.44	1.1	0.11	5.75	0.09	0.01
Rendered Animal Fat	0.125	71.06	1.1	0.11	8.88	0.14	0.01
Vegetable Oil	0.120	81.55	1.1	0.11	9.79	0.13	0.01
Biomass Fuels - Kraft Pulping Liquor, by Wood Furnish							
North American Softwood		94.4	1.9	0.42			
North American Hardwood		93.7	1.9	0.42			
Bagasse		95.5	1.9	0.42			
Bamboo		93.7	1.9	0.42			
Straw		95.1	1.9	0.42			

Source:

Federal Register EPA; 40 CFR Part 98; e-CFR, June 13, 2017 (see link below). Table C-1, Table C-2, Table AA-1.

https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98_19.1

Note: Emission factors are per unit of heat content using higher heating values (HHV). If heat content is available from the fuel supplier, it is preferable to use that value. If not, default heat contents are provided.



Air Pollution Control Technology Fact Sheet

Name of Technology: Fabric Filter - Pulse-Jet Cleaned Type
(also referred to as Baghouses)

Type of Technology: Control Device - Capture/Disposal

Applicable Pollutants: Particulate Matter (PM), including particulate matter less than or equal to 10 micrometers (μm) in aerodynamic diameter (PM_{10}), particulate matter less than or equal to 2.5 μm in aerodynamic diameter ($\text{PM}_{2.5}$), and hazardous air pollutants (HAPs) that are in particulate form, such as most metals (mercury is the notable exception, as a significant portion of emissions are in the form of elemental vapor).

Achievable Emission Limits/Reductions:

Typical new equipment design efficiencies are between 99 and 99.9%. Older existing equipment have a range of actual operating efficiencies of 95 to 99.9%. Several factors determine fabric filter collection efficiency. These include gas filtration velocity, particle characteristics, fabric characteristics, and cleaning mechanism. In general, collection efficiency increases with increasing filtration velocity and particle size.

For a given combination of filter design and dust, the effluent particle concentration from a fabric filter is nearly constant, whereas the overall efficiency is more likely to vary with particulate loading. For this reason, fabric filters can be considered to be constant outlet devices rather than constant efficiency devices. Constant effluent concentration is achieved because at any given time, part of the fabric filter is being cleaned. As a result of the cleaning mechanisms used in fabric filters, the collection efficiency is constantly changing. Each cleaning cycle removes at least some of the filter cake and loosens particles which remain on the filter. When filtration resumes, the filtering capability has been reduced because of the lost filter cake and loose particles are pushed through the filter by the flow of gas. As particles are captured, the efficiency increases until the next cleaning cycle. Average collection efficiencies for fabric filters are usually determined from tests that cover a number of cleaning cycles at a constant inlet loading. (EPA, 1998a)

Applicable Source Type: Point

Typical Industrial Applications:

Fabric filters can perform very effectively in many different applications. Common applications of fabric filter systems with pulse-jet cleaning are presented in Table 1, however, fabric filters can be used in most any process where dust is generated and can be collected and ducted to a central location.

Asphalt Heater Information



INTEGRATED PROCESS SOLUTIONS

Sales Proposal

9/4/2025

Chris Meech
C&E Concrete

~~712 Crystal Rd~~

~~Gameroo, NM 87317~~

HQ Mailing Address: P.O. Box 2547
Milan, NM 87021

HQ Physical Address: 500 Elkins Rd.
Grants, NM 87020

PROPOSAL NUMBER JQBGQ3855

HEATEC, INC.

(A Division of Astec Industries, Inc.)

Lane Van Lith

Regional Sales Manager

505.508.9037

lvnlith@astecindustries.com

www.astecindustries.com

BUILT TO CONNECT





Sales Proposal

Heatec, Inc.

C&E Concrete

JQBGQ3855

9/4/2025

Qty	Product	Description	Extended Price
1	HC-200	2,000,000 BTU/hr Helical Coil Thermal Fluid Heater with Manifold * 2-Pass heater design * 2,352,941 Btu/hour burner input * 2,000,000 Btu/hr heater output * 85% Thermal efficiency * 4 Port manifold for the addition of up to 4 auxiliary pumps * Fully modulating burner capable of firing on natural gas, #2 fuel, or propane * Close wound helical coil consisting of schedule 40 seamless pipe with 182 square feet of heating surface * ASME Code coil * Thermal fluid circulation pump providing 150gpm of flow through helical coil and manifold, consisting of 15hp TEFC motor operating at 3600rpm * Digital differential pressure switch monitors the inlet and outlet pressure of a helical coil, and in case of unusually low flow due to pump malfunction, blockage, or leakage, automatically shuts down the heater. * Attached 280 gallon thermal fluid expansion tank with low level switch and sight gauge * Thermal fluid strainer on circulation pump inlet * Shutoff valves on helical coil, circulation pump, and expansion tank * Heater shell features removable end plates, bolted in place to provide access to the helical coil * Both the inside of the shell and the end plates are insulated with 3 inches of ceramic insulation * Ceramic insulation is spray-coated after installation, enhancing its resistance to damage caused by the flow of hot gases * This insulation effectively prevents heat loss through the shell, optimizing the thermal efficiency of the system * 12" Exhaust stack with screen, rain cap, and high temperature stack switch * UL Listed, NEMA 4 control panel * Heater automatically maintains the set operating temperature up to 450°F with various safety features to ensure proper operation * BurnerLogix burner control system comprises three key components: Display Module BLV512, Burner control YB110 with Programmer Module YP100, and Annunciator YZ300 * Fireye flame scanner UV1A6 is part of the burner management controls and is installed in the burner housing * Fireye controls, driven by a microprocessor, manage burner sequencing, ignition, and flame monitoring protection * Fireye system continuously monitors multiple components, including the burner modulation controller, control switch, proof of closure switch, interlock circuit, low-fire proof switch, and high-fire proof switch * Control signals from Fireye controls are sent to modulating actuator, ignition transformer, main fuel gas or oil shutoff valve, heater alarm strobe light, and motor controller for the blower motor * Fireye controls oversee the overall status of the 3-P interlock circuit and use the annunciator to identify and display issues within the circuit	

BUILT TO CONNECT

HMA Initial Stack Test Report

TEST REPORT

FROM ONE
200 TONS PER HOUR DRUM MIXER & BAGHOUSE

IN SERVICE AT THE
GAMERCO HMA PLANT

PREPARED FOR
C & E CONCRETE

**NEW MEXICO ENVIRONMENT DEPARTMENT
AIR QUALITY BUREAU PERMIT NUMBER 9027**

TEST DATES
SEPTEMBER 18-20, 2024

PREPARED BY:
COMPLIANCE SERVICES AND TESTING, LLC

PROJECT NUMBER:
2662



P.O. Box 94191-87199
7108 Washington St. NE
Suite A
Albuquerque, NM 87109
(505) 681-4909 Phone
www.comptesting.com

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Introduction

C & E Concrete (C & E) contracted Compliance Services and Testing (CST) to perform an emissions test on a drum mixer with an associated baghouse used for the collection of particulate matter from hot mix asphalt plant operations. The plant is located in Milan, New Mexico in Cibola County. The testing was to show initial compliance with the NSR permit issued to this facility. All testing followed procedures with the test methods and NMED protocol.

The testing followed the procedures set forth in the Code of Federal Regulations, Title 40, Part 60, Appendix A, Method 1 for sampling locations, Method 2 for stack velocity determination, Method 3A for oxygen (O₂) and carbon dioxide (CO₂) concentrations, Method 4 for moisture content (H₂O), Method 5 for total suspended particles (TSP), Method 9 for opacity percentage, Method 7E for nitrogen [NO_x defined as nitric oxide (NO) plus nitrogen dioxide (NO₂)], Method 10 for carbon monoxide (CO) concentrations, and Method 202 for Condensible Particulate Matter (CPM). Table 1 summarizes the background information pertinent to these tests.

The information contained in this report has been reviewed and approved as being truthful, accurate, and complete.

Table 1 - Background Data

Source Operator:	C & E Concrete Attn: Chris Meech Vice President PO Box 2547 Milan, NM 87021
Test Contractor:	Compliance Services and Testing Attn: Chris Spencer 7108 Washington NE Ste. A Albuquerque, New Mexico 87109 Phone: (505) 681-4909
Test Participants:	CST Chris Spencer – Director Austin Brunick – Environmental Scientist Santiago Vandyke – Field Technician Renee Spencer – Field Technician C & E Ron Ortiz – Plant Operator Robert Meech – Plant Manager
Test Dates:	September 18-20, 2024
Location:	208 Crystal Avenue Gamerco, NM 87317
Test Methods:	Title 40 of the Code of Federal Regulations, Part 60, Appendix A Methods 1-4 for Exhaust Flow Rate Method 5 for Total Suspended Particles Method 7E for Nitrogen Oxides Method 9 for Opacity Method 10 for Carbon Monoxide Method 202 for Condensable Particulate Matter
Regulatory Permit:	NMED-AQB NSR Permit 9207

Summary of Results

A baghouse was tested to demonstrate compliance with the NSR Permit in place for this facility. The unit was running at the maximum available load at the time of the testing. The equipment production rate is listed at 200 tph but maximum site production is at 170 tph. A summary of the results is listed in Table 2.

Table 2 – Summarized Emission Results

	<i>NO_x</i>	<i>CO</i>	<i>TSP</i>	<i>CPM</i>	<i>Opacity</i>	<i>% Load</i>
Unit #	pph	pph	gr/dscf	pph	%	tph
<i>Limits</i>	<i>(11.0)</i>	<i>(26.0)</i>	<i>(0.04)</i>	<i>(4.6)</i>	<i>(20)</i>	<i>170</i>
17	0.21	24.57	0.009	1.30	0.0	163.5

tph = tons per hour; pph = pounds per hour; gr = grains

Table 3 lists the analytical analyzers and sensitivities and Figures 1-3 details the sampling systems used for the testing and sample recovery. Appendix A contains the tabular results plus all field data. Appendix B contains the laboratory data, to include the sample chain of custody. Appendix C contains the datalog record and Appendix D contains the quality assurance and quality control documentation for the continuous emissions monitoring system. The example calculations are in Appendix E and opacity field sheets with the observer certification in Appendix F. Appendix G contains the calibration gas and measurement equipment calibration certifications.

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	



Figure 8-1: C&E Concrete's Gamerco HMA Aerial View showing Facility Layout



Figure 8-2: C&E Concrete's Gamerco HMA Aerial View showing Surrounding Terrain

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. X A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
 2. X 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. X A copy of the property tax record (20.2.72.203.B NMAC).
 4. X A sample of the letters sent to the owners of record.
 5. X A sample of the letters sent to counties, municipalities, and Indian tribes.
 6. X A sample of the public notice posted and a verification of the local postings.
 7. X A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
 8. X A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
 9. X 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. X 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. X 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.
-

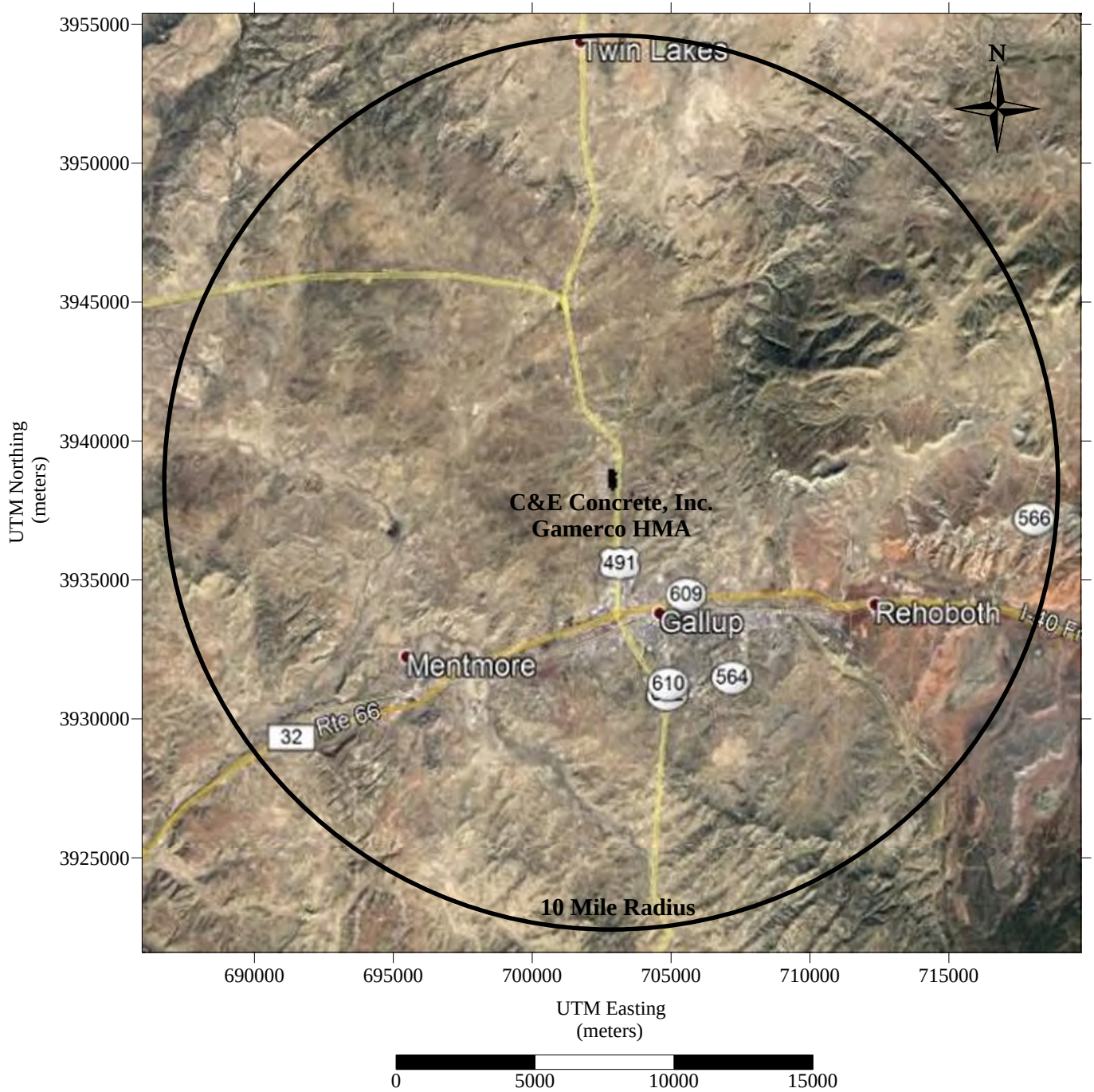


Figure 9-1: Ten-Mile Radius around Site

Government List within 10 Miles**C&E Concrete Inc.'s Gamerco HMA - Government Entities within 10 Miles
December 2025**

McKinley County	Jacqueline Sloan, County Clerk	207 West Hill St. #100	Gallup	NM	87301
City of Gallup	Alfred Abeita II, City Clerk	110 W Aztec Ave.	Gallup	NM	87301
Navajo Nation	Office of the President	PO Box 7440	Window Rock	AZ	86515
Bread Springs Chapter	To Whom it May Concern	PO Box 6118	Gallup	NM	87305
Churchrock Chapter	To Whom it May Concern	PO Box 549	Churchrock	NM	87311
Fort Defiance Chapter	To Whom it May Concern	PO Box 366	Fort Defiance	NM	86504
Manuelito Chapter	To Whom it May Concern	HCR 57 Box9069	Gallup	NM	87301
Red Rock Chapter	To Whom it May Concern	PO Box 2548	Gallup	NM	87301
Rock Springs Chapter	To Whom it May Concern	PO Box 4608	Yahtahey	NM	87375
Tsayaton Chapter	To Whom it May Concern	PO Box 53	Mentmore	NM	87319
Twin Lakes Chapter	To Whom it May Concern	PO Box 4424	Yahtahey	NM	87375

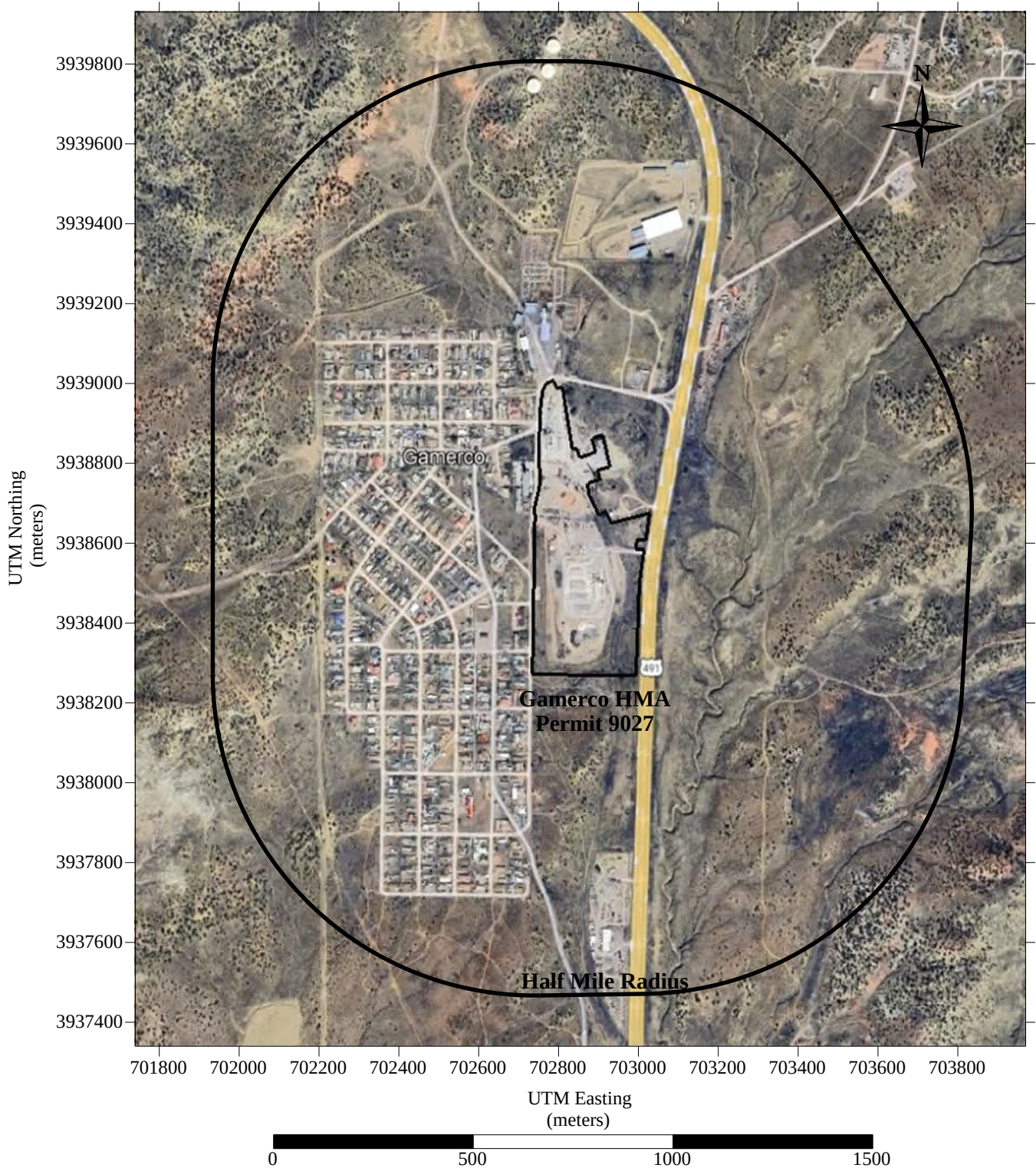


Figure 9-2: Half Mile Radius around Site

Acct_No	OWNNAME	CAREOF	MAILADD	MCITY	MSTATE	MZIP
R168017	ALONZO, EDWARD J.		P.O. BOX 2873	GALLUP	NM	
R207182	ANALLA, VELMA B.		P.O. BOX 205	GAMERCO	NM	
R167797	APODACA, RUBY ANN		P.O. BOX 953	GAMERCO	NM	
R168696	ARROYO, GUADALUPE		P.O. BOX 26	GAMERCO	NM	
R165875	BARRON, ALFREDO		P.O. BOX 814	GAMERCO	NM	
R166995	BENALLY, ERNEST & VERONICA		P.O. BOX 2138	GALLUP	NM	
R168076	BURKE, NICOLE K.		P.O. BOX 103	GAMERCO	NM	
R210374	C & E CONCRETE, INC.		P.O. BOX 2547	MILAN	NM	
R215011	C & E CONCRETE, INC.		P.O. BOX 2547	MILAN	NM	
R165328	CORNEJO, NERI F.		1608 FREEDOM DR.	GALLUP	NM	
R165638	ESCARCEGA, ELOY		GENERAL DELIVERY	GAMERCO	NM	
R167967	FIERRO, DELIA & MADRID, RICHARD JR.		P.O. BOX 70	GAMERCO	NM	
R165387	FRAIZER, THERESA		P.O. BOX 919	GAMERCO	NM	
R301597	GALLUP LAND PARTNERS, LLC		5662 W. CLUBHOUSE DR.	HURRICANE	UT	
R180009	GALLUP LAND PARTNERS, LLC		5662 W. CLUBHOUSE DR.	HURRICANE	UT	
R180084	GALLUP LAND PARTNERS, LLC		5662 W. CLUBHOUSE DR.	HURRICANE	UT	
R180912	GALLUP LAND PARTNERS, LLC		5662 W. CLUBHOUSE DR.	HURRICANE	UT	
R167924	GAMERCO TOWNSITE		P.O. BOX 1377	GRANTS	NM	
R168106	GAMERCO TOWNSITE		P.O. BOX 1377	GRANTS	NM	
R205883	GAMERCO TOWNSITE		P.O. BOX 1377	GRANTS	NM	
R211138	GAMERCO TOWNSITE		P.O. BOX 1377	GRANTS	NM	
R168122	GAMERCO TOWNSITE		1714 S. CLIFF ST.	GALLUP	NM	
R211139	GAMERCO TOWNSITE		P.O. BOX 1377	GRANTS	NM	
R300380	GAMERCO TOWNSITE WATER &		P.O. BOX 69	GAMERCO	NM	
R205974	GARCIA, MELESIO & MARTHA		P.O. BOX 807	GAMERCO	NM	
R178039	GARCIA, MELISIO & MARTHA		P.O. BOX 807	GAMERCO	NM	
R166979	GONZALES, LORENZO L. & MERCEDES		P.O. BOX 854	GAMERCO	NM	
R167819	GONZALEZ, ANTONIO & JOSEPHINE		P.O. BOX 2142	GALLUP	NM	
R167827	GUERRERO, YAZMIN		202 HEMLOCK CANYON TRAIL	GALLUP	NM	
R168092	HARDY, ERMA		P.O. BOX 4474	WINDOW ROCK	AZ	87305-2873
R166723	HERNANDEZ, IVAN & HERNANDEZ, JULIO		P.O. BOX 490	GAMERCO	NM	87317-0205
R166863	HERONEMUS, CLIFFORD A.		P.O. BOX 95	GAMERCO	NM	87317-0953
R166898	HERONEMUS, CLIFFORD A.		P.O. BOX 95	GAMERCO	NM	87317-0026
R197475	KETTERING, ANDREW W.H. & WENNING, ALYSSA		P.O. BOX 3701	GALLUP	NM	87317-0814

Acct_No	OWNNAME	CAREOF	MAILADD	MCITY	MSTATE	MZIP
R166715	KETTERING, ANDREW W.H. & WENNING, ALYSSA		P.O. BOX 3701	GALLUP	NM	87305-2138
R165417	LUJAN, JOE A. & LOUISE		405 N. CARVER ST.	GALLUP	NM	87317-0103
R165425	LUJAN, JOE A. & LOUISE		405 N. CARVER ST.	GALLUP	NM	87021-2547
R165433	LUJAN, JOE A. & LOUISE		405 N. CARVER ST.	GALLUP	NM	87021-2547
R167037	MACIAS, TONY & KATHLEEN		P.O. BOX 778	GAMERCO	NM	87301-0000
R167045	MACIAS, TONY & KATHLEEN		P.O. BOX 778	GAMERCO	NM	87317-0000
R165352	MALLON, SCOTT & CALDERAZ, JENNIFER		P.O. BOX 385	GAMERCO	NM	87317-0070
R166952	MARAN-ATA IGLESIA CHRISTIANA B. DE GAMERCO, INC.		P.O. BOX 779	GAMERCO	NM	87317-0919
R166774	MASCI, JOHN DAVID REVOCABLE TRUST		P.O. BOX 167	GAMERCO	NM	84737-0000
R118214	MASCI, JOHN DAVID REVOCABLE TRUST		P.O. BOX 167	GAMERCO	NM	84737-0000
R118230	MASCI, JOHN DAVID REVOCABLE TRUST		P.O. BOX 167	GAMERCO	NM	84737-0000
R118249	MASCI, JOHN DAVID REVOCABLE TRUST		P.O. BOX 167	GAMERCO	NM	84737-0000
R158038	MASCI, JOHN DAVID REVOCABLE TRUST		P.O. BOX 167	GAMERCO	NM	87020-1377
R165689	MATA, BRIAN		P.O. BOX 439	GAMERCO	NM	87020-1377
R165344	MATA, CARLOS A.		410 CHINO LOOP	GAMERCO	NM	87020-1377
R210378	MEECH, NORMA M., TRUSTEE		P.O. BOX 56	GRANTS	NM	87020-1377
R207418	MEECH, NORMA M., TRUSTEE		P.O. BOX 56	GRANTS	NM	87301-0000
R207419	MEECH, NORMA M., TRUSTEE		P.O. BOX 56	GRANTS	NM	87020-1377
R301598	MEECH-CASH, LLC		P.O. BOX 2547	MILAN	NM	87317-0000
R301559	MEECH-CASH, LLC		P.O. BOX 2547	MILAN	NM	87317-0807
R301605	MEECH-CASH, LLC		P.O. BOX 2547	MILAN	NM	87317-0807
R165484	MEJIA, DIANA & PADILLA-ANGELES, JOSE C.		P.O. BOX 922	GAMERCO	NM	87317-0854
R165859	MENARD, LEONA G.		P.O. BOX 3522	GALLUP	NM	873052142
R166944	MORALES, MARIA		P.O. BOX 4044	GALLUP	NM	873010000
R168149	MURILLO, ISMAEL HUAZANO & HUAZANO, LETISIA		P.O. BOX 319	GAMERCO	NM	865154474
R165646	NUNEZ, MARIAN		P.O. BOX 19	GAMERCO	NM	873170490
R165697	NUNEZ, MARIAN		P.O. BOX 19	GAMERCO	NM	873170095
R165557	NUNEZ, PAULINE		P.O. BOX 19	GAMERCO	NM	873170095
R167002	PALOMINO, SANTIAGO & MARIA A.		P.O. BOX 312	GAMERCO	NM	873050000
R166685	PEREZ, JORGE		P.O. BOX 867	GAMERCO	NM	873050000
R166669	PEREZ, MARCOS		P.O. BOX 867	GAMERCO	NM	873010000
R166677	PEREZ, MARCOS		P.O. BOX 867	GAMERCO	NM	873010000
R168114	QUIMAYOUSIE, CALVIN		1113 RIDGECREST AVENUE	GALLUP	NM	873010000
R168084	RAINALDI, DANIEL B. & LUZ M.		P.O. BOX 818	GAMERCO	NM	873170778

Acct_No	OWNNAME	CAREOF	MAILADD	MCITY	MSTATE	MZIP
R168068	RAINALDI, DANIEL B. & LUZ M.		P.O. BOX 818	GAMERCO	NM	873170778
R168009	RAMIREZ, GUILLERMO JR. & RAMIREZ, MIGUEL ANGEL		401 ZECCA DR.	GALLUP	NM	873170000
R300396	RAMIREZ, QUERINO S. & SANCHEZ DE RAMIREZ, MARCELINA	GONZALES-SANCHEZ, CARLOS JESUS & CHAVEZ, KIMBERLY ANN	P.O. BOX 236	GAMERCO	NM	873170779
R301992	RAMIREZ, QUIRINO & MARCELINA	VALLES, GUADALUPE A. TRUSTEE OF THE GUADALUPE A. VALLES REVOCABLE TRUST	P.O. BOX 423	GAMERCO	NM	873170167
R167975	RESENDIZ, MICHAELINA		P.O. BOX 454	GAMERCO	NM	873170167
R165158	RUIZ, JOSE A. & RUIZ, DERWIN		P.O. BOX 56	GAMERCO	NM	873170167
R165123	RUIZ-JACOVO, JOSE A.		P.O. BOX 56	GAMERCO	NM	873170167
R200247	SAFIEH, MOHAMMAD		100 WEST HISTORIC HIGHWAY 66	GALLUP	NM	873170167
R165379	SANCHEZ, ELENA		P.O. BOX 439	GAMERCO	NM	873170439
R165476	SANCHEZ, JASON R. & M. REYNA RESENDIZ		P.O. BOX 207	GAMERCO	NM	873170000
R165395	SOO HOO, GEORGE M. TRUSTEE	LOZANO, JESUS A. & CRUZ, OLIVIA HERRERA	402 CHINO	GAMERCO	NM	870200056
R167088	SWATZELL, MICHELE MACIAS		937 CERRITO DRIVE	GALLUP	NM	870200056
R165522	TERAN, JOSE ALBARO & NATALIA		P.O. BOX 823	GAMERCO	NM	870200056
R203726	THOMASON, LISA K.		311 CRYSTAL AVENUE	GAMERCO	NM	870212547
R166928	TRUJILLO, JEFF V. & VICTORIA MARIE		1767 W. 25TH ST.	YUMA	AZ	870212547
R167959	TURNER, MELISSA		701 N. STRONG DR.	GALLUP	NM	870212547
R165654	VALLES, GUADALUPE A. TRUSTEE OF THE GUADALUPE A. VALLES REVOCABLE TRUST		P.O. BOX 423	GAMERCO	NM	873170922
R166693	VALLES, GUADALUPE A. TRUSTEE OF THE GUADALUPE A. VALLES REVOCABLE TRUST		P.O. BOX 423	GAMERCO	NM	873050000
R203874	VALLES, GUADALUPE A. TRUSTEE OF THE GUADALUPE A. VALLES REVOCABLE TRUST		P.O. BOX 423	GAMERCO	NM	873050000
R212107	VALLES, GUADALUPE A. TRUSTEE OF THE GUADALUPE A. VALLES REVOCABLE TRUST		P.O. BOX 423	GAMERCO	NM	873170319
R165514	VALLES, GUADALUPE A. TRUSTEE OF THE GUADALUPE A. VALLES REVOCABLE TRUST		P.O. BOX 423	GAMERCO	NM	873170019
R167843	VALLES, GUADALUPE A. TRUSTEE OF THE GUADALUPE A. VALLES REVOCABLE TRUST	ROBLES, CLAUDIA I. & JESUS E.	P.O. BOX 4417	GALLUP	NM	873170019
R167835	VALLES, GUADALUPE A. TRUSTEE OF THE GUADALUPE A. VALLES REVOCABLE TRUST	ROBLES, CLAUDIA I. & JESUS E.	P.O. BOX 4417	GALLUP	NM	873170019
R167983	VALLES, MANUEL		P.O. BOX 423	GAMERCO	NM	873170312

Acct_No	OWNNAME	CAREOF	MAILADD	MCITY	MSTATE	MZIP
R178012	VALLES, MARIA C.		P.O. BOX 423	GAMERCO	NM	873170867
R178098	VEGA, JOSE G. GONZALEZ & GUDINO, UNIGENITA RESENDIZ		614 MCKEE DR.	GALLUP	NM	873170867
R167053	VILICANA, ANTONIO & MARY LOU TRUSTEES OF THE ANTONIO & MARY LOU VILICANA REVOCABLE TRUST & VILICANA, ANTONIO JR.		P.O. BOX 1141	GALLUP	NM	873170867
R166987	VINSON, STELLA		212 VIRO CIRCLE	GALLUP	NM	873010000
R178047	WADLINGTON, AVERY & LINDA		P.O. BOX 2524	GALLUP	NM	873170818
R301264	WILLIAMS, JOHN & JOAN REVOCABLE TRUST	C/O SLLIM VISIONS, LLC	484 N. MAIN ST.	SNOWFLAKE	AZ	873170818
R203343	WILLIAMS, JOHN & JOAN REVOCABLE TRUST	SLLIM VISIONS, LLC	484 NORTH MAIN STREET	SNOWFLAKE	AZ	873010000
R167932	ZARATE, ERNESTO R.		P.O. BOX 888	GAMERCO	NM	873170236

NOTICE

C&E Concrete, Inc. announces its application to the New Mexico Environment Department for a significant revision of Air Quality Permit #9027 for the existing Gamarco Hot Mix Asphalt (HMA) Plant. The expected date of significant revision application submittal to the Air Quality Bureau is January 26, 2026.

The exact location of the facility known as Gamarco HMA, is 708 Crystal Avenue, Gamarco, NM 87317. The exact location of the Gamarco HMA Plant is at Latitude (decimal degrees): 35.569427 and Longitude (decimal degrees): -108.761042. The approximate location of this site is 4.0 miles north-northwest of Gallup, NM in McKinley County.

The facility consists of a 200 ton per hour and 500,000 ton per year hot mix asphalt plant that produces hot mix asphalt for road and highway projects. C&E Concrete, Inc. is requesting a significant revision to its Air Quality Permit #9027 for the Gamarco HMA Plant to better align permitted operations with current equipment and project needs while meaningfully reducing the facility's maximum allowed daily output and overall potential environmental footprint. The revision includes: (1) installation of a new, higher-output asphalt heater intended to improve efficiency; (2) authorization for limited nighttime operations only when necessary to meet certain New Mexico Department of Transportation (NMDOT) project schedules; (3) a major reduction in the maximum daily production limit from 3,200 tons/day down to 2,800 tons/day — a 400-ton/day decrease in the plant's maximum permitted production capacity — which directly lowers the maximum potential emissions associated with asphalt production and the supporting truck activity; (4) revision of the regulated property boundary; and (5) updates to the facility coordinates to reflect as-built conditions. Emissions are expected to change slightly due to the heater upgrade and haul-road fugitive dust associated with truck traffic; however, the facility will continue to employ and maintain dust control and operational best practices to minimize impacts, meet all applicable permit limits, and remain fully responsive to public input and regulatory oversight.

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	Change in Emissions
			Tons per year
PM ₁₀	6.9 pph	7.9 tpy	0.3 tpy
PM _{2.5}	5.1 pph	6.4 tpy	0.0 tpy
Sulfur Dioxide (SO ₂)	11.7 pph	15.1 tpy	0.3 tpy
Nitrogen Oxides (NO _x)	11.4 pph	15.5 tpy	0.7 tpy
Carbon Monoxide (CO)	26.6 pph	34.1 tpy	0.4 tpy
Volatile Organic Compounds (VOC)	9.9 pph	12.6 tpy	0.1 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.1 pph	2.6 tpy	0.0 tpy
Toxic Air Pollutant (TAP)	2.6 pph	3.1 tpy	0.4 tpy
Green House Gas Emissions as Total CO ₂ e	n/a	< 10,000 tpy	<700 tpy

The standard operating schedule of the facility will be from 8 a.m. to 6 p.m. for the months of December through February, and from 5 a.m. to 7 p.m. for the months of March through November, 6 days a week and a maximum of 52 weeks per year. The maximum operating schedule will be from 7 a.m. to 6 p.m. for the months of December through February, 2 a.m. to 12 a.m. for the months of March and November, and 24 hours per day for the months of April through September, 7 days a week and a maximum of 52 weeks per

year. Nighttime operation will only occur for a small number of projects per year. NMDOT is requiring more nighttime projects to reduce safety issues for the public on highway paving projects.

The owner and operator of the Facility is:

C&E Concrete, Inc.
PO Box 2547
Milan, NM 87021

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.

Atención

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 505-629-7748.

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: Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@env.nm.gov. 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.

General Posting of Notices – Certification

I, Chris Meech, the undersigned, certify that on **January 30, 2026**, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in and around the City of Gallup of McKinley County, State of New Mexico on the following dates:

1. C&E Concrete's Gamerco HMA Facility Entrance 1/30/2026
 - a. West Entrance (708 Crystal Avenue, Gamerco, NM) – EXHIBIT A
2. City of Gallup Municipal Building, City Clerk, 110 West Aztec, Gallup, NM 1/30/2026
 - a. City Clerk Office Corkboard Bulletin Board – EXHIBIT B
3. McKinley County Courthouse/Clerks's Office, 207 West Hill, Gallup, NM 1/30/2026
 - a. County Courthouse Entrance Corkboard Bulletin Board – EXHIBIT C
 - b. Clerks Office, County Treasurer, etc. Entrance Glass Door – EXHIBIT D
4. Octavia Fellin Public Children's Library, 200 West Aztec, Gallup, NM 1/30/2026
 - a. Facility Entrance Corkboard Bulletin Board – EXHIBIT E
5. United States Post Office, Gallup Station, 950 West Aztec, Gallup, NM 1/30/2026
 - a. Facility Entrance Corkboard Bulletin Board – EXHIBIT F

Signed this 30th day of January, 2026,



Signature

1/30/2026

Date

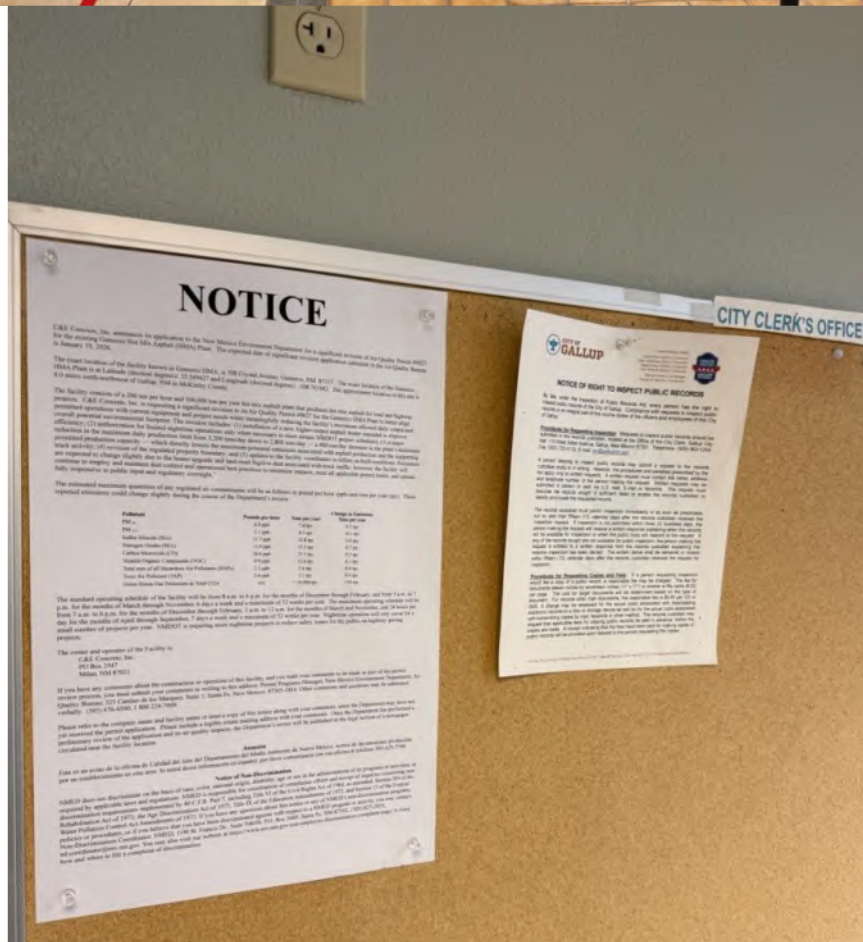
Chris Meech
Printed Name

Vice President/Director, C&E Concrete, Inc.
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

General Posting of Notices – EXHIBIT A



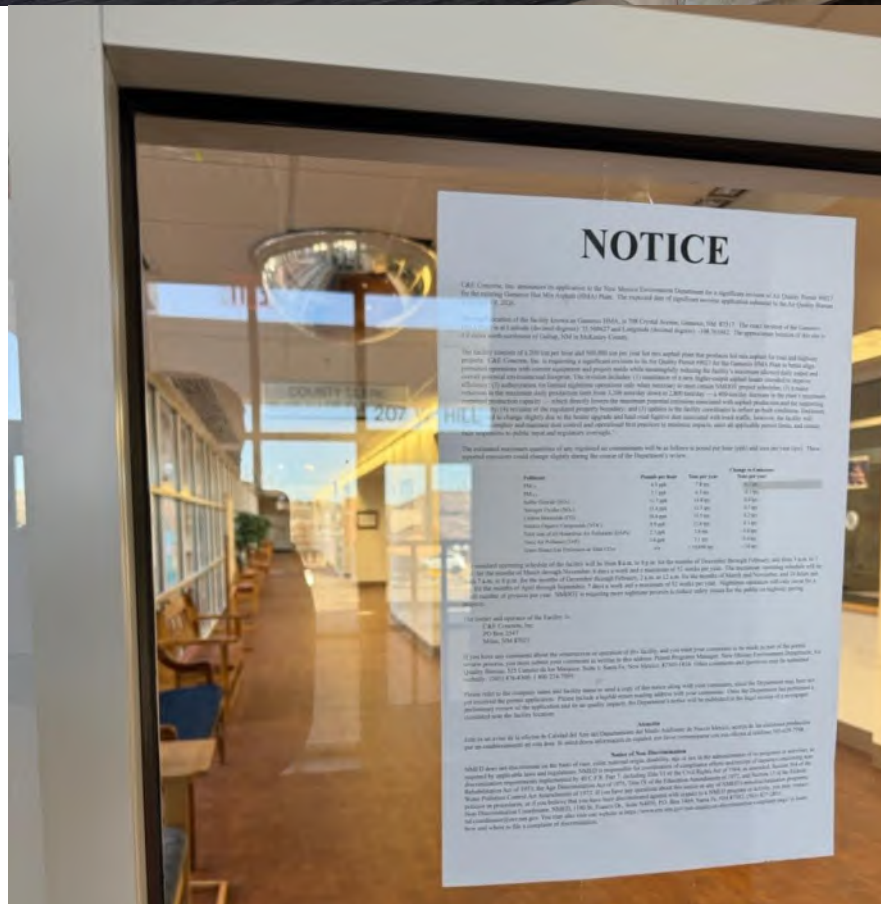
A photograph of a city clerk's office. A red rectangle highlights a document on a bulletin board. The document is titled "NOTICE" and contains text about a public hearing. The office has a counter with a "CITY CLERK" sign, a clock, and a circular mirror on the wall.



General Posting of Notices – EXHIBIT C



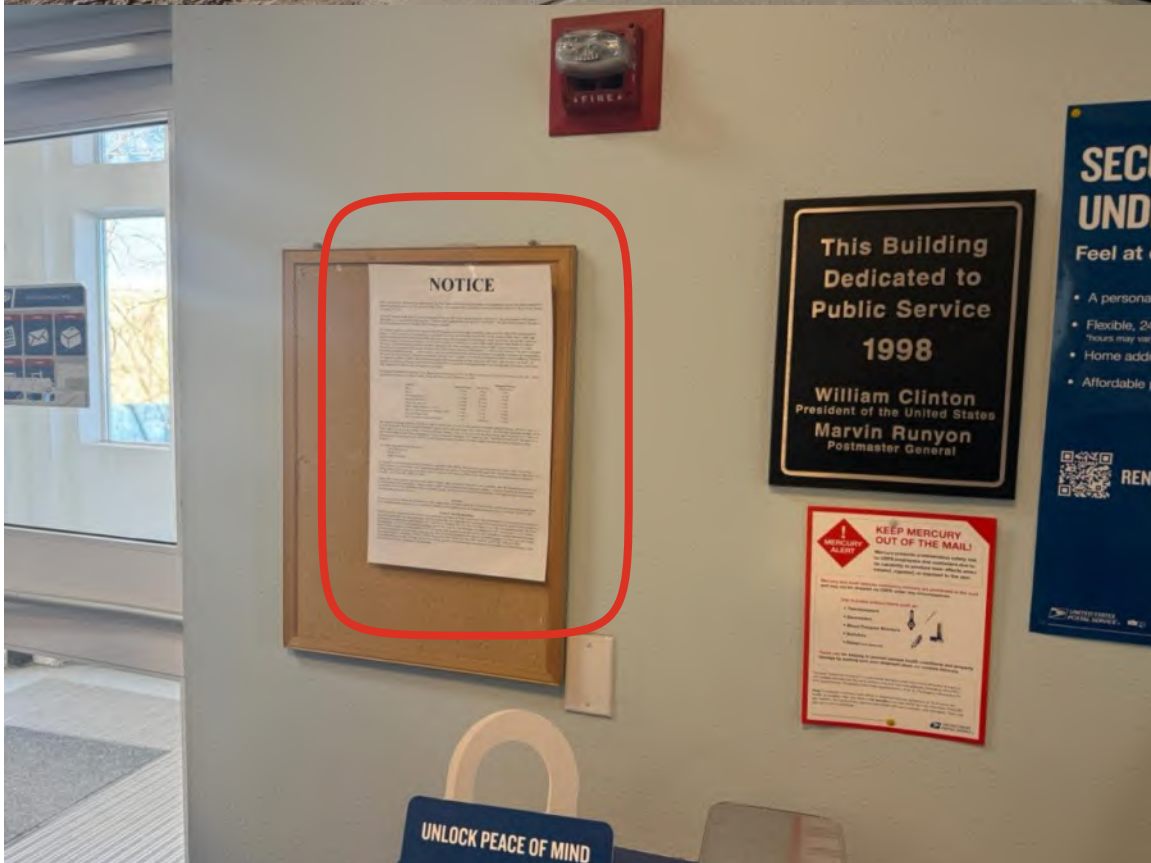
General Posting of Notices – EXHIBIT D



General Posting of Notices – EXHIBIT E



General Posting of Notices – EXHIBIT F



Government Letters



February 4, 2026

Jacqueline Sloan
McKinley County Clerk
207 West Hill St. #100
Gallup NM 87301

Ms Sloan

C&E Concrete, Inc. announces its application to the New Mexico Environment Department for a significant revision of Air Quality Permit #9027 for the existing Gamerco Hot Mix Asphalt (HMA) Plant. The expected date of significant revision application submittal to the Air Quality Bureau is January 26, 2026.

The exact location of the facility known as Gamerco HMA, is 708 Crystal Avenue, Gamerco, NM 87317. The exact location of the Gamerco HMA Plant is at Latitude (decimal degrees): 35.569427 and Longitude (decimal degrees): -108.761042. The approximate location of this site is 4.0 miles north-northwest of Gallup, NM in McKinley County.

The facility consists of a 200 ton per hour and 500,000 ton per year hot mix asphalt plant that produces hot mix asphalt for road and highway projects. C&E Concrete, Inc. is requesting a significant revision to its Air Quality Permit #9027 for the Gamerco HMA Plant to better align permitted operations with current equipment and project needs while meaningfully reducing the facility's maximum allowed daily output and overall potential environmental footprint. The revision includes: (1) installation of a new, higher-output asphalt heater intended to improve efficiency; (2) authorization for limited nighttime operations only when necessary to meet certain New Mexico Department of Transportation (NMDOT) project schedules; (3) a major reduction in the maximum daily production limit from 3,200 tons/day down to 2,800 tons/day — a 400-ton/day decrease in the plant's maximum permitted production capacity — which directly lowers the maximum potential emissions associated with asphalt production and the supporting truck activity; (4) revision of the regulated property boundary; and (5) updates to the facility coordinates to reflect as-built conditions. Emissions are expected to change slightly due to the heater upgrade and haul-road fugitive dust associated with truck traffic; however, the facility will continue to employ and maintain dust control and operational best practices to minimize impacts, meet all applicable permit limits, and remain fully responsive to public input and regulatory oversight.

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Pollutant:	Pounds per hour	Tons per year	Change in Emissions
			Tons per year
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Sulfur Dioxide (SO ₂)	11.7 pph	15.1 tpy	0.3 tpy
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Volatile Organic Compounds (VOC)	9.9 pph	12.6 tpy	0.1 tpy
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Toxic Air Pollutant (TAP)	2.6 pph	3.1 tpy	0.4 tpy
Green House Gas Emissions as Total CO ₂ e	n/a	< 10,000 tpy	<700 tpy

The standard operating schedule of the facility will be from 8 a.m. to 6 p.m. for the months of December through February, and from 5 a.m. to 7 p.m. for the months of March through November, 6 days a week and a maximum of 52 weeks per year. The maximum operating schedule will be from 7 a.m. to 6 p.m. for the months of December through February, 2 a.m. to 12 a.m. for the months of March and November, and 24 hours per day for the months of April through September, 7 days a week and a maximum of 52 weeks per year. Nighttime operation will only occur for a small number of projects per year. NMDOT is requiring more nighttime projects to reduce safety issues for the public on highway paving projects.

The owner and operator of the Facility is:

C&E Concrete, Inc.
PO Box 2547
Milan, NM 87021

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.

Atención

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 505-629-7748.



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Sincerely,

C&E Concrete, Inc.
PO Box 2547
Milan, NM 87021

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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For delivery information, visit our website at www.usps.com®.

Gallup, NM 87301

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City, State, ZIP+4®

Manuelito Chapter 02/04/2026

To Whom it May Concern

HCR 57 Box 9069

Gallup, NM 87301

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

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Fort Defiance Chapter 02/04/2026

To Whom it May Concern

PO Box 366

Fort Defiance, NM 86504

PS Form 3800, January 2023 PSN 7530-02-000-9047

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City, State, ZIP+4®

Red Rock Chapter 02/04/2026

To Whom it May Concern

PO Box 2548

Gallup, NM 87301

PS Form 3800, January 2023 PSN 7530-02-000-9047

87305 (As per USPS)

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☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To

Street and Apt. No.

City, State, ZIP+4®

City of Gallup 02/04/2026

Alfred Abeita II, City Clerk

110 W Aztec Ave.

Gallup, NM 87301

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

U.S. Postal Service™
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Domestic Mail Only

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

Window Rock, AZ 86515

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☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To

Street and Apt. No.

City, State, ZIP+4®

Navajo Nation 02/04/2026

Office of the President

PO Box 7440

Window Rock, AZ 86515

PS Form 3800, January 2023 PSN 7530-02-000-9047

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U.S. Postal Service™
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Gallup, NM 87305

Certified Mail Fee \$5.30
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 \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To

Street and Apt. No.

City, State, ZIP+4®

Bread Springs Chapter 02/04/2026

To Whom it May Concern

PO Box 6118

Gallup, NM 87305

PS Form 3800, January 2023 PSN 7530-02-000-9047

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9589 0710 5270 0671 3855 95

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

Church Rock, NM 87311

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☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and	\$6.08	
Sent To	Churchrock Chapter	
Street and Apt. No.	To Whom it May Concern	
City, State, ZIP+4®	PO Box 549 Churchrock, NM 87311	

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

7020 0090 0001 4643 8978

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☐ Certified Mail Restricted Delivery	\$0.00	
☐ Adult Signature Required	\$0.00	
☐ Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.78	
Total Postage and	\$6.08	
Sent To	McKinley County	
Street and Apt. No.	Jacqueline Sloan, County Clerk	
City, State, ZIP+4®	207 West Hill St. #100 Gallup, NM 87301	

PS Form 3800, April 2019 PSN 7530-02-000-9047 See Reverse for Instructions

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☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and	\$6.08	
Sent To	Rock Springs Chapter	
Street and Apt. No.	To Whom it May Concern	
City, State, ZIP+4®	PO Box 4608 Yahtahey, NM 87375	

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Yahtahey, NM 87375

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☐ Return Receipt (electronic)	\$0.00	
☐ Certified Mail Restricted Delivery	\$0.00	
☐ Adult Signature Required	\$0.00	
☐ Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.78	
Total Postage and	\$6.08	
Sent To	Twin Lakes Chapter	
Street and Apt. No.	To Whom it May Concern	
City, State, ZIP+4®	PO Box 4424 Yahtahey, NM 87375	

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Mentmore, NM 87319

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☐ Return Receipt (electronic)	\$0.00	
☐ Certified Mail Restricted Delivery	\$0.00	
☐ Adult Signature Required	\$0.00	
☐ Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.78	
Total Postage and	\$6.08	
Sent To	Tsayatton Chapter	
Street and Apt. No.	To Whom it May Concern	
City, State, ZIP+4®	PO Box 53 Mentmore, NM 87319	

PS Form 3800,

Dear Neighbor Letters



RE: [External] - RE: Air Quality Public Notice Requirement Request for Landowners

From Jennifer Russell <jennifer.russell@co.mckinley.nm.us>

Date Thu 1/8/2026 8:18 AM

To Paul Wade <pwade@montrose-env.com>

 1 attachment (12 KB)

GAMERCO PRJ.xlsx;

EXTERNAL EMAIL - This email was sent by a person from outside your organization. Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

Good morning Paul

Sorry, I forgot to attach.

Thank you
Jennifer

From: Paul Wade <pwade@montrose-env.com>

Sent: Wednesday, January 7, 2026 2:59 PM

To: Jennifer Russell <jennifer.russell@co.mckinley.nm.us>

Subject: Re: [External] - RE: Air Quality Public Notice Requirement Request for Landowners

Yes it is. Thank you.

One more favor, can you send a map showing the half mile radius that you used to create the list.

Thanks again.

Paul Wade

Senior Associate Engineer

Montrose Environmental Solutions, Inc.

Albuquerque, NM | US Mountain Time

Office: +1-505-830-9680 x6 | Mobile:

pwade@montrose-env.com | <https://link.edgepilot.com/s/3a1ad108/JJaroUC6BkGRThC9VBa9YQ?u=http://www.montrose-env.com/>

Office Location:

9100 2nd Street NW, Suite 200

Albuquerque, NM 87114-1664

From: Jennifer Russell <jennifer.russell@co.mckinley.nm.us>

Sent: Wednesday, January 7, 2026 2:48 PM

To: Paul Wade <pwade@montrose-env.com>

Subject: [External] - RE: Air Quality Public Notice Requirement Request for Landowners

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You don't often get email from jennifer.russell@co.mckinley.nm.us. [Learn why this is important](#)

Good afternoon Sir

Attach is your request. I hope this is what you need and helps you.

Thank you
Jennifer

From: Paul Wade <pwade@montrose-env.com>

Sent: Monday, January 5, 2026 4:27 PM

To: Jennifer Russell <jennifer.russell@co.mckinley.nm.us>

Cc: Christopher Meech <cmeech@ceconcrete.net>

Subject: Air Quality Public Notice Requirement Request for Landowners

Ms. Russell

I just talked to you on the phone about a request for landowner information within 0.5 miles of the property where an air quality permit will be applied for to the New Mexico Air Quality Bureau. Part of the air quality permitting requirements is the notification of all land owners within 0.5 miles of the site:

The regulation requires that all property owners on record with the county assessor's office where the property is located receive written notice by certified mail. The two scenarios for this requirement are as follows:

(a) If the facility is or will be **located in a Class A or Class H county** or in a municipality*** with a population of more than 2500 people**, public notice must be sent to the property owners that are **within 100 feet** from the property boundary on which the property is or will be located.

or

(b) If the facility is or will be **located in any other county or municipality not listed above**, public notice must be sent to the property owners that are **within one-half (1/2) mile** from the property boundary on which the property is or will be located.

Since the property is outside of a municipality and McKinley County is not an Class A or H county, we have to notify landowners within ½ mile.

The property where the air quality permit will be applied for is Account # R301559 and the Parcel # is 2107091090101. As discussed, the regulation requires that the property owner information comes from the latest county assessor's office records. The Air Quality Bureau, as proof, requires the permit applicant provide a map showing the ½ mile radius and a list of corresponding landowners names and mailing address to complete the certified mailing.

Please let me know if you have and questions. Your help in this matter will greatly be appreciated.

Please let me know that you received this email.

Thanks again.

Paul Wade
Senior Associate Engineer
Montrose Environmental Solutions, Inc.
Albuquerque, NM | US Mountain Time
Office: +1-505-830-9680 x6 | Mobile:
pwade@montrose-env.com | [https://link.edgepilot.com/s/77229f82/86hfnIX15EikCHKxnbQuDg?
u=http://www.montrose-env.com/](https://link.edgepilot.com/s/77229f82/86hfnIX15EikCHKxnbQuDg?u=http://www.montrose-env.com/)
Office Location:
9100 2nd Street NW, Suite 200
Albuquerque, NM 87114-1664

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January 30, 2026

Dear Landowner and Neighbor,

C&E Concrete, Inc. announces its application to the New Mexico Environment Department for a significant revision of Air Quality Permit #9027 for the existing Gamerco Hot Mix Asphalt (HMA) Plant. The expected date of significant revision application submittal to the Air Quality Bureau is February 6, 2026.

The exact location of the facility known as Gamerco HMA, is 708 Crystal Avenue, Gamerco, NM 87317. The exact location of the Gamerco HMA Plant is at Latitude (decimal degrees): 35.569427 and Longitude (decimal degrees): -108.761042. The approximate location of this site is 4.0 miles north-northwest of Gallup, NM in McKinley County.

The facility consists of a 200 ton per hour and 500,000 ton per year hot mix asphalt plant that produces hot mix asphalt for road and highway projects. C&E Concrete, Inc. is requesting a significant revision to its Air Quality Permit #9027 for the Gamerco HMA Plant to better align permitted operations with current equipment and project needs while meaningfully reducing the facility's maximum allowed daily output and overall potential environmental footprint. The revision includes: (1) installation of a new, higher-output asphalt heater intended to improve efficiency; (2) authorization for limited nighttime operations only when necessary to meet certain New Mexico Department of Transportation (NMDOT) project schedules; (3) a major reduction in the maximum daily production limit from 3,200 tons/day down to 2,800 tons/day — a 400-ton/day decrease in the plant's maximum permitted production capacity — which directly lowers the maximum potential emissions associated with asphalt production and the supporting truck activity; (4) revision of the regulated property boundary; and (5) updates to the facility coordinates to reflect as-built conditions. Emissions are expected to change slightly due to the heater upgrade and haul-road fugitive dust associated with truck traffic; however, the facility will continue to employ and maintain dust control and operational best practices to minimize impacts, meet all applicable permit limits, and remain fully responsive to public input and regulatory oversight.

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	Change in Emissions
			Tons per year
PM ₁₀	6.9 pph	7.9 tpy	0.3 tpy
PM _{2.5}	5.1 pph	6.4 tpy	0.0 tpy
Sulfur Dioxide (SO ₂)	11.7 pph	15.1 tpy	0.3 tpy
Nitrogen Oxides (NO _x)	11.4 pph	15.5 tpy	0.7 tpy
Carbon Monoxide (CO)	26.6 pph	34.1 tpy	0.4 tpy
Volatile Organic Compounds (VOC)	9.9 pph	12.6 tpy	0.1 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.1 pph	2.6 tpy	0.0 tpy
Toxic Air Pollutant (TAP)	2.6 pph	3.1 tpy	0.4 tpy
Green House Gas Emissions as Total CO ₂ e	n/a	< 10,000 tpy	<700 tpy

The standard operating schedule of the facility will be from 8 a.m. to 6 p.m. for the months of December through February, and from 5 a.m. to 7 p.m. for the months of March through November, 6 days a week and a maximum of 52 weeks per year. The maximum operating schedule will be from 7 a.m. to 6 p.m. for the months of December through February, 2 a.m. to 12 a.m. for the months of March and November, and 24 hours per day for the months of April through September, 7 days a week and a maximum of 52 weeks per year. Nighttime operation will only occur for a small number of projects per year. NMDOT is requiring more nighttime projects to reduce safety issues for the public on highway paving projects.

The owner and operator of the Facility is:

C&E Concrete, Inc.
PO Box 2547
Milan, NM 87021

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.

**Atención**

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 505-629-7748.

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Sincerely,

C&E Concrete, Inc.
PO Box 2547
Milan, NM 87021

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0021
15Postmark
Here

Postage \$0.78
Total Postage and \$6.08
Sent To KETTERING, ANDREW W.H. &
WENNING, ALYSSA
Street and Apt. No P.O. BOX 3701
City, State, ZIP+4® GALLUP, NM 873050000

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0020
15Postmark
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Postage \$0.78
Total Postage and \$6.08
Sent To GAMERCO TOWNSITE WATER &
SANITATION DISTRICT
P.O. BOX 69
Street and Apt. No GAMERCO, NM 87317-0000
City, State, ZIP+4®

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0021
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Postage \$0.78
Total Postage and \$6.08
Sent To HERNANDEZ, IVAN & HERNANDEZ,
JULIO
Street and Apt. No P.O. BOX 490
City, State, ZIP+4® GAMERCO, NM 873170490

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☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
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15Postmark
Here

Postage \$0.78
Total Postage and \$6.08
Sent To HERONEMUS, CLIFFORD A.
P.O. BOX 95
Street and Apt. No GAMERCO, NM 873170095
City, State, ZIP+4®

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☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

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Postage \$0.78
Total Postage and \$6.08
Sent To MALLON, SCOTT & CALDERAZ,
JENNIFER
Street and Apt. No P.O. BOX 385
City, State, ZIP+4® GAMERCO, NM 873170000

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☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

0021
15Postmark
Here

Postage \$0.78
Total Postage and \$6.08
Sent To MARAN-ATA IGLESIA CHRISTIANA
B. DE GAMERCO, INC.
P.O. BOX 779
Street and Apt. No GAMERCO, NM 873170779
City, State, ZIP+4®

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☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08
Sent To LUJAN, JOE A. & LOUISE

405 N. CARVER ST.

Street and Apt. No. GALLUP, NM 873010000

City, State, ZIP+4®

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☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08
Sent To MACIAS, TONY & KATHLEEN

P.O. BOX 778

Street and Apt. No. GAMERCO, NM 873170778

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\$0.00
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☐ 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 \$0.00

Postage \$0.78

Total Postage and Fees \$6.08
Sent To RESENDIZ, MICHAEL

P.O. BOX 454

Street and Apt. No. GAMERCO, NM 873170454

City, State, ZIP+4®

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☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08
Sent To RUIZ, JOSE A. & RUIZ, DERWIN

P.O. BOX 56

Street and Apt. No. GAMERCO, NM 873170056

City, State, ZIP+4®

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☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08
Sent To GUERRERO, YAZMIN

202 HEMLOCK CANYON TRAIL

Street and Apt. No. GALLUP, NM 873010000

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☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08
Sent To HARDY, ERMA

P.O. BOX 4474

Street and Apt. No. WINDOW ROCK, AZ 865154474

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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	\$0.00		
Postage	\$0.78		
Total Postage and Fees	\$6.08		
Sent To	RAMIREZ, QUERINO S. & SANCHEZ DE RAMIREZ, MARCELINA		
Street and Apt. No.	P.O. BOX 236		
City, State, ZIP+4®	GAMERCO, NM 873170236		

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Gallup, NM 87301

Certified Mail Fee	\$5.30	0021	15
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	\$0.00		
Postage	\$0.78		
Total Postage and Fees	\$6.08		
Sent To	RAMIREZ, GUILLERMO JR. & RAMIREZ, MIGUEL ANGEL		
Street and Apt. No.	401 ZECCA DR.		
City, State, ZIP+4®	GALLUP, NM 873010000		

PS Form 3800, Ja

9589 0710 5270 2997 5530 92

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

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Gallup, NM 87305

Certified Mail Fee	\$5.30	0021	15
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	\$0.00		
Postage	\$0.78		
Total Postage and Fees	\$6.08		
Sent To	GONZALEZ, ANTONIO & JOSEPHINE		
Street and Apt. No.	P.O. BOX 2142		
City, State, ZIP+4®	GALLUP, NM 873052142		

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9589 0710 5270 2997 5534 67

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Gallup, NM 87317

Certified Mail Fee	\$5.30	0021	15
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	\$0.00		
Postage	\$0.78		
Total Postage and Fees	\$6.08		
Sent To	RAMIREZ, QUIRINO & MARCELINA		
Street and Apt. No.	P.O. BOX 423		
City, State, ZIP+4®	GAMERCO, NM 873170423		

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9589 0710 5270 2997 5533 13

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Gallup, NM 87317

Certified Mail Fee	\$5.30	0021	15
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	\$0.00		
Postage	\$0.78		
Total Postage and Fees	\$6.08		
Sent To	MURILLO, ISMAEL HUAZANO & HUAZANO, LETISIA		
Street and Apt. No.	P.O. BOX 319		
City, State, ZIP+4®	GAMERCO, NM 873170319		

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9589 0710 5270 2997 5530 61

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Gallup, NM 87317

Certified Mail Fee	\$5.30	0021	15
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	\$0.00		
Postage	\$0.78		
Total Postage and Fees	\$6.08		
Sent To	GONZALES, LORENZO L. & MERCEDES		
Street and Apt. No.	P.O. BOX 854		
City, State, ZIP+4®	GAMERCO, NM 873170854		

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Gallup, NM 87317

Certified Mail Fee	\$5.30	0021 15
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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Sent To
Street BARRON, ALFREDO
City, St P.O. BOX 814
City, State, ZIP+4 GAMERCO, NM 873170814

PS Form

Instructions

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Gallup, NM 87305

Certified Mail Fee	\$5.30	0021 15
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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Sent To
Street and Apt. MORALES, MARIA
City, State, ZIP+4 P.O. BOX 4044
GALLUP, NM 873050000

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9589 0710 5270 2997 5532 90

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Gallup, NM 87305

Certified Mail Fee	\$5.30	0021 15
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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Sent To
Street MENARD, LEONA G.
City, State, ZIP+4 P.O. BOX 3522
GALLUP, NM 873050000

PS Form 3800, January 2020

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Gallup, NM 87305

Certified Mail Fee	\$5.30	0021 15
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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Sent To
Street BENALLY, ERNEST & VERONICA
City, State, ZIP+4 P.O. BOX 2138
GALLUP, NM 873052138

PS Form

Instructions

9589 0710 5270 2997 5530 47

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Gallup, NM 87317

Certified Mail Fee	\$5.30	0021 15
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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Sent To
Street GARCIA, MELISIO & MARTHA
City, State, ZIP+4 P.O. BOX 807
GAMERCO, NM 873170807

PS Form

Instructions

9589 0710 5270 2997 5532 76

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Gallup, NM 87317

Certified Mail Fee	\$5.30	0021 15
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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Sent To
Street and Apt. No MATA, CARLOS A.
City, State, ZIP+4 410 CHINO LOOP
GAMERCO, NM 873170000

PS Form 3800, J

9589 0710 5270 2997 5530 23

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

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Gallup, NM 87301

Certified Mail Fee \$5.30

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 \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Postmark
Here

Sent To
Street
City, State, ZIP+4®
PS Form 3800, January 2024 PSN 7530-02-000-9000

GAMERCO TOWNSITE
1714 S. CLIFF ST.
GALLUP, NM 873010000

Instructions

9589 0710 5270 2997 5530 54

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

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Gamerco, NM 87317

Certified Mail Fee \$5.30

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 \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Postmark
Here

Sent To
Street
City, State, ZIP+4®
PS Form 3800, January 2024 PSN 7530-02-000-9000

GARCIA, MELESIO & MARTHA
P.O. BOX 807
GAMERCO, NM 873170807

Instructions

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U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

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Grants, NM 87020

Certified Mail Fee \$5.30

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 \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Postmark
Here

Sent To
Street
City, State, ZIP+4®
PS Form 3800, January 2024 PSN 7530-02-000-9000

GAMERCO TOWNSITE
P.O. BOX 1377
GRANTS, NM 870201377

Instructions

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U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

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

Hurricane, UT 84737

Certified Mail Fee \$5.30

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 \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Postmark
Here

Sent To
Street
City, State, ZIP+4®
PS Form 3800, January 2024 PSN 7530-02-000-9000

GALLUP LAND PARTNERS, LLC
5662 W. CLUBHOUSE DR.
HURRICANE, UT 847370000

Instructions

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Gamerco, NM 87317

Certified Mail Fee \$5.30

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 \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Postmark
Here

Sent To
Street
City, State, ZIP+4®
PS Form 3800, January 2024 PSN 7530-02-000-9000

FRAIZER, THERESA
P.O. BOX 919
GAMERCO, NM 873170919

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Gamerco, NM 87317

Certified Mail Fee \$5.30

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 \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Postmark
Here

Sent To
Street and Apt. No.
City, State, ZIP+4®
PS Form 3800, January 2024 PSN 7530-02-000-9000

MEJIA, DIANA & PADILLA-
ANGELES, JOSE C.
P.O. BOX 922
GAMERCO, NM 873170922

PS Form 3800, January 2024 PSN 7530-02-000-9000

9589 0710 5270 2997 5529 65

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GAMERCO, NM 87317

Certified Mail Fee \$5.30
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 \$0.00

0021
15

Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Sent To

Street FIERRO, DELIA & MADRID,
RICHARD JR.
City, P.O. BOX 70

PS GAMERCO, NM 873170070

Instructions

9589 0710 5270 2997 5534 29

U.S. Postal ServiceTM
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GALLUP, NM 87301

Certified Mail Fee \$5.30
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 \$0.00

0021
15

Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Sent To

Street 1113 RIDGECREST AVENUE
City, State, ZIP+4 GALLUP, NM 873010000

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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GAMERCO, NM 87317

Certified Mail Fee \$5.30
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 \$0.00

0021
15

Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Sent To

Street ESCARCEGA, ELOY
City, State, ZIP+4 GENERAL DELIVERY
GAMERCO, NM 873170000

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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GAMERCO, NM 87317

Certified Mail Fee \$5.30
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 \$0.00

0021
15

Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Sent To

Street P.O. BOX 867
City, State, ZIP+4 GAMERCO, NM 873170867

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 2997 5532 45

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GAMERCO, NM 87317

Certified Mail Fee \$5.30
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 \$0.00

0021
15

Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

02/02/2026

Sent To

Street MASCI, JOHN DAVID REVOCABLE
City, State, ZIP+4 TRUST
P.O. BOX 167
GAMERCO, NM 873170167

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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GAMERCO, NM 87317

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Postmark
Here

Sent To

BURKE, NICOLE K.

Street

P.O. BOX 103

City, State

GAMERCO, NM 873170103

PS Form

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9589 0710 5270 2997 5533 20

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GAMERCO, NM 87317

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Postmark
Here

Sent To

NUNEZ, MARIAN

P.O. BOX 19

Street and Apt. No.

GAMERCO, NM 873170019

City, State, ZIP+4®

PS Form 3800, January 2023 PSN 7530-02-000-9047

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9589 0710 5270 2997 5533 44

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GAMERCO, NM 87317

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Postmark
Here

Sent To

PALOMINO, SANTIAGO & MARIA A.

P.O. BOX 312

Street and Apt.

GAMERCO, NM 873170312

City, State, ZIP

PS Form 3800, January 2023 PSN 7530-02-000-9047

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9589 0710 5270 2997 5529 41

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GALLUP, NM 87301

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Postmark
Here

Sent To

CORNEJO, NERI F.

1608 FREEDOM DR.

City, State

GALLUP, NM 873010000

PS Form

Instructions

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U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

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GAMERCO, NM 87317

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Postmark
Here

Sent To

NUNEZ, PAULINE

P.O. BOX 19

Street and Apt. No.

GAMERCO, NM 873170019

City, State, ZIP+4®

PS Form 3800, January 2023 PSN 7530-02-000-9047

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9589 0710 5270 2997 5533 51

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

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GAMERCO, NM 87317

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	

Postmark
Here

Sent To

PEREZ, JORGE

P.O. BOX 867

Street and Apt.

GAMERCO, NM 873170867

City, State, ZIP

PS Form 3800, January 2023 PSN 7530-02-000-9047

See Reverse for Instructions

9589 0710 5270 2997 5528 66

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

Domestic Mail Only

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

GAMERCO, NM 87317

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	SANCHEZ, JASON R. & M. REYNA	
Street and Apt. No.	RESENDIZ	
City, State, ZIP+4®	P.O. BOX 207 GAMERCO, NM 873170000	

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 2997 5535 11

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GAMERCO, NM 87317

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	RUIZ-JACOVO, JOSE A.	
Street and Apt. No.	P.O. BOX 56	
City, State, ZIP+4®	GAMERCO, NM 873170056	

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9589 0710 5270 2997 5529 89

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SNOWFLAKE, AZ 85937

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	WILLIAMS, JOHN & JOAN	
Street and Apt. No.	REVOCABLE TRUST	
City, State, ZIP+4®	484 NORTH MAIN STREET SNOWFLAKE, AZ 859370000	

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GAMERCO, NM 87317

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	ZARATE, ERNESTO R.	
Street and Apt. No.	P.O. BOX 888	
City, State, ZIP+4®	GAMERCO, NM 873170888	

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GALLUP, NM 87305

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	WADLINGTON, AVERY & LINDA	
Street and Apt. No.	P.O. BOX 2524	
City, State, ZIP+4®	GALLUP, NM 873052524	

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GALLUP, NM 87305

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	VALLES, GUADALUPE A. TRUSTEE OF	
Street and Apt. No.	THE GUADALUPE A. VALLES	
City, State, ZIP+4®	REVOCABLE TRUST P.O. BOX 4417 GALLUP, NM 873054417	

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Gallup, NM 87301

Certified Mail Fee \$5.30
 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 \$0.00

0021
15Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

VINSON, STELLA

02/02/2026

Sent To

212 VIRO CIRCLE

Street and Apt. No.

GALLUP, NM 873010000

City, State, ZIP+4®

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9589 0710 5270 2997 5534 74

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Gallup, NM 87301

Certified Mail Fee \$5.30
 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 \$0.00

0021
15Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

SWATZELL, MICHELE MACIAS

02/02/2026

Sent To

937 CERRITO DRIVE

Street and Apt. No.

GALLUP, NM 873010000

City, State, ZIP+4®

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Gallup, NM 87301

Certified Mail Fee \$5.30
 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 \$0.00

0021
15Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

SANCHEZ, ELENA

02/02/2026

Sent To

P.O. BOX 439

Street and Apt. No.

GAMERCO, NM 873170439

City, State, ZIP+4®

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9589 0710 5270 2997 5533 99

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Yuma, AZ 85364

Certified Mail Fee \$5.30
 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 \$0.00

0021
15Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

TRUJILLO, JEFF V. & VICTORIA

Sent To

MARIE

Street and Apt. No.

1767 W. 25TH ST.

City, State, ZIP+4®

YUMA, AZ 853640000

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 2997 5531 15

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Gallup, NM 87301

Certified Mail Fee \$5.30
 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 \$0.00

0021
15Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

VILLICANA, ANTONIO & MARY LOU

Sent To

TRUSTEES OF THE ANTONIO & MARY LOU

Street and Apt. No.

VILLICANA REVOCABLE TRUST &

City, State, ZIP+4®

P.O. BOX 1141

GALLUP, NM 873051141

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9589 0710 5270 2997 5533 75

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Gallup, NM 87301

Certified Mail Fee \$5.30
 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 \$0.00

0021
15Postmark
Here

Postage \$0.78

Total Postage and Fees \$6.08

VEGA, JOSE G. GONZALEZ &

Sent To

GUDINO, UNIGENITA RESENDIZ

Street and Apt. No.

614 MCKEE DR.

City, State, ZIP+4®

GALLUP, NM 873010000

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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Gallup, NM 87301

Certified Mail Fee \$5.30
 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 \$0.00

Postage \$0.78
 Total Postage and Fees \$6.08

Sent To TURNER, MELISSA
 701 N. STRONG DR.
 Street and Apt. No., GALLUP, NM 873010000
 City, State, ZIP+4®

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GAMERCO, NM 87317

Certified Mail Fee \$5.30
 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 \$0.00

Postage \$0.78
 Total Postage and Fees \$6.08

Sent To VALLES, MARIA C.
 P.O. BOX 423
 Street and Apt. No. GAMERCO, NM 873170423
 City, State, ZIP+4®

PS Form 3800, January 2025 PSN 7550-02-000-9047 See reverse for instructions

9589 0710 5270 2997 5531 46

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GAMERCO, NM 87317

Certified Mail Fee \$5.30
 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 \$0.00

Postage \$0.78
 Total Postage and Fees \$6.08

Sent To VALLES, MANUEL
 P.O. BOX 423
 Street and Apt. No. GAMERCO, NM 873170423
 City, State, ZIP+4®

PS Form 3800, January 2025 PSN 7550-02-000-9047 See reverse for instructions

9589 0710 5270 2997 5531 91

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GAMERCO, NM 87317

Certified Mail Fee \$5.30
 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 \$0.00

Postage \$0.78
 Total Postage and Fees \$6.08

Sent To TERAN, JOSE ALBARO & NATALIA
 P.O. BOX 823
 Street and Apt. No. GAMERCO, NM 873170823
 City, State, ZIP+4®

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GAMERCO, NM 87317

Certified Mail Fee \$5.30
 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 \$0.00

Postage \$0.78
 Total Postage and Fees \$6.08

Sent To SOO HOO, GEORGE M. TRUSTEE
 402 CHINO
 Street and Apt. GAMERCO, NM 873170000
 City, State, ZIP+4®

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Gallup, NM 87301

Certified Mail Fee \$5.30
 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 \$0.00

Postage \$0.78
 Total Postage and Fees \$6.08

Sent To SAFIEH, MOHAMMAD
 100 WEST HISTORIC HIGHWAY 66
 Street and Apt. GALLUP, NM 873010000
 City, State, ZIP+4®

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Gamerco, NM 87317

Certified Mail Fee	\$5.30	0021 15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	VALLES, GUADALUPE A. TRUSTEE OF THE GUADALUPE A. VALLES REVOCABLE TRUST P.O. BOX 423 GAMERCO, NM 873170423	
Street and Apt. No.		
City, State, ZIP+4®		

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Gamerco, NM 87317

Certified Mail Fee	\$5.30	0021 15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	THOMASON, LISA K 311 CRYSTAL AVENUE GAMERCO, NM 873170000	
Street and Apt. No.		
City, State, ZIP+4®		

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Gamerco, NM 87317

Certified Mail Fee	\$5.30	0021 15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	ANALLA, VELMA B. P.O. BOX 205 GAMERCO, NM 873170205	
Street and Apt. No.		
City, State, ZIP+4®		

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Gallup, NM 87305

Certified Mail Fee	\$5.30	0021 15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	ALONZO, EDWARD J. P.O. BOX 2873 GALLUP, NM 873052873	
Street and Apt. No.		
City, State, ZIP+4®		

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Gamerco, NM 87317

Certified Mail Fee	\$5.30	0021 15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	ARROYO, GUADALUPE P.O. BOX 26 GAMERCO, NM 873170026	
Street and Apt. No.		
City, State, ZIP+4®		

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Gamerco, NM 87317

Certified Mail Fee	\$5.30	0021 15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and Fees	\$6.08	
Sent To	APODACA, RUBY ANN P.O. BOX 953 GAMERCO, NM 873170953	
Street and Apt. No.		
City, State, ZIP+4®		

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Gamerco, NM 87317

Certified Mail Fee	\$5.30	0021
Extra Services & Fees (check box, add fee as appropriate)		15
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and	\$6.08	
Sent To	RAINALDI, DANIEL B. & LUZ M.	
Street and Apt. No.	P.O. BOX 818	
City, State, ZIP+4®	GAMERCO, NM 873170818	

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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Snowflake, AZ 85937

Certified Mail Fee	\$5.30	0020
Extra Services & Fees (check box, add fee as appropriate)		02
☐ 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	\$0.00	
Postage	\$0.78	
Total Postage and	\$6.08	
Sent To	WILLIAMS, JOHN & JOAN REVOCABLE	
Street and Apt. No.	TRUST & SLLIM VISIONS, LLC	
City, State, ZIP+4®	484 NORTH MAIN STREET	
	SNOWFLAKE, AZ 859370000	

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

Notice of Air Quality Permit Application

C&E Concrete, Inc. announces its application to the New Mexico Environment Department for a significant revision of Air Quality Permit #9027 for the existing Gamerco Hot Mix Asphalt (HMA) Plant. The expected date of significant revision application submittal to the Air Quality Bureau is January 26, 2026.

The exact location of the facility known as Gamerco HMA, is 708 Crystal Avenue, Gamerco, NM 87317. The exact location of the Gamerco HMA Plant is at Latitude (decimal degrees): 35.569427 and Longitude (decimal degrees): -108.761042. The approximate location of this site is 4.0 miles north-northwest of Gallup, NM in McKinley County.

The facility consists of a 200 ton per hour and 500,000 ton per year hot mix asphalt plant that produces hot mix asphalt for road and highway projects. C&E Concrete, Inc. is requesting a significant revision to its Air Quality Permit #9027 for the Gamerco HMA Plant to better align permitted operations with current equipment and project needs while meaningfully reducing the facility's maximum allowed daily output and overall potential environmental footprint. The revision includes: (1) installation of a new, higher-output asphalt heater intended to improve efficiency; (2) authorization for limited nighttime operations only when necessary to meet certain New Mexico Department of Transportation (NMDOT) project schedules; (3) a major reduction in the maximum daily production limit from 3,200 tons/day down to 2,800 tons/day — a 400-ton/day decrease in the plant's maximum permitted production capacity — which directly lowers the maximum potential emissions associated with asphalt production and the supporting truck activity; (4) revision of the regulated property boundary; and (5) updates to the facility coordinates to reflect as-built conditions. Emissions are expected to change slightly due to the heater upgrade and haul-road fugitive dust associated with truck traffic; however, the facility will continue to employ and maintain dust control and operational best practices to minimize impacts, meet all applicable permit limits, and remain fully responsive to public input and regulatory oversight.

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	Change in Emissions
			Tons per year
PM ₁₀	6.9 pph	7.9 tpy	0.3 tpy
PM _{2.5}	5.1 pph	6.4 tpy	0.0 tpy
Sulfur Dioxide (SO ₂)	11.7 pph	15.1 tpy	0.3 tpy
Nitrogen Oxides (NO _x)	11.4 pph	15.5 tpy	0.7 tpy
Carbon Monoxide (CO)	26.6 pph	34.1 tpy	0.4 tpy
Volatile Organic Compounds (VOC)	9.9 pph	12.6 tpy	0.1 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.1 pph	2.6 tpy	0.0 tpy
Toxic Air Pollutant (TAP)	2.6 pph	3.1 tpy	0.4 tpy
Green House Gas Emissions as Total CO ₂ e	n/a	< 10,000 tpy	<700 tpy

The standard operating schedule of the facility will be from 8 a.m. to 6 p.m. for the months of December through February, and from 5 a.m. to 7 p.m. for the months of March through November, 6 days a week and a maximum of 52 weeks per year. The maximum operating schedule will be from 7 a.m. to 6 p.m. for the months of December through February, 2 a.m. to 12 a.m. for the months of March and November, and 24 hours per day for the months of April through September, 7 days a week and a maximum of 52 weeks per year. Nighttime operation will only occur for a small number of projects per year. NMDOT is requiring more nighttime projects to reduce safety issues for the public on highway paving projects.

The owner and operator of the Facility is:

C&E Concrete, Inc.
PO Box 2547
Milan, NM 87021

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.

Atención

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 505-629-7748.

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: Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@env.nm.gov. 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.

PROOF OF PUBLICATION AFFIDAVIT

County of McKinley, Mandy Marks being duly sworn, testifies that she is the Executive Director of Gallup Sun Publishing, a weekly newspaper circulated in the above county and that he/she is familiar with the facts and that the notice, a copy of which is attached, was published in said newspaper one week for one consecutive week (one publication) prior to the time fixed for the hearing thereof, and that the publication was made on the:

23 day of January 2026

Dated 1/23/26

Signature of Affiant

State of New Mexico

County of

McKinley

) SS

On the 23 day of January 2026

The foregoing instrument was acknowledged

Before me by

Mandy Marks

Notary Public



STATE OF NEW MEXICO
NOTARY PUBLIC
MARISA A SOTO
Commission #: 1114995
Expiration Date: 05/06/2028

My Commission expires

5-6-28

Notice of Air Quality Permit Application

C&E Concrete, Inc. announces its application to the New Mexico Environment Department for a significant revision of Air Quality Permit #9027

for the existing Gamarco Hot Mix Asphalt (HMA) Plant. The expected date of significant revision application submittal to the Air Quality Bureau is January 26, 2026.

The exact location of the facility known as Gamarco HMA, is 708 Crystal Avenue, Gamarco, NM 87317. The exact location of the Gamarco HMA Plant is at Latitude (decimal degrees): 35.569427 and Longitude (decimal degrees): -108.761042. The approximate location of this site is 4.0 miles north-northwest of Gallup, NM in McKinley County.

The facility consists of a 200 ton per hour and 500,000 ton per year hot mix asphalt plant that produces hot mix asphalt for road and highway projects. C&E Concrete, Inc. is requesting a significant revision to its Air Quality Permit #9027 for the Gamarco HMA Plant to better align permitted operations with current equipment and project needs while meaningfully reducing the facility's maximum allowed daily output and overall potential environmental footprint. The revision includes: (1) installation of a new, higher-output asphalt heater intended to improve efficiency; (2) authorization for limited nighttime operations

only when necessary to meet certain New Mexico Department of Transportation (NMDOT) project schedules; (3) a major reduction in the maximum daily production limit from 3,200 tons/day down to 2,800 tons/day — a 400-ton/day decrease in the plant's maximum permitted production capacity — which directly lowers the maximum potential emissions associated with asphalt production and the supporting truck activity; (4) revision of the regulated property boundary; and (5) updates to the facility coordinates to reflect as-built conditions. Emissions are expected to change slightly due to the heater upgrade and haul-road fugitive dust associated with truck traffic; however, the facility will

continue to employ and maintain dust control and operational best practices to minimize impacts, meet all applicable permit limits, and remain fully responsive to public input and regulatory oversight.

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	Change in Emissions Tons per year
PM 10	6.9 pph	7.9 tpy	0.3 tpy
PM 2.5	5.1 pph	6.4 tpy	0.0 tpy
Sulfur Dioxide (SO ₂)	11.7 pph	15.1 tpy	0.3 tpy
Nitrogen Oxides (NO _x)	11.4 pph	15.5 tpy	0.7 tpy
Carbon Monoxide (CO)	26.6 pph	34.1 tpy	0.4 tpy
Volatile Organic Compounds (VOC)	9.9 pph	12.6 tpy	0.1 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.1 pph	2.6 tpy	0.0 tpy
Toxic Air Pollutant (TAP)	2.6 pph	3.1 tpy	0.4 tpy
Green House Gas Emissions as Total CO ₂ e	n/a	10,000 tpy	700 tpy

The standard operating schedule of the facility will be from 8 a.m. to 6 p.m. for the months of December through February, and from 5 a.m. to 7 p.m. for the months of March through November, 6 days a week and a maximum of 52 weeks per year. The maximum operating schedule will be from 7 a.m. to 6 p.m. for the months of December through February, 2 a.m. to 12 a.m. for the months of March and November, and 24 hours per day for the months of April through September, 7 days a week and a maximum of 52 weeks per year. Nighttime operation will only occur for a small number of projects per year. NMDOT is requiring more nighttime projects to reduce safety issues for the public on highway paving projects.

The owner and operator of the Facility is:
C&E Concrete, Inc.
PO Box 2547
Milan, NM 87021

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; 1 800 224-7000. Please refer to the company name and facil-

ity 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.

Atención

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Published: Gallup Sun
January 23, 2026

PUBLIC SAFETY
BUILDING
FROM COVER

\$105,000 from the city's general fund to cover the furnishing shortfalls for the new public safety building during their Jan. 6 meeting after grant funding fell short of actual costs.

The approval follows a previously accepted state grant agreement approved July 23, 2024, which provided \$400,000 for planning, designing, constructing, furnishing, and equipping the Public Safety Building.

After a required Arts in Public Places reduction of \$4,000, the adjusted grant total was \$396,000. City staff later determined that furnishing and equipment costs for both the Public Safety Building and Municipal Court totaled almost \$505,000 creating a funding gap.

Councilor Sarah Piano, Dist. 3, initially pulled the topic from the meeting's consent agenda and questioned whether legislative funding had already been secured to cover some of the furniture costs.

City Project Manager Keegan Mackenzie-Chavez of the Community Development Department explained that the original \$400,000 was provided by Sen. Shannon D. Pinto and Rep. Doreen Wonda Johnson and was reduced due to the arts requirement.

She explained that some complications arose after an interior design firm invoiced the city.

"The problem was

"We're not buying Cadillac stuff. We're buying quality. We want it to last."

- City Manager Frank Chiapetti Jr.

that the interior design company used the GSA contracting, which we cannot do," she said. "And so the prices were lower. In the amount of time that it took to kind of correct all that, prices went up."

She said that once the issue was discovered and quotes were redone, prices increased due to tariffs, steel costs, and time delays.

Mackenzie-Chavez also noted the size of the new facility - approximately 41,000 to 42,000 square feet - and the need to furnish additional workstations and three large conference rooms to support growth.

"It's a beautiful asset," she said. "It should be furnished as a new asset."

Piano said she supported furnishing the building but remained concerned about the size of the shortfall.

"It's not like we came up \$30,000 short," she said. "We came up with over \$100,000 short. So it's a large amount of money [and] that makes me nervous."

City Manager Frank Chiapetti Jr. emphasized fiscal responsibility.

"We're not buying Cadillac stuff," he said.

"We're buying quality. We want it to last."

He noted that costs for office goods have risen 20% to 30% annually ever since Covid.

Councilor Ron Molina, Dist. 4, raised concerns about the impact of delays.

"If we don't lock in on prices in time, it costs the taxpayers money," he said.

Municipal Court Administrator Erin Gutierrez read a memo from Judge Griego outlining the court's needs.

"We've converted storage rooms and other non-traditional spaces into makeshift offices to accommodate our team," Griego's letter states. "These areas currently lack proper furnishings, which impacts our daily operations. Additionally, much of the furniture we brought over from the old building is now outdated and in need of replacement to ensure that our staff have a professional and functional work environment. We believe these updates will greatly enhance our court's operations and better serve the community."

The council ultimately passed the funding request unanimously.

WEEKLY POLICE
ACTIVITY
FROM A4
STEALING A
REFRIGERATOR
Gallup, May 17,
2023



Barry Bitsie

A man is scheduled for a court date regarding an incident in which he allegedly stole a refrigerator in 2023.

On May 17, 2023, around 12:45 pm, Gallup Police Officer Charlie Watkins was dispatched to the intersection of Clark Street and Highway 66 after a woman was reportedly assaulted while she was walking to work.

While Watkins was on his way to the scene, Metro Dispatch informed him that the suspect was a man wearing all black clothing and he'd reportedly hid in a shed. As Watkins was pulling up to the area, a man matching the description came out of a gated area holding what allegedly looked like a vacuum cleaner. The man was eventually identified as Barry Bitsie, who was 47 years old at the time of the incident.

After placing the man in his patrol car, Watkins went to speak to the victim.

The victim said she worked at Lowe's, and she walked to work every day. But on May 17, while approaching the intersection of Clark

Street and Highway 66, Bitsie reportedly waved at her. She said she initially ignored the stranger, but when she was in the middle of the drive he yelled out "You f***** b****!"

The victim turned around and began yelling back at Bitsie. But then, he allegedly picked up a rock and threw it at her. The rock reportedly didn't hit the woman.

After the encounter, Bitsie allegedly opened a gate to a property.

While Watkins was talking to the woman, a man approached them and said he was the owner of the gated property. He also brought a security guard with him.

The security guard reportedly said Bitsie wasn't allowed on the property.

Watkins reportedly learned that a vacuum was missing from the property. It was valued at about \$200. Watkins returned to the vacuum to the security guard, and then transported Bitsie to the Gallup Police Department, where he was booked for a non-residential burglary, larceny, criminal trespass, and assault upon a peace officer (attempted battery).

After many missed court dates, Bitsie has a preliminary hearing in Gallup Magistrate Court scheduled for Jan. 28.

In Loving Memory

Antonio Yazzie, of Tohlaikai, N.M. died Jan. 14. He was 72.

He was born in Gallup, on Feb. 18, 1953. He was born into the Na'oh Dine'e' born for To'ich'i'niil.

Antonio was preceded in death by his son Mark Lynn Yazzie; his brother Wesley Yazzie Jr.; his sister Ada Mae Brown; his mother Grace Mae Brown Yazzie; and his father Wesley Yazzie Sr. He is survived by his sons Marty, Marlon, Anthony, and Marcus A. Yazzie; and his spouse Martina Yazzie Dedi.

Funeral Services were held at Cope Memorial Chapel on Jan. 21.

Marcella "Marcie" Yvonne Gonzales of Gallup, died on Jan. 11. She was 55.

She was born in



Marcella "Marcie" Yvonne Gonzales

Gallup on June 19, 1970. was born into the Coyote.

Marcella was preceded in death by Lorenzo Pino Jr., and Lawrence Pino. She is survived by Tommy Gonzales, Anthony Gonzales, and Diego Gonzales.

A celebration of life will be held at the Knights of Columbus, located 200 Apache Cir. on Jan. 24 at 12 pm. Flowers can be sent to 1611 Red Rock Dr.

Notice of Air Quality Permit Application

C&E Concrete, Inc. announces its application to the New Mexico Environment Department for a significant revision of Air Quality Permit #9027 for the existing Gamero Hot Mix Asphalt (HMA) Plant. The expected date of significant revision application submittal to the Air Quality Bureau is January 26, 2026.

The exact location of the facility known as Gamero HMA, is 708 Crystal Avenue, Gamero, NM 87317. The exact location of the Gamero HMA Plant is at Latitude (decimal degrees): 35.569427 and Longitude (decimal degrees): -108.761042. The approximate location of this site is 4.0 miles north-northwest of Gallup, NM in McKinley County.

The facility consists of a 200 ton per hour and 500,000 ton per year hot mix asphalt plant that produces hot mix asphalt for road and highway projects. C&E Concrete, Inc. is requesting a significant revision to its Air Quality Permit #9027 for the Gamero HMA Plant to better align permitted operations with current equipment and project needs while meaningfully reducing the facility's maximum allowed daily output and overall potential environmental footprint. The revision includes: (1) installation of a new, higher-output asphalt heater intended to improve efficiency; (2) authorization for limited nighttime operations only when necessary to meet certain New Mexico Department of Transportation (NMDOT) project schedules; (3) a major reduction in the maximum daily production limit from 3,200 tons/day down to 2,800 tons/day - a 400-ton/day decrease in the plant's maximum permitted production capacity - which directly lowers the maximum potential emissions associated with asphalt production and the supporting truck activity; (4) revision of the regulated property boundary; and (5) updates to the facility coordinates to reflect as-built conditions. Emissions are expected to change slightly due to the heater upgrade and haul-road fugitive dust associated with truck traffic; however, the facility will continue to employ and maintain dust control and operational best practices to minimize impacts, meet all applicable permit limits, and remain fully responsive to public input and regulatory oversight.

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	Change in Emissions Tons per year
PM 10	6.9 pph	7.9 tpy	0.3 tpy
PM 2.5	5.1 pph	6.4 tpy	0.0 tpy
Sulfur Dioxide (SO2)	11.7 pph	15.1 tpy	0.3 tpy
Nitrogen Oxides (NOx)	11.4 pph	15.5 tpy	0.7 tpy
Carbon Monoxide (CO)	26.6 pph	34.1 tpy	0.4 tpy
Volatile Organic Compounds (VOC)	9.9 pph	12.6 tpy	0.1 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	2.1 pph	2.6 tpy	0.0 tpy
Toxic Air Pollutant (TAP)	2.6 pph	3.1 tpy	0.4 tpy
Green House Gas Emissions as Total CO2e	n/a	< 10,000 tpy	< 700 tpy

The standard operating schedule of the facility will be from 8 a.m. to 6 p.m. for the months of December through February, and from 5 a.m. to 7 p.m. for the months of March through November, 6 days a week and a maximum of 52 weeks per year. The maximum operating schedule will be from 7 a.m. to 6 p.m. for the months of December through February, 2 a.m. to 12 a.m. for the months of March and November, and 24 hours per day for the months of April through September, 7 days a week and a maximum of 52 weeks per year. Nighttime operation will only occur for a small number of projects per year. NMDOT is requiring more nighttime projects to reduce safety issues for the public on highway paving projects.

The owner and operator of the Facility is:
C&E Concrete, Inc.
PO Box 2547
Milan, NM 87021

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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February 3, 2026

KYVA Radio
300 W Aztec Ave.
Suite 200
Gallup, NM 87301

CERTIFIED MAIL

Dear KYVA Radio:

SUBJECT: PSA Request - Proposed Air Quality Construction Permit Application for C&E Concrete, Inc. Gamerco HMA

Attached is a copy of a public service announcement regarding a proposed air quality construction permit application for the Gamerco HMA facility. This announcement is being submitted by Montrose Environmental Solutions, Albuquerque, NM on behalf of C&E Concrete, Inc.

The announcement request is being made to fulfill the requirements of the New Mexico Environmental Department air quality permitting regulations. Please consider reading the attached announcement as a public service message.

If you have any questions or need additional information, please contact me at (505) 830-9680 ext 6 (voice), (505) 830-9678 (fax) or email at pwade@montrose-env.com. You may also contact Mr. Chris Meech, C&E Concrete, Inc. at (505) 287-2944. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Paul Wade".

Paul Wade
Senior Associate Engineer

PUBLIC SERVICE ANNOUNCEMENT

C&E Concrete, Inc. announces its application to the New Mexico Environment Department for a significant revision of Air Quality Permit #9027 for the existing Gamerco Hot Mix Asphalt (HMA) Plant. The expected date of significant revision application submittal to the Air Quality Bureau is January 26, 2026.

The exact location of the facility known as Gamerco HMA, is 708 Crystal Avenue, Gamerco, NM 87317. The exact location of the Gamerco HMA Plant is at Latitude (decimal degrees): 35.569427 and Longitude (decimal degrees): -108.761042. The approximate location of this site is 4.0 miles north-northwest of Gallup, NM in McKinley County.

The facility consists of a 200 ton per hour and 500,000 ton per year hot mix asphalt plant that produces hot mix asphalt for road and highway projects. C&E Concrete, Inc. is requesting a significant revision to its Air Quality Permit #9027 for the Gamerco HMA Plant to better align permitted operations with current equipment and project needs while meaningfully reducing the facility's maximum allowed daily output and overall potential environmental footprint.

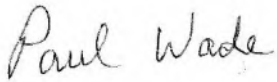
Public notices have been posted in the following locations for review by the public:

1. At the Octavia Fellin Public Library at 115 W Hill Ave, Gallup, NM;
2. At the United States Post Office at 950 West Aztec, Gallup, NM;
3. At the City of Gallup Municipal Building at 110 West Aztec Ave., Gallup, NM;
4. At the McKinley County Courthouse/Clerk's Office in Grants at 207 W Hill Ave, Gallup, NM; and
5. At the main entrance to C&E Concrete, Inc. Gamerco HMA –West Entrance, 708 Crystal Avenue, Gamerco, NM

Submittal of Public Service Announcement – Certification

I, Paul Wade, the undersigned, certify that on February 3, 2026, submitted a public service announcement to KYVA Radio that serves the City of Gallup, McKinley County, New Mexico, in which the source is proposed to be located and that KYVA Radio DID NOT RESPOND.

Signed this 3 day of February, 2026.



Signature

February 3, 2026
Date

Paul Wade
Printed Name

Air Quality Consultant – Montrose Environmental Solutions, Inc.
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

7022 3330 0001 7217

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Gallup, NM 87301

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\$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 \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To KYVA Radio

Street and Apt. No., or PO Box No. 300 W Astec Ave Suite 200

City, State, ZIP+4[®] Gallup NM 87301



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 C&E Concrete Gamerco HMA Plant will be permitted to operate with the following material inputs.

TABLE 10-1: Asphalt Throughput

Plant	Tons Per Hour	Tons Per Year
HMA Plant	200	500,000

The 200 tph hot mix asphalt plant will include a 4-bin cold aggregate feeder, scalping screen, pug mill, 2-bin RAP feeder, RAP scalping screen, mineral filler silo with baghouse, drum dryer with baghouse, incline conveyor, asphalt silo, asphalt heater, and seven (7) transfer conveyors. The plant will be powered by commercial line power. Processed asphalt will be transported from the HMA plant to off-site sales. The HMA plant will limit hourly processing rate to 200 tph and 500,000 tons per year (tpy). Hot oil asphalt heaters will be permitted to operate 8760 hours per year. A process flow diagram is presented as Figure 4-1.

Aggregate is loaded into the Cold Aggregate Feed Bins (Unit 2), where it is metered onto the Cold Aggregate Feed Bin Conveyor (Unit 3) then transferred to Cold Aggregate Conveyor (Unit 4). From the Cold Aggregate Conveyor, the aggregate is sent to the Scalping Screen and Scalping Screen Conveyor (Units 5, 6) and then Pug Mill (Unit 7). The Mineral Filler Silo and Auger (Unit 10) meters mineral filler into the Pug Mill. The Pug Mill mixes the aggregate and mineral filler together and empties onto the Pug Mill Conveyor (Unit 8). The Pug Mill Conveyor transfers the material to the Slinger Conveyor (Unit 9) then into the Drum Dryer (Unit 17). RAP is loaded into the RAP Feed Bins (Unit 13), where it is metered onto the RAP Feed Bin Conveyor (Unit 14) and then transferred to the RAP Scalping Screen (Unit 15). The RAP Scalping Screen Conveyor (Unit 16) transports RAP to the Drum Dryer/Mixer (Unit 17). There the material is dried and asphalt cement is added to make asphalt concrete. From the Drum Dryer/Mixer the asphalt concrete is sent by the Asphalt Incline Conveyor (Unit 19a) to the Asphalt Silo (Units 20a, 20b, 20c).

Control Units include a Drum Dryer/Mixer Dust Collector (Unit 18) that captures particulates generated at the Drum Dryer/Mixer and the Mineral Filler Silo Dust Collector (Unit 11) that captures particulates generated during loading of the Mineral Filler Silo. Controlled particulates exhaust the Drum Dryer/Mixer Dust Collector Stack (Stack 2) and Mineral Filler Silo Dust Collector Stack (Stack 1).

Fugitive dust is controlled when material exits the Cold Aggregate or RAP Feed Bins to the Cold Aggregate or RAP Feed Bin Conveyors with enclosures to reduce the chance that wind will blow any generated fugitive dust away and/or water sprays, as needed, at the exit of the feed bins.

Fugitive dust is controlled when material enters and exits the Scalping Screen (Unit 5), Pug Mill (Unit 7), and RAP Scalping Screen (Unit 15) with enclosures to reduce the chance that wind will blow any generated fugitive dust away and/or water sprays, as needed, at the Scalping Screen, Pug Mill, and RAP Scalping Screen.

Baghouse fines that are captured in the Drum Dryer/Mixer Dust Collector (Unit 18) are recycled back to the Drum Dryer using an enclosed loop or slurried to the extent where no visible emission exceed 20 percent opacity per EPA Method 9.

Baghouse fines that are captured in the Mineral Filler Silo Dust Collector (Unit 11) are recycled back to the Mineral Filler Silo.

There are no pollution controls for the Aggregate or RAP Storage Piles (Units 1, 12), Aggregate or RAP Feed Bins (Units 2, 13), Asphalt Incline Belt (Unit 19a), Asphalt Silos (Units 20a, 20b, 20c), Asphalt Heater (Unit 21), or Hot Oil Asphalt Storage Tank (Units 22).

All truck traffic travels in the HMA Plant paved road. The road is paved and will be cleaned, as needed, to reduce visible emissions.

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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): Hot Mix Asphalt Plant – SIC Code 2951; Concrete Batch Plant – SIC Code 3273

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 “synthetic minor” source
- B. This facility is not one of the listed 20.2.74.501 Table I – PSD Source Categories.
 - a. NOx: 15.5 TPY
 - b. CO: 34.1 TPY
 - c. VOC: 12.6 TPY
 - d. SOx: 15.1 TPY
 - e. PM: 13.5 TPY
 - f. PM10: 7.85 TPY
 - g. PM2.5: 6.40 TPY
 - h. Lead: 0.0038 TPY
 - i. GHG: <75,000 TPY
- C. Netting is not required for this application.
- D. BACT is not required for this application.
- 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.

No, this facility is not a major source. The facility consists of HMA plant with annual emission rates below 250 tpy of any regulated new source review pollutant.

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 RELEVANT 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/>

Table for State Regulations:

<u>State Regulation Citation</u>	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	20.2.3 NMAC is a SIP approved regulation that limits the maximum allowable concentration of Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide.
20.2.7 NMAC	Excess Emissions	Yes	Facility	This facility is subject to 20.2.7 NMAC.
20.2.11 NMAC	Asphalt Process Equipment	Yes	10 (C3), 17 (C4)	These sources are subject to 20.2.11.108 NMAC and 20.2.11.109 NMAC.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	21	This regulation that limits opacity to 20% applies to Stationary Combustion Equipment, such as the asphalt heater (Unit 21).
20.2.70 NMAC	Operating Permits	No		This facility is not a Title V Operating Permit source.
20.2.71 NMAC	Operating Permit Fees	No		This facility is not a Title V Operating Permit source.
20.2.72 NMAC	Construction Permits	Yes	Facility	Potential emission rate (PER) for the facility is greater than 10 pph or greater than 25 tpy for any pollutant subject to a state or federal ambient air quality standard.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	NOI: 20.2.73.200 NMAC applies (requiring a NOI application) Emissions Inventory Reporting: 20.2.73.300 NMAC applies.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No		This facility is not a PSD major source.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	This facility is subject to 20.2.72 NMAC and is in turn subject to 20.2.75 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	No, this facility doesn't emit hazardous air pollutants which are subject to the requirements of 40 CFR Part 61.
20.2.79 NMAC	Permits – Nonattainment Areas	No	Facility	This facility is located in an Attainment Area.
20.2.80 NMAC	Stack Heights	Yes	21	Cited as applicable in NSR Permit 9027R1.
20.2.82 NMAC	MACT Standards for source categories of HAPS	No	Units subject to 40 CFR 63	No, this facility doesn't emit hazardous air pollutants which are subject to the requirements of 40 CFR Part 63.

Table for Applicable Federal Regulations:

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 50	NAAQS	Yes	Facility	Defined as applicable at 20.2.70.7.E.11, any national ambient air quality standard
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	10, 11, 17, 18	Subpart I in 40 CFR 60 applies.
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	No		This facility does not have storage vessels with a capacity greater than or equal to 75 cubic meters (m ³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	No		The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE). No RICE are located at HMA plant.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	Units Subject to 40 CFR 61	Applies if any other Subpart in 40 CFR 61 applies.
MACT 40 CFR 63, Subpart A	General Provisions	No	Units Subject to 40 CFR 63	Applies if any other Subpart in 40 CFR 63 applies.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	No		Facilities are subject to this subpart if they own or operate a stationary RICE, except if the stationary RICE is being tested at a stationary RICE test cell/stand. No RICE are located at HMA plant.

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.
-

Operational Plan to Mitigate Emissions and Plan of Work Practices

Startup

Prior to the production of asphalt, the drum mixer dust collector will be operational and functioning correctly per 20.2.11.108.A, 20.2.11.109, and applicable permit conditions.

Prior to loading of the mineral filler, the mineral filler silo dust collector will be operational and functioning correctly per 20.2.11.108.A, 20.2.11.109, and applicable permit conditions.

Prior to the production of asphalt, feeder bin exit enclosures or other control measures will be functioning correctly to control fugitive emissions to an opacity limit of 20 percent per EPA Reference Method 9.

Prior to the production of asphalt, water sprays, or other control measures, for the scalping screen and pug mill will be functioning correctly and used as needed, to control fugitive emissions to an opacity limit of 20 percent per EPA Reference Method 9.

Prior to unloading of the drum mixer dust collector baghouse fines, dust control measures will be functioning correctly to control fugitive emissions to an opacity limit of 20 percent per EPA Reference Method 9.

Upon visual inspection, all haul roads will be controlled with surfactants or other equivalent control methods, to minimize fugitive dust as required under applicable permit conditions.

Shutdown

All required control equipment will operate until all asphalt production ceases.

Maintenance

The feeder bin exit enclosures or water sprays, asphalt drum mixer, drum mixer dust collector, material transporting and processing water sprays, and mineral filler silo dust collector will be maintained to prevent excess emissions during startup or shutdown. This facility will not have excess emissions during any maintenance procedures.

Malfunction

Upon malfunction where excess particulate emissions are observed from the feeder bin exit enclosures or water sprays, asphalt drum mixer, drum mixer dust collector, scalping screen and pug mill water sprays, mineral filler silo dust collector, and baghouse loadout enclosure and watering, all asphalt production will cease until repairs to control equipment are made.

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: www.env.nm.gov/air-quality/permitting-section-procedures-and-guidance/. 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.

No alternative operating scenarios are proposed for this stationary source.

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)	
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:	Gamerco HMA
2	Name of company:	C&E Concrete, Inc.
3	Current Permit number:	Permit #9027R1
4	Name of applicant's modeler:	Paul Wade
5	Phone number of modeler:	505.830.9680 x6
6	E-mail of modeler:	pwade@montrose-env.com

16-B: Brief

1	Was a modeling protocol submitted and approved?	Yes ☒	No ☐
2	Why is the modeling being done?	Other (describe below)	
3	Describe the permit changes relevant to the modeling. The revision includes: (1) installation of a new, higher-output asphalt heater intended to improve efficiency; (2) authorization for limited nighttime operations only when necessary to meet certain NMDOT project schedules; (3) a major reduction in the maximum daily production limit from 3,200 tons/day down to 2,800 tons/day — a 400-ton/day decrease in the plant's maximum permitted production capacity — which directly lowers the maximum potential emissions associated with asphalt production and the supporting truck activity; (4) revision of the regulated property boundary; and (5) updates to the facility coordinates to reflect as-built conditions.		
4	What geodetic datum was used in the modeling?	NAD83	

5	How long will the facility be at this location?	Permanent	
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	014	
8	List the PSD baseline dates for this region (minor or major, as appropriate).		
	NO2	06/06/1989	
	SO2	08/07/1978	
	PM10	08/07/1978	
	PM2.5	NA	
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).		
	Petrified Forest National Park, 95 km to the west- southwest		
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.		
	None		

16-C: Modeling History of Facility

1	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).			
	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO	Permit 9027	12/30/2021	Passed originally and will be rerun
	NO ₂	Permit 9027	12/30/2021	Passed originally and will be rerun
	SO ₂	Permit 9027	12/30/2021	Passed originally and will be rerun
	H ₂ S	Not Done		Will be performed for this revision
	PM2.5	Permit 9027	12/30/2021	Passed originally and will be rerun
	PM10	Permit 9027	12/30/2021	Passed originally and will be rerun
	Lead	Not Done		Will be performed for this revision
	Ozone (PSD only)			Not a PSD source
	NM Toxic Air Pollutants (20.2.72.402 NMAC)	Permit 9027 – Asphalt Fumes	12/30/2021	Passed originally and will be rerun

16-D: Modeling performed for this application

1	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.
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Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.
CO	☒	☐	☐	☐	☐
NO ₂	☒	☒	☐	☐	☐
SO ₂	☒	☒	☐	☐	☐
H ₂ S	☒	☐	☐	☐	☐
PM _{2.5}	☒	☒	☐	☐	☐
PM ₁₀	☒	☒	☐	☐	☐
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. Calcium Hydroxide and 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.					
	Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/Correction Factor
	Calcium Hydroxide	0.18	0.333	12.19	5	0.036

16-F: Modeling options

1	Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes ☒	No ☐
	Version 24142. All volume sources were run in flat terrain mode.		

16-G: Surrounding source modeling

1	Date of surrounding source retrieval	10/15/2025
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.	
	PM ₁₀ and PM _{2.5} GCP emission sources were set to 71.25 tpy and 17.875 tpy, respectively. GCP2 and GCP3 hours of operation were limited to daylight hours only.	

16-H: Building and structure downwash

1	How many buildings are present at the facility?	None	
2	How many above ground storage tanks are present at the facility?	4 – Silos (3 Asphalt Silos and 1 Mineral Fill Silo)	
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes ☒	No ☐
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. Fencing and Gate with sign					
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
	Very Fine	Cartesian	50 meters	Border	500 Meters	
	Very Fine	Cartesian	100 meters	500 Meters	1 Kilometers	
	Fine	Cartesian	250 meters	1 Kilometers	3 Kilometers	
	Course	Cartesian	500 meters	3 Kilometers	5 Kilometers	
	Course	Cartesian	1000 meters	10 Kilometers	50 Kilometers	
5	Describe receptor spacing along the fence line.					
	25 Meters					
6	Describe the PSD Class I area receptors.					
	NA					

16-J: Modeling Scenarios

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 plant operating hours are broken up into three different scenarios: asphalt production, asphalt transport and truck loading and aggregate delivery and storage pile loading. The daily hours for each process are presented below in Tables 1 through 3. Maximum daily asphalt production and maximum daily modeled hours of operation based on the daily asphalt production rate are presented below in Table 4.

TABLE 1: HMA Plant Asphalt Production Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	1	1	1	1	1	1	1	0	0
1:00 AM	0	0	0	1	1	1	1	1	1	1	0	0
2:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
3:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
4:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
5:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
6:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
8:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
9:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
10:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
11:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
Total	11	11	22	24	24	24	24	24	24	24	22	11

TABLE 2: HMA Asphalt Truck Traffic and Loading Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
1:00 AM	0	0	1	1	1	1	1	1	1	1	1	0

2:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
3:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
4:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
5:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
6:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
8:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
9:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
10:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
11:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
Total	11	11	24	24	24	24	24	24	24	24	24	11

TABLE 3: HMA Aggregate Truck Delivery Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	1	1	1	1	1	0	0	0	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1

3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
6:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	11	13	14	14	14	14	14	13	13	13	11

TABLE 4: HMA Daily Production Rates and Corresponding Max Hours of Production

Months	Tons Per Day	Modeled Hours per Day at Max Hourly Throughput
December - February	2000	10
October, November	2000	10
March, September	2400	12
April - August	2800	14

Tables 5 through 7 presents the model hourly for the three processing scenarios found in Tables 1 through 3. These 12 modeling runs show compliance with a potential worst-case operating scenario.

TABLE 5: HMA Plant Asphalt Production Scenario Time Segments

Model Scenario	Time Segments 10-Hour Blocks December - February	Time Segments 12-Hour Blocks March	Time Segments 10-Hour Blocks November	Time Segments 12-Hour Blocks September	Time Segments 10-Hour Blocks October	Time Segments 14-Hour Blocks April - August
1	7 AM to 5 PM	2 AM to 2 PM	2 AM to 12 PM	12 AM to 12 PM	12 AM to 10 AM	12 AM to 2 PM
2	7 AM to 5 PM	3 AM to 3 PM	3 AM to 1 PM	2 AM to 2 PM	2 AM to 12 PM	2 AM to 4 PM
3	7 AM to 5 PM	4 AM to 4 PM	4 AM to 2 PM	4 AM to 4 PM	4 AM to 2 PM	4 AM to 6 PM
4	7 AM to 5 PM	5 AM to 5 PM	5 AM to 3 PM	6 AM to 6 PM	6 AM to 4 PM	6 AM to 8 PM
5	7 AM to 5 PM	6 AM to 6 PM	6 AM to 4 PM	8 AM to 8 PM	8 AM to 6 PM	8 AM to 10 PM
6	7 AM to 5 PM	7 AM to 7 PM	7 AM to 5 PM	10 AM to 10 PM	10 AM to 8 PM	10 AM to 12 AM
7	8 AM to 6 PM	7 AM to 7 PM	9 AM to 7 PM	12 PM to 12 AM	12 PM to 10 PM	12 PM to 2 AM
8	8 AM to 6 PM	8 AM to 8 PM	10 AM to 8 PM	2 PM to 2 AM	2 PM to 12 AM	2 PM to 4 AM
9	8 AM to 6 PM	9 AM to 9 PM	11 AM to 9 PM	4 PM to 4 AM	4 PM to 2 AM	4 PM to 6 AM
10	8 AM to 6 PM	10 AM to 10 PM	12 PM to 10 PM	6 PM to 6 AM	6 PM to 4 AM	6 PM to 8 AM
11	8 AM to 6 PM	11 AM to 11 PM	1 PM to 11 PM	8 PM to 8 AM	8 PM to 6 AM	8 PM to 10 AM
12	8 AM to 6 PM	12 PM to 12 AM	2 PM to 12 AM	10 PM to 10 AM	10 PM to 8 AM	10 PM to 12 PM

TABLE 6: HMA Asphalt Truck Traffic and Loading Scenario Time Segments

Model Scenario	Time Segments 10-Hour Blocks December - February	Time Segments 12-Hour Blocks March & September	Time Segments 10-Hour Blocks October & November	Time Segments 14-Hour Blocks April - August
1	7 AM to 5 PM	12 AM to 12 PM	12 AM to 10 AM	12 AM to 2 PM
2	7 AM to 5 PM	2 AM to 2 PM	2 AM to 12 PM	2 AM to 4 PM
3	7 AM to 5 PM	4 AM to 4 PM	4 AM to 2 PM	4 AM to 6 PM
4	7 AM to 5 PM	6 AM to 6 PM	6 AM to 4 PM	6 AM to 8 PM
5	7 AM to 5 PM	8 AM to 8 PM	8 AM to 6 PM	8 AM to 10 PM
6	7 AM to 5 PM	10 AM to 10 PM	10 AM to 8 PM	10 AM to 12 AM
7	8 AM to 6 PM	12 PM to 12 AM	12 PM to 10 PM	12 PM to 2 AM
8	8 AM to 6 PM	2 PM to 2 AM	2 PM to 12 AM	2 PM to 4 AM
9	8 AM to 6 PM	4 PM to 4 AM	4 PM to 2 AM	4 PM to 6 AM
10	8 AM to 6 PM	6 PM to 6 AM	6 PM to 4 AM	6 PM to 8 AM
11	8 AM to 6 PM	8 PM to 8 AM	8 PM to 6 AM	8 PM to 10 AM
12	8 AM to 6 PM	10 PM to 10 AM	10 PM to 8 AM	10 PM to 12 PM

TABLE 7: HMA Aggregate Truck Traffic and Unloading Scenario Time Segments

Model Scenario	Time Segments 10-Hour Blocks December - February	Time Segments 12-Hour Blocks March & September	Time Segments 10-Hour Blocks October & November	Time Segments 14-Hour Blocks April - September
1	7 AM to 5 PM	6 AM to 6 PM	6 AM to 4 PM	5 AM to 7 PM
2	7 AM to 5 PM	6 AM to 6 PM	6 AM to 4 PM	5 AM to 7 PM
3	7 AM to 5 PM	6 AM to 6 PM	6 AM to 4 PM	5 AM to 7 PM
4	7 AM to 5 PM	6 AM to 6 PM	7 AM to 5 PM	5 AM to 7 PM
5	7 AM to 5 PM	6 AM to 6 PM	7 AM to 5 PM	5 AM to 7 PM
6	7 AM to 5 PM	6 AM to 6 PM	7 AM to 5 PM	5 AM to 7 PM
7	8 AM to 6 PM	7 AM to 7 PM	8 AM to 6 PM	5 AM to 7 PM
8	8 AM to 6 PM	7 AM to 7 PM	8 AM to 6 PM	5 AM to 7 PM
9	8 AM to 6 PM	7 AM to 7 PM	8 AM to 6 PM	5 AM to 7 PM
10	8 AM to 6 PM	7 AM to 7 PM	9 AM to 7 PM	5 AM to 7 PM
11	8 AM to 6 PM	7 AM to 7 PM	9 AM to 7 PM	5 AM to 7 PM
12	8 AM to 6 PM	7 AM to 7 PM	9 AM to 7 PM	5 AM to 7 PM

ROI modeling was run for all 12 modeling scenarios for particulate modeling and all operating hours for combustion emissions. The results of the modeling analysis were used in the cumulative modeling analysis. For particulate modeling, the six highest model results were rerun in the cumulative modeling to determine the highest resulting concentrations for comparison with PM10 or PM2.5 NAAQS or Class II Increment limits.

Table 8: PM10 and PM2.5 ROI Model Results

Scenario	PM10 24 Hour Increment	PM2.5 24 hour NAAQS	PM2.5 Annual NAAQS
1	35.063	18.974	1.769
2	29.330	18.974	1.744
3	23.683	18.974	1.720
4	27.461	20.314	1.728
5	23.136	18.974	1.820
6	23.136	18.974	1.842
7	24.712	17.751	1.851
8	25.896	16.243	1.876
9	35.175	16.243	1.902
10	36.647	16.243	1.906
11	35.805	17.031	1.870
12	35.960	16.243	1.815

Which scenario produces the highest concentrations? Why?

- 2 PM10 24 Hour – Scenario 11, Evening hours that consist of low wind speeds and stable boundary layers.
PM2.5 24 Hour – Scenario 4, Early morning hours with a combination of asphalt production and aggregate truck hauling and unloading.
PM2.5 Annual - Scenario 10, Evening hours that consist of low wind speeds and stable boundary layers.

- 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 Source Groups for the tables found in 16-J.1 are listed below for particulate modeling.

(HMA) Table 1 Emission Sources: 17_18, 10_11, 19a, 2_1, 2_2, 2_3, 3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 16, HRF_0001-HRF_0047
(NIGHT) Table 2 Emission Sources: 20, HRP_0001-HRP_0047
(AGGROAD) Table 3 Emission Sources: 1_1, 1_2, 1_3, 1_4, 12, HRA_0001-HRA_0047

If hourly, variable emission rates were used that were not described above, describe them below.

NA

- 6 Were different emission rates used for short-term and annual modeling? If so describe below.
- Yes ☒ No ☐

For PM2.5 annual modeling, an hourly factor was used that accounts for the difference in the number of hours that the facility could operate at max hourly throughput and the number of hours running at maximum to produce the annual throughput limit. Based on the facility operating at 200 tons per hour and the annual throughput limit of 500,000 tons per year, this is equivalent to 4384 hours per year or 876,800 tons per year. Since the annual production limit is 500,000 tons

per year and the production, based on maximum hourly production and hours based on daily throughput limits, an hourly factor of 0.57 (500,000/876,800) was used in the annual PM2.5 modeling.

16-K: NO₂ 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.		
	Modeling was performed using the ARM2 Method		
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: 98th percentile as calculated by AERMOD Annual Highest Annual Average of Three Years:		

16-L: Ozone Analysis

1	NMED has performed a generic analysis that demonstrates sources that are minor with respect to PSD do not cause or contribute to any violations of ozone NAAQS. The analysis follows. The basis of the ozone SIL is documented in Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program , EPA, April 17, 2018 and associated documents. NMED accepts this SIL basis and incorporates it into this permit record by reference. Complete documentation of the ozone concentration analysis using MERPS is included in the New Mexico Air Quality Bureau Air Dispersion Modeling Guidelines.		
	The MERP values presented in Table 10 and Table 11 of the NM AQB Modeling Guidelines that produce the highest concentrations indicate that facilities emitting no more than 250 tons/year of NO_x and no more than 250 tons/year of VOCs will cause less formation of O₃ than the O₃ significance level. $[O_3]_{8-hour} = \left(\frac{250 \frac{ton}{yr}}{340_{MERP_{NOX}}} + \frac{250 \frac{ton}{yr}}{4679_{MERP_{VOC}}} \right) \times 1.96 \mu g/m^3$ =1.546 μg/m³, which is below the significance level of 1.96 μg/m³. Sources that produce ozone concentrations below the ozone SIL do not cause or contribute to air contaminant levels exceeding the ozone NAAQS.		
3	Does the facility emit at least 250 tons per year of NO _x or at least 250 tons per year of VOCs? Sources that emit at least 250 tons per year of NO _x or at least 250 tons per year of VOCs are covered by the analysis above and require an individual analysis.	Yes ☐ No ☐	No ☐
5	For new PSD Major Sources or PSD major modifications, if MERPs were used to account for ozone fill out the information below. If another method was used describe below.		

NO _x (ton/yr)	MERP _{NOX}	VOCs (ton/yr)	MERP _{VOC}	[O ₃] _{8-hour}
15.5		12.6		

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.																												
	PM₁₀ emissions may be modeled using plume depletion. Plume deposition simulates the effect of gravity as particles "fall-out" from the plume to the ground as the plume travels downwind. Therefore, the farther the plume travels from the emission point to the receptor, the greater the effect of plume deposition and the greater the decrease in modeled impacts or concentrations. Particle size distribution, particle mass fraction, and particle density are required inputs to the model to perform this function. The particle size distribution data used in the modeling for material handling of aggregate will be based upon data obtained from the City of Albuquerque AQB's "Air Dispersion Modeling Guidelines for Air Quality Permitting", revised 02/03/2016, Table 1. Particle size distribution for fugitive road dust on unpaved roads; lime silo baghouse exhaust; HMA asphalt particulate emissions; and combustion will use the particle size distribution found in the NMED Modeling Section approved values. The mass-mean particle diameters were calculated using the formula: $d = ((d_1^3 + d_1^2 d_2 + d_1 d_2^2 + d_2^3) / 4)^{1/3}$ Where: d = mass-mean particle diameter d₁ = low end of particle size category range d₂ = high end of particle size category range Representative average particle densities were obtained from NMED accepted values. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Material</th> <th style="text-align: center;">Density (g/cm³)</th> <th style="text-align: center;">Reference</th> </tr> </thead> <tbody> <tr> <td>Road Dust – C&E Concrete and Neighbor</td> <td style="text-align: center;">2.5</td> <td>NMED Value</td> </tr> <tr> <td>Lime – C&E Concrete and Neighbor</td> <td style="text-align: center;">3.3</td> <td>NMED Value</td> </tr> <tr> <td>HMA Asphalt Stack and Fumes – C&E Concrete and Neighbor</td> <td style="text-align: center;">1.5</td> <td>NMED Value</td> </tr> <tr> <td>Combustion – C&E Concrete and Neighbor</td> <td style="text-align: center;">1.5</td> <td>NMED Value</td> </tr> <tr> <td>Fugitive Dust – C&E Concrete and Neighbor</td> <td style="text-align: center;">2.5</td> <td>NMED Value</td> </tr> </tbody> </table> The densities and size distribution for PM₁₀ emission sources are presented in Tables 10 through 15. TABLE 10: Road Vehicle Fugitive Dust Deposition Parameters <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Particle Size Category</th> <th style="text-align: center;">Mass Mean Particle Diameter</th> <th style="text-align: center;">Mass Weighted Size Distribution</th> <th style="text-align: center;">Density (g/cm³)</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			Material	Density (g/cm ³)	Reference	Road Dust – C&E Concrete and Neighbor	2.5	NMED Value	Lime – C&E Concrete and Neighbor	3.3	NMED Value	HMA Asphalt Stack and Fumes – C&E Concrete and Neighbor	1.5	NMED Value	Combustion – C&E Concrete and Neighbor	1.5	NMED Value	Fugitive Dust – C&E Concrete and Neighbor	2.5	NMED Value	Particle Size Category	Mass Mean Particle Diameter	Mass Weighted Size Distribution	Density (g/cm ³)				
	Material	Density (g/cm ³)	Reference																										
	Road Dust – C&E Concrete and Neighbor	2.5	NMED Value																										
	Lime – C&E Concrete and Neighbor	3.3	NMED Value																										
	HMA Asphalt Stack and Fumes – C&E Concrete and Neighbor	1.5	NMED Value																										
	Combustion – C&E Concrete and Neighbor	1.5	NMED Value																										
	Fugitive Dust – C&E Concrete and Neighbor	2.5	NMED Value																										
	Particle Size Category	Mass Mean Particle Diameter	Mass Weighted Size Distribution	Density (g/cm ³)																									

(μm)	(μm)	(%)	
PM10			
0 – 2.5	1.57	25.0	2.5
2.5 – 10	6.91	75.0	2.5

Based on NMED Model Guideline – June 2024 (Vehicle Fugitive)

TABLE 11: Combustion Source Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 - 2.5	1.57	100.0	1.5

Based on NMED Model Guideline – June 2024 (Combustion)

TABLE 12: Material Handling (Fugitive) Dust Source Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 - 2.5	1.57	7.8	2.5
2.5 – 5	3.88	27.0	2.5
5 – 10	7.77	65.2	2.5

Based on NMED Model Guideline – June 2024 (Coal Handling)

TABLE 13: Mineral Filler Baghouse Source Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 - 2.5	1.57	25	3.3
2.5 - 10	6.91	75	3.3

Based on NMED Model Guideline – June 2024 (Lime Silo)

TABLE 14: Asphalt Baghouse and Stack Source Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 - 1.0	0.63	50.0	1.5
1.0 - 2.5	1.85	19.0	1.5
2.5 - 10	6.92	31.0	1.5

Based on NMED Model Guideline – June 2024 (Asphalt Baghouse)

TABLE 15: Asphalt Fumes Source Deposition Parameters

	Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm ³)
	PM10			
	0 - 2.5	1.57	100	1.5
Based on NMED Model Guideline – June 2024 (Combustion)				
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.			
	Pollutant	NO _x	SO ₂	[PM2.5] _{24-hour}
	MERP _{annual}			
	MERP _{24-hour}			[PM2.5] _{annual}
	Emission rate (ton/yr)			

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.
	Plant is a permanent structure and emission source will not move from present locations
2	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.
	Plant is a permanent source

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		
	19a	19 or 19A (in some model runs)		
	20a, 20b, 20c	20 or 20A20B20C (in some model runs)		

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 ☒
	Hourly model emission rates for material handling sources (Emissions calculated using AP-42 Section 13.2.4) are calculated using annual average windspeed for Grants.						
	Permit ID	Model ID	Source Description	Permit Emission Rate		Modeled Emission Rate	
				PM10 Lb/Hr	PM2.5 Lb/Hr	PM10 Lb/Hr	PM2.5 Lb/Hr
	RAW	RAW	Raw Material Pile	0.93646	0.14181	0.64935	0.09833
	1	1	Crushing Plant Feeder	0.93646	0.14181	0.64935	0.09833
	13	13	Stacker Conveyor to Pile	0.22482	0.03404	0.15590	0.02361
	15	15	Stacker Conveyor to Pile	0.11241	0.01702	0.07795	0.01180
	17	17	Stacker Conveyor to Pile	0.11241	0.01702	0.07795	0.01180
	19	19	Stacker Conveyor to Pile	0.11241	0.01702	0.07795	0.01180
FPILE	FPILE	Finish Pile	0.93646	0.14181	0.64935	0.09833	
TL	TL1, TL2	Truck Loading	0.93646	0.14181	0.64935	0.09833	
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?						
	Unit ID	NO ₂	SO ₂	PM10	PM2.5		
	17_18	X	X	X			
	21	X	X	X			
	10_11			X			
	19A or 19			X			
	20A20B20C or 20			X			
	1_1			X			
	1_2			X			
	1_3			X			
	1_4			X			
	2_1			X			
	2_2			X			
	2_3			X			
	3			X			
	4			X			
	5			X			
	6			X			
	7			X			
	8			X			
	9			X			
	12			X			
	13			X			
	14			X			
	15			X			
	16			X			
	HRF_0001-0047			X			
	HRA_0001-0047			X			
	HRP_0001-0047			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 ☒
	New equipment has not been installed.		No ☐

16-P: Flare Modeling

1	For each flare or flaring scenario, complete the following			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)
	NA			

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?	Yes ☐	No ☒
	If not please explain how increment consumption status is determined for the missing installation dates below.		
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources.		
	For storage piles the volume model inputs were based on the diameter of 100 feet and a release height of 8 feet or a sigma-Y of 100 ft/4.3 and sigma-Z of 8 ft*2/2.15 for Units 1, 12 (Model ID 1_1, 1_2, 1_3, 1_4, and 12). All others (Volume Sources) followed standard dimensions from Air Quality Bureau (aqb) Modeling Guidelines.		
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.		
	NA		
5	Describe emission units included in each open pit.		
	NA		

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: Del Norte High School (350010023)		
	NO ₂ : Shiprock Substation (350451005)		
	PM _{2.5} : Farmington Environment Department Office (350450019)		

	PM10: Shiprock Substation (350451005)		
	SO ₂ : Shiprock Substation (350451005)		
	Other:		
	Comments:		
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.	Yes ☒	No ☐
	Gallup		
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.		
	Gallup 2018_2022		

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.	Yes ☒	No ☐
	Yes, for point sources only. For volume sources, model was run in source selected flat terrain mode.		
2	What was the source of the terrain data?		
	USGS National Elevation Data (NED)		

16-U: Modeling Files

1	Describe the modeling files:		
	File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
	C&E Concrete Gamerco HMA Combust ROI	NO ₂ , CO, SO ₂ , PM ₁₀ , PM _{2.5}	ROI
	C&E Concrete Gamerco HMA PM ROI S1 – S12	PM ₁₀ , PM _{2.5}	ROI
	C&E Concrete Gamerco HMA CIA NO ₂ 1Hr	NO ₂	Cumulative
	C&E Concrete Gamerco HMA CIA NO ₂ Annual	NO ₂	Cumulative, PSD
	C&E Concrete Gamerco HMA CIA SO ₂ 1Hr	SO ₂	Cumulative
	C&E Concrete Gamerco HMA CIA SO ₂ Annual	SO ₂	Cumulative, PSD
	C&E Concrete Gamerco HMA PM ₁₀ S1, S2, S9, S10, S11, S12	PM ₁₀	Cumulative, PSD
	C&E Concrete Gamerco HMA PM ₂₅ 24Hr S1, S2, S3, S4, S6, S6	PM _{2.5}	Cumulative
	C&E Concrete Gamerco HMA PM ₂₅ Annual S6, S7, S8, S9, S10, S11	PM _{2.5}	Cumulative
	C&E Concrete Gamerco HMA AF	Asphalt Fumes	SIA
	C&E Concrete Gamerco HMA H ₂ S	Hydrogen Sulfide	SIA
	C&E Concrete Gamerco HMA Lead	Lead	SIA

16-V: PSD New or Major Modification Applications

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. NA		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC. NA		
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below.	Yes ☐	No ☒
	NA		

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.		

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)
NO ₂ 1 Hour H8H	118.45	118.46	-	45.7	164.16	188.03	40.3	703010.0	3938470.0	2034.74
NO ₂ Annual H1H	2.58	2.67	-	5.9	8.57	94.02	9.1	703025.0	3938609.0	2035.25
NO ₂ Annual Class II	2.58	2.61	-	-	2.61	25	10.4	703025.0	3938609.0	2035.25
CO 1 Hour H1H	453	-	-	-	-	SIL-2000	22.7	703009.3	3938411.5	2032.07
CO 8 Hour H1H	246	-	-	-	-	SIL-500	49.2	703009.8	3938450.5	2033.88
SO ₂ 1 Hour H4H	159.66	159.66	-	27.9	187.56	196.4	95.5	703009.8	3938450.5	2033.88
SO ₂ 3 Hour Class II	152.85	152.85	-	-	152.85	512	29.9	703009.8	3938450.5	2033.88
SO ₂ 24 Hour Class II	59.1	59.1	-	-	59.1	91	64.9	703009.8	3938450.5	2033.88
SO ₂ Annual H1H	2.46	2.47	-	1.0	3.47	52.4	6.6	703050.0	3938650.0	2036.95

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)
SO ₂ Annual Class II	2.46	2.47	-	-	2.47	20	12.4	703050.0	3938650.0	2036.95
PM _{2.5} 24 Hour H8H	7.82	7.82	-	11.77	19.59	35	56.0	703009.8	3938450.5	2033.88
PM _{2.5} Annual H1H	1.16	1.25	-	4.19	5.44	9	60.4	703000.0	3938588.0	2036.03
PM ₁₀ 24 Hour H2H	29.39	29.44	-	66.0	95.44	150	63.6	702740.1	3938444.2	2047.87
PM ₁₀ 24 Hour Class II	29.44	29.49	-	-	29.49	30	98.3	702740.0	3938468.5	2048.25
PM ₁₀ Annual Class II	7.71	7.88	-	-	7.88	17	46.4	702740.1	3938444.2	2047.87
Asphalt Fumes 8 Hour	22.7	-	-	-	-	50	45.4	703009.8	3938450.5	2033.88
H ₂ S 1 Hour	0.18	-	-	-	-	SIL – 1.0	18.0	703009.5	3938431.0	2032.90
Lead 1 Hour	0.049	-	-	-	-	0.15	32.7	703009.3	3938411.5	2032.07

16-X: Summary/conclusions

	A statement that modeling requirements have been satisfied and that the permit can be issued.
1	Dispersion modeling was performed for all regulated sources at C&E Concrete Gamerco HMA. All facility pollutants with ambient air quality standards were modeled to show compliance with those standards. All results of this modeling showed the facility is in compliance with applicable ambient air quality standards for PM ₁₀ , NO ₂ , and SO ₂ PSD class II increment limits and PM _{2.5} , PM ₁₀ , NO ₂ , CO, and SO ₂ NAAQS. All results of this modeling showed the facility is in compliance with applicable ambient air quality standards for Asphalt Fumes, H ₂ S, and Lead.

**DISPERSION MODEL PROTOCOL
FOR C&E CONCRETE, INC.
GAMERCO HMA
NSR MINOR SOURCE
PERMIT #9027 REVISION APPLICATION**

Gamerco, New Mexico

PREPARED FOR



Dated November 12, 2025

Prepared by

Montrose Environmental Solutions, Inc.



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1.0 INTRODUCTION

This dispersion modeling analysis will be conducted by Montrose Environmental Solution, Inc. (Montrose) on behalf of C&E Concrete, Inc. (C&E Concrete), to evaluate ambient air quality impacts from the Gamerco HMA, as part of a minor source NSR permitting revision action. Presently, the Gamerco HMA is operating under NSR Permit 9027. The permit revision will include the addition of two asphalt silos and the substitution of the existing asphalt heater.

The objective of this modeling evaluation is to predict if, operating at requested maximums, the facility operations would result in ambient air concentrations for nitrogen dioxide, (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and particulate matter; both 10 microns or less (PM₁₀) and 2.5 microns or less (PM_{2.5}); would exceed the New Mexico and federal ambient air quality standards, NMAAQs and NAAQS respectively. Since Gamerco HMA is a minor source for NSR permitting and is located in AQCR Region 014, where the minor source baseline date has been triggered for NO₂ (06/06/1989), SO₂ (08/07/1978), and PM₁₀ (08/07/1978), a PSD Class I and II Increment analysis will be performed. No Class I areas are located within 50 km of the site, so no PSD Class I increment modeling will be performed.

The dispersion modeling will be conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model (AERMOD), *Version 24142*. This model is recommended by EPA for determining Class II impacts within 50 km of the source being assessed. Additionally, AERMOD was developed to handle complex terrain. The objective of this evaluation is to determine whether ambient air concentrations from the maximum operation of the facility for nitrogen dioxide, (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and particulate matter; both 10 microns or less (PM₁₀) and 2.5 microns or less (PM_{2.5}); are below Class II federal and state ambient air quality standards (NAAQS and NMAAQs) found in 40 CFR part 50 and the state of New Mexico's air quality regulation 20.2.3 NMAC from Gamerco HMA emission sources. Montrose employs the general modeling procedures outlined in New Mexico Environment Department (NMED) Air Quality Bureau (AQB) "New Mexico Air Pollution Control Bureau, Dispersion Modeling Guidelines", *June 2024*, and the most up to date EPA's *Guideline on Air Quality Models*.

1.1 FACILITY DESCRIPTION

C&E Concrete's Gamerco HMA is an existing site that operates a hot mix asphalt plant. The 200 tph hot mix asphalt plant will include a 4-bin cold aggregate feeder, scalping screen, pug mill, 2-bin RAP feeder, RAP scalping screen, mineral filler silo with baghouse, drum dryer with baghouse, incline conveyor, asphalt silos (3), asphalt heater, and six (6) transfer conveyors. The plant is powered by line power. Processed asphalt is transported from the HMA plant to off-site sales. The HMA plant presently limits the hourly processing rate to 200 tons per hour (tph) and 500,000 tons per year (tpy). This will not change with this permit revision application.

The plant operating hours are broken up into three different scenarios: asphalt production, asphalt transport and truck loading and aggregate delivery and storage pile loading. The daily hours for each process are presented below in Tables 1 through 3. Maximum daily asphalt production and maximum daily modeled hours of operation based on the daily asphalt production rate are presented below in Table 4.

TABLE 1: HMA Plant Asphalt Production Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	1	1	1	1	1	1	1	1	0	0
1:00 AM	0	0	1	1	1	1	1	1	1	1	0	0
2:00 AM	0	0	1	1	1	1	1	1	1	1	0	0
3:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
4:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
5:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
6:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
8:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
9:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	11	22	22	22	22	22	22	22	22	19	11

TABLE 2: HMA Asphalt Truck Traffic and Loading Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
1:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
2:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
3:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
4:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
5:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
6:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
8:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
9:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
10:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
11:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
Total	11	11	24	24	24	24	24	24	24	24	24	11

TABLE 3: HMA Aggregate Truck Delivery Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	1	1	1	1	1	1	0	0	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
6:00 PM	0	0	0	1	1	1	1	1	1	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	11	12	14	14	14	14	14	14	12	12	11

TABLE 4: HMA Daily Production Rates and Corresponding Max Hours of Production

Months	Tons Per Day	Modeled Hours per Day at Max Hourly Throughput
December - February	2000	10
November	2400	12
March, October	2400	12
April - September	2800	14

Tables 5 through 7 presents the model hourly for the three processing scenarios found in Tables 1 through 3. These 12 modeling runs show compliance with a potential worst-case operating scenario.

TABLE 5: HMA Plant Asphalt Production Scenario Time Segments

Model Scenario	Time Segments 10-Hour Blocks December - February	Time Segments 12-Hour Blocks March & October	Time Segments 12-Hour Blocks November	Time Segments 14-Hour Blocks April - September
1	7 AM to 5 PM	12 AM to 12 PM	3 AM to 3 PM	12 AM to 2 PM
2	7 AM to 5 PM	12 AM to 12 PM	3 AM to 3 PM	12 AM to 2 PM
3	7 AM to 5 PM	2 AM to 2 PM	4 AM to 4 PM	2 AM to 4 PM
4	7 AM to 5 PM	2 AM to 2 PM	4 AM to 4 PM	2 AM to 4 PM
5	7 AM to 5 PM	4 AM to 4 PM	6 AM to 6 PM	4 AM to 6 PM
6	7 AM to 5 PM	4 AM to 4 PM	6 AM to 6 PM	4 AM to 6 PM
7	8 AM to 6 PM	6 AM to 6 PM	8 AM to 8 PM	6 AM to 8 PM
8	8 AM to 6 PM	6 AM to 6 PM	8 AM to 8 PM	6 AM to 8 PM
9	8 AM to 6 PM	8 AM to 8 PM	9 AM to 9 PM	8 AM to 10 PM
10	8 AM to 6 PM	8 AM to 8 PM	9 AM to 9 PM	8 AM to 10 PM
11	8 AM to 6 PM	10 AM to 10 PM	10 AM to 10 PM	8 AM to 10 PM
12	8 AM to 6 PM	10 AM to 10 PM	10 AM to 10 PM	8 AM to 10 PM

TABLE 6: HMA Asphalt Truck Traffic and Loading Scenario Time Segments

Model Scenario	Time Segments 10-Hour Blocks December - February	Time Segments 12-Hour Blocks March & October	Time Segments 12-Hour Blocks November	Time Segments 14-Hour Blocks April - September
1	7 AM to 5 PM	12 AM to 12 PM	12 AM to 12 PM	12 AM to 2 PM
2	7 AM to 5 PM	2 AM to 2 PM	2 AM to 2 PM	2 AM to 4 PM
3	7 AM to 5 PM	4 AM to 4 PM	4 AM to 4 PM	4 AM to 6 PM
4	7 AM to 5 PM	6 AM to 6 PM	6 AM to 6 PM	6 AM to 8 PM
5	7 AM to 5 PM	8 AM to 8 PM	8 AM to 8 PM	8 AM to 10 PM
6	7 AM to 5 PM	10 AM to 10 PM	10 AM to 10 PM	10 AM to 12 AM
7	8 AM to 6 PM	12 PM to 12 AM	12 PM to 12 AM	12 PM to 2 AM
8	8 AM to 6 PM	2 PM to 2 AM	2 PM to 2 AM	2 PM to 4 AM
9	8 AM to 6 PM	4 PM to 4 AM	4 PM to 4 AM	4 PM to 6 AM
10	8 AM to 6 PM	6 PM to 6 AM	6 PM to 6 AM	6 PM to 8 AM
11	8 AM to 6 PM	8 PM to 8 AM	8 PM to 8 AM	8 PM to 10 AM
12	8 AM to 6 PM	10 PM to 10 AM	10 PM to 10 AM	10 PM to 12 PM

TABLE 7: HMA Aggregate Truck Traffic and Unloading Scenario Time Segments

Model Scenario	Time Segments 10-Hour Blocks December - February	Time Segments 12-Hour Blocks March & October	Time Segments 12-Hour Blocks November	Time Segments 14-Hour Blocks April - September
1	7 AM to 5 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
2	7 AM to 5 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
3	7 AM to 5 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
4	7 AM to 5 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
5	7 AM to 5 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
6	7 AM to 5 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
7	8 AM to 6 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
8	8 AM to 6 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
9	8 AM to 6 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
10	8 AM to 6 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
11	8 AM to 6 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM
12	8 AM to 6 PM	6 AM to 6 PM	6 AM to 6 PM	5 AM to 7 PM

1.2 FACILITY IDENTIFICATION AND LOCATION

C&E Concrete’s Gamerco HMA is located in the Township of Gamerco, McKinley County, New Mexico. The exact location of the facility will be UTM Zone 12, UTM Easting 702,900, UTM Northing 3,938,500, NAD 83. The approximate location of this site is 4.0 miles north-northwest of Gallup, NM in McKinley County.

Additional sources at the site will be included in the air quality impact analysis dispersion models. Co-located on the site will be C&E’s concrete batch plant (CBP) permitted under Permit GCP-5-3488. Following the guidance found in the NMED modeling guidelines Section 4.8.3, the co-located GCP-5 CBP will not be included in the particulate ambient air quality modeling. The GCP-5 CBP hot water heater will be included in the combustion modeling analysis. The hot water heater is a 1.0 MMBtu natural gas or propane fired heater.

Figure 1 below presents a layout of the site showing the layout of the HMA plant. Figure 2 shows the facility boundary in relation to the surrounding area.



Figure 1: C&E Concrete's Gamerco HMA Aerial View with Co-Located CBP



Figure 2: C&E Concrete's Gamerco HMA Aerial View showing Surrounding Terrain

2.0 SIGNIFICANT MODELING AIR QUALITY IMPACT ANALYSIS

This section identifies the technical approach and dispersion model inputs that will be used for the Class II federal and State ambient air quality standards and PM₁₀, NO₂, and SO₂ Class II Increment impacts for this stationary source. NMED AQB requires that all applicable criteria pollutant emissions be modeled using the most recent versions of US EPA's approved models and be compared with National Ambient Air Quality Standards (NAAQS), and New Mexico Ambient Air Quality Standards (NMAAQS). Table 8 shows the NAAQS and NMAAQS (without footnotes) that the source's ambient impacts must meet in order to demonstrate compliance. Table 8 also lists the Class II Significant Impact Levels (SILs) which are used to assess whether a source will have a significant impact at downwind receptors. Table 9 lists ambient air quality standards in which modeling is not required.

The dispersion modeling analysis will be performed to estimate concentrations resulting from the operation of the Gamerco HMA using the maximum hourly emission rates while all emission sources are operating. The modeling will determine maximum off site concentrations for nitrogen dioxide, (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and particulate matter with aerodynamic diameter less than 10 micrometers (PM₁₀) and particulate matter with aerodynamic diameter less than 2.5 micrometers (PM_{2.5}), for comparison with modeling significance levels, and national/New Mexico ambient air quality standards (AAQS). Additionally, modeling will determine maximum off site concentrations for NO₂ annual average; SO₂ 3 hour, 24hour, and annual averages; and PM₁₀ 24 hour and annual average increment limits. The modeling will follow the guidance and protocols outlined in the NMED AQB "Air Dispersion Modeling Guidelines" (*Revised June 2024*), and the most up to date EPA's *Guideline on Air Quality Model*.

Initial modeling will be performed with Gamerco HMA sources only to determine pollutant and averaging periods that exceeds pollutant SILs. If initial modeling for any pollutant and averaging period exceeds the SILs, then cumulative modeling will be performed for those pollutants and averaging periods and will include significant neighboring sources along with background ambient concentrations as defined in the NMED's modeling guidelines.

TABLE 8: National and New Mexico Ambient Air Quality Standard Summary

Pollutant	Avg. Period	Sig. Lev. ($\mu\text{g}/\text{m}^3$)	Class I Sig. Lev. ($\mu\text{g}/\text{m}^3$)	NAAQS	NMAAQS	PSD Increment Class I	PSD Increment Class II
CO	8-hour	500		9,000 ppb ⁽¹⁾	8,700 ppb ⁽²⁾		
	1-hour	2,000		35,000 ppb ⁽¹⁾	13,100 ppb ⁽²⁾		
NO ₂	annual	1.0	0.1	53 ppb ⁽³⁾	50 ppb ⁽²⁾	2.5 $\mu\text{g}/\text{m}^3$	25 $\mu\text{g}/\text{m}^3$
	24-hour	5.0			100 ppb ⁽²⁾		
	1-hour	7.52		100 ppb ⁽⁴⁾			
PM _{2.5}	annual	0.13	0.05	9 $\mu\text{g}/\text{m}^3$ ⁽⁵⁾		1 $\mu\text{g}/\text{m}^3$	4 $\mu\text{g}/\text{m}^3$
	24-hour	1.2	0.27	35 $\mu\text{g}/\text{m}^3$ ⁽⁶⁾		2 $\mu\text{g}/\text{m}^3$	9 $\mu\text{g}/\text{m}^3$
PM ₁₀	annual	1.0	0.2			4 $\mu\text{g}/\text{m}^3$	17 $\mu\text{g}/\text{m}^3$
	24-hour	5.0	0.3	150 $\mu\text{g}/\text{m}^3$ ⁽⁷⁾		8 $\mu\text{g}/\text{m}^3$	30 $\mu\text{g}/\text{m}^3$
SO ₂	annual	1.0	0.1		20 ppb ⁽²⁾	2 $\mu\text{g}/\text{m}^3$	20 $\mu\text{g}/\text{m}^3$
	24-hour	5.0	0.2		100 ppb ⁽²⁾	5 $\mu\text{g}/\text{m}^3$	91 $\mu\text{g}/\text{m}^3$
	3-hour	25.0	1.0	500 ppb ⁽¹⁾		25 $\mu\text{g}/\text{m}^3$	512 $\mu\text{g}/\text{m}^3$
	1-hour	7.8		75 ppb ⁽⁸⁾			

Standards converted from ppb to $\mu\text{g}/\text{m}^3$ use a reference temperature of 25° C and a reference pressure of 760 millimeters of mercury.

(1) Not to be exceeded more than once each year.

(2) Not to be exceeded.

(3) Annual mean.

(4) 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years.

(5) Annual mean, averaged over 3 years.

(6) 98th percentile, averaged over 3 years.

(7) Not to be exceeded more than once per year on average over 3 years.

(8) 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years.

TABLE 9: Standards for Which Modeling Is Not Required by NMED AQB.

Standard not Modeled	Surrogate that Demonstrates Compliance
CO 8-hour NAAQS	CO 8-hour NMAAQS
CO 1-hour NAAQS	CO 1-hour NMAAQS
NO ₂ annual NAAQS	NO ₂ annual NMAAQS
NO ₂ 24-hour NMAAQS	NO ₂ 1-hour NAAQS
O ₃ 8-hour	Regional modeling
SO ₂ annual NMAAQS	SO ₂ 1-hour NAAQS
SO ₂ 24-hour NMAAQS	SO ₂ 1-hour NAAQS
SO ₂ 3-hour NAAQS	SO ₂ 1-hour NAAQS

2.1 DISPERSION MODEL SELECTION

The dispersion modeling will be conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model (AERMOD), *Version 24142*. This model is recommended by EPA for determining Class II impacts within 50 km of the facility being assessed. Additionally, AERMOD was developed to handle complex terrain. In this analysis, AERMOD will be used to estimate pollutant concentrations of CO, NO₂, PM₁₀, PM_{2.5} and SO₂ in the ambient air from the C & E Concrete Gamerco HMA facility modeled emission sources.

AERMOD is a Gaussian plume dispersion model that is based on planetary boundary layer principles for characterizing atmospheric stability. The model evaluates the non-Gaussian vertical behavior of plumes during convective conditions with the probability density function and the superposition of several Gaussian plumes. AERMOD modeling system has three components: AERMAP, AERMET, and AERMOD. AERMAP (*Version 24142*) is the terrain preprocessor program. AERMET is the meteorological data preprocessor. AERMOD includes the dispersion modeling algorithms and was developed to handle simple and complex terrain issues using improved algorithms. AERMOD uses the dividing streamline concept to address plume interactions with elevated terrain.

AERMOD CIA modeling will be run using all the following regulatory default options including use of:

- Gradual Plume Rise
- Stack-tip Downwash
- Buoyancy-induced Dispersion
- Calms and Missing Data Processing Routine
- Upper-bound downwash concentrations for super-squat buildings
- Default wind speed profile exponents
- Calculate Vertical Potential Temperature Gradient
- No use of gradual plume rise
- Rural Dispersion

These regulatory default options are found in the AERMOD User's Manual. The model will incorporate elevated terrain into the calculations for terrain height data. The model will run in non-default Alpha mode using flat terrain mode for non-buoyant fugitive sources as discussed on NMED modeling guidelines Section 4.5.1.

2.2 BUILDING WAKE EFFECTS

AERMOD can account for building downwash and cavity zone effects. Evaluation of building downwash on adjacent stack sources is deemed necessary, since all stack source heights are below Good Engineering Practice (GEP) heights. The formula for GEP height estimation is:

$$H_s = H_b + 1.50L_b$$

where: H_s = GEP stack height

H_b = building height

L_b = the lesser building dimension of the height, length, or width

The effects of aerodynamic downwash due to buildings and other structures will be accounted for by using wind direction-specific building parameters calculated by the USEPA-approved Building Parameter Input Program Prime (BPIP-Prime (*Version 04274*)) and the algorithms included in the AERMOD air dispersion model. The Gamerco HMA consists of three asphalt silos and one mineral filler silo (tanks), but no buildings. These 4 tanks will be included in the model for downwash analysis.

2.3 METEOROLOGICAL DATA

The meteorological data input file to be used in this dispersion modeling analysis is Gallup airport met data and Albuquerque airport upper air data covering years 2018 through 2022 (*AERMET Version 19191*) available from the NMED AQB Modeling Section.

2.4 RECEPTORS AND TOPOGRAPHY

For each pollutant, the radius of significant impact around the facility is established using a Cartesian grid. A 25-meter grid spacing is used for the facility boundary receptors. A 50-meter spacing and 100-meter spacing are extended to 500-meters and 1-km beyond the facility boundary, respectively from the facility boundary in each direction for a very fine grid resolution. Receptors for a fine grid resolution are placed with 250-meter spacing to a distance of 5-km from the facility boundary. Receptors for a course grid resolution are placed with 500-meter and 1000-meter spacing to a distance of 10-km and 50-km, respectively from the facility boundary.

AERMAP (*Version 24142*) will be used to calculate the receptor elevations and the controlling hill heights. Terrain files for the area will be obtained from the National Elevation Data (NED). The AERMAP domain will be large enough to encompass the 10 percent slope factor required for calculating the controlling hill height.

2.5 MODELED EMISSION SOURCES INPUTS

Gamerco HMA operates 7 days per week and 52 weeks per year or 365 days per year. Requested hours of operation for each plant are discussed in Section 1.1. Based on modeling experience,

early morning and late afternoon hours with low wind speeds are typically determined to represent the highest modeled hourly concentrations for low release fugitive emission sources.

2.5.1 Gamerco HMA Road Vehicle Traffic Model Inputs

The access road fugitive dust for truck traffic is modeled as a line of volume sources. The AQB's approved procedure for Modeling Haul Roads was followed to develop modeling input parameters for access haul roads. Volume source characterization followed the steps described in the Air Quality Bureau's Guidelines Section 5.3.3, Tables 42 and 43.

2.5.2 Gamerco HMA Material Handling Volume Source Model Inputs

Material handling and processing for the HMA plant will follow the procedure found in AQB's Modeling Guidelines for Fugitive Equipment Sources (Section 5.3.2, Table 41).

2.5.3 Gamerco HMA Point Source Model Inputs

Model input parameters are based on release height, release diameter, release velocity or flow rate, and release temperature. For exhaust releases at ambient temperature, the modeled temperature input will be zero Kelvin. For horizontal or raincap releases, the AERMOD option for horizontal and raincap releases will be used with actual release parameters.

2.6 PARTICLE SIZE DISTRIBUTION

PM₁₀ emissions may be modeled using plume depletion. Plume deposition simulates the effect of gravity as particles "fall-out" from the plume to the ground as the plume travels downwind. Therefore, the farther the plume travels from the emission point to the receptor, the greater the effect of plume deposition and the greater the decrease in modeled impacts or concentrations. Particle size distribution, particle mass fraction, and particle density are required inputs to the model to perform this function.

The particle size distribution data used in the modeling for material handling of aggregate will be based upon data obtained from the City of Albuquerque AQB's "Air Dispersion Modeling Guidelines for Air Quality Permitting", revised 02/03/2016, Table 1. Particle size distribution for fugitive road dust on unpaved roads; lime silo baghouse exhaust; HMA asphalt particulate emissions; and combustion will use the particle size distribution found in the NMED Modeling Section approved values.

The mass-mean particle diameters were calculated using the formula:

$$d = ((d_1^3 + d_1^2 d_2 + d_1 d_2^2 + d_2^3) / 4)^{1/3}$$

Where: d = mass-mean particle diameter
 d_1 = low end of particle size category range
 d_2 = high end of particle size category range

Representative average particle densities were obtained from NMED accepted values.

Material	Density (g/cm³)	Reference
Road Dust – C&E Concrete and Neighbor	2.5	NMED Value
Lime – C&E Concrete and Neighbor	3.3	NMED Value
HMA Asphalt Stack and Fumes – C&E Concrete and Neighbor	1.5	NMED Value
Combustion – C&E Concrete and Neighbor	1.5	NMED Value
Fugitive Dust – C&E Concrete and Neighbor	2.5	NMED Value

The densities and size distribution for PM₁₀ emission sources are presented in Tables 10 through 15.

TABLE 10: Road Vehicle Fugitive Dust Deposition Parameters

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm³)
PM10			
0 – 2.5	1.57	25.0	2.5
2.5 – 10	6.91	75.0	2.5

Based on NMED Model Guideline – June 2024 (Vehicle Fugitive)

TABLE 11: Combustion Source Deposition Parameters

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm³)
PM10			
0 - 2.5	1.57	100.0	1.5

Based on NMED Model Guideline – June 2024 (Combustion)

TABLE 12: Material Handling (Fugitive) Dust Source Deposition Parameters

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm³)
PM10			
0 - 2.5	1.57	7.8	2.5
2.5 – 5	3.88	27.0	2.5
5 – 10	7.77	65.2	2.5

Based on NMED Model Guideline – June 2024 (Coal Handling)

TABLE 13: Mineral Filler Baghouse Source Deposition Parameters

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm ³)
PM10			
0 - 2.5	1.57	25	3.3
2.5 - 10	6.91	75	3.3

Based on NMED Model Guideline – June 2024 (Lime Silo)

TABLE 14: Asphalt Baghouse and Stack Source Deposition Parameters

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm ³)
PM10			
0 - 1.0	0.63	50.0	1.5
1.0 - 2.5	1.85	19.0	1.5
2.5 - 10	6.92	31.0	1.5

Based on NMED Model Guideline – June 2024 (Asphalt Baghouse)

TABLE 15: Asphalt Fumes Source Deposition Parameters

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm ³)
PM10			
0 - 2.5	1.57	100	1.5

Based on NMED Model Guideline – June 2024 (Combustion)

2.7 NO₂ DISPERSION MODELING ANALYSIS

The AERMOD model predicts ground-level concentrations of any generic pollutant without chemical transformations. Thus, the modeled NO_x emission rate will give ground-level modeled concentrations of NO_x. NAAQS and NMAAQs values are presented as NO₂. If modeling shows exceedance with the NO₂ 1-hour and annual SILs, CIA modeling will be performed.

EPA has a three-tier approach to modeling NO₂ concentrations.

- Tier I – total conversion, or all NO_x = NO₂
- Tier II – Ambient Ratio Method 2
- Tier III – case-by-case detailed screening methods, such as OLM (Ozone Limiting Method) and Plume Volume Molar Ratio Method (PVMRM)

For the annual NO₂ modeling approach, the Tier II ARM2 will be used.

Tier III NO₂ modeling approach, OLM or PVMRM, considers the basic chemical assumptions, the titration of NO by ozone to form NO₂. Both use the NO₂/NO_x in-stack ratio (ISR) and information about the ambient ozone in the determination of the amount of titration that will occur in the plume. The primary difference between the two methods is the way in which the amount of ozone available for conversion of NO to NO₂ is determined. OLM assumes that all the ambient ozone is available for NO titration (i.e., instantaneous complete mixing with background air), regardless of the source or plume characteristics. In contrast, PVMRM determines the amount of ozone within the plume volume (computed from the source to the receptor) and limits the conversion of NO to NO₂ based on the ozone entrained in the plume. The calculation of the plume volume is done for an individual source or group of sources and on an hourly basis for each source/receptor combination, taking into account the plume dispersion for that hour. For this modeling analysis, if the Tier III methodology is required, PVMRM will be selected.

For PVMRM, three inputs can be selected in the model, the ISR, the NO₂/NO_x equilibrium ratio for the ambient air, and the ambient ozone concentration. The ISR will be determined for each source or group of sources. The NO₂/NO_x equilibrium ratio will be the EPA default of 0.90. Ozone input will be from monitored ozone data collected from the Dine monitoring station (Monitoring Station 350451233) which is the monitoring site nearest to the project (149.6 µg/m³).

No data could be found for a hot mix asphalt drum, so to be conservative, the EPA default ISR of 0.50 will be used. For the natural gas heater, to be conservative, the EPA default ISR of 0.50 will be used. Table 11 summarizes the ISR selected for each NO_x source in the NO₂ 1-hour modeling.

TABLE 16: Summary of Selected ISR

Source Description	Selected ISR
C&E Concrete HMA Baghouse Stack	0.50
C&E Concrete HMA Asphalt Cement Heater	0.50

2.8 PM_{2.5} SECONDARY EMISSIONS MODELING

Particulate matter includes both “primary” PM, which is directly emitted into the air, and “secondary” PM, which forms indirectly from fuel combustion and other sources. Primary PM consists of carbon (soot)—emitted from cars, trucks, heavy equipment, forest fires, and burning waste—and crustal material from unpaved roads, stone crushing, construction sites, and metallurgical operations. Secondary PM forms in the atmosphere from gases. Some of these reactions require sunlight and/or water vapor. Secondary PM includes:

- Sulfates formed from sulfur dioxide emissions from power plants and industrial facilities;
- Nitrates formed from nitrogen oxide emissions from cars, trucks, industrial facilities, and power plants; and
- Carbon formed from reactive organic gas emissions from cars, trucks, industrial facilities, forest fires, and biogenic sources such as trees.

AERMOD does not account for secondary formation of PM_{2.5} for near-field modeling. Any secondary contribution of the C&E Concrete’s source emissions is not explicitly accounted for in the model results. While representative background monitoring data for PM_{2.5} should adequately account for secondary contribution from existing background sources, the C&E Concrete assessment of their potential contribution to cumulative impacts as secondary PM_{2.5} was performed based on guidance from the NMED Modeling Section. Total permit modification C&E Concrete emissions of precursors include:

- Nitrogen Oxides (NO_x) – 15.5 tons per year (below SER)
- Sulfur Dioxides (SO₂) – 14.5 tons per year (below SER)
- Volatile Organic Carbon (VOC) – 12.6 tons per year (below SER).

PM_{2.5} secondary emission concentration analysis will follow EPA and NMED AQB guidelines. Following recent EPA guidelines for conversion of NO_x and SO₂ emission rates to secondary PM_{2.5} emissions, C&E Concrete emissions are compared to AQCR 14 PM_{2.5} MERPS values found in the NMED Modeling Guidelines, Section 2.6.6.2, Table 13. The following equation, found in NMED AQB modeling guidance document on MERPs, will be added to determine if secondary emission would cause violation with PM_{2.5} NAAQS.

$$\text{PM}_{2.5} \text{ annual} = ((\text{NO}_x \text{ emission rate (tpy)}/43833 + (\text{SO}_2 \text{ emission rate (tpy)}/48057)) \times 0.13 \text{ } \mu\text{g}/\text{m}^3$$

$$\text{PM}_{2.5} \text{ annual} = ((15.5/43833) + (14.5/48057)) \times 0.13 \text{ } \mu\text{g}/\text{m}^3 = \mathbf{0.00009 \text{ } \mu\text{g}/\text{m}^3}$$

$$\text{PM}_{2.5} \text{ 24 hour} = ((\text{NO}_x \text{ emission rate (tpy)}/33634 + (\text{SO}_2 \text{ emission rate (tpy)}/11410)) \times 1.2 \text{ } \mu\text{g}/\text{m}^3$$

$$\text{PM}_{2.5} \text{ 24 hour} = ((15.5/33634) + (14.5/11410)) \times 1.2 \text{ } \mu\text{g}/\text{m}^3 = \mathbf{0.002 \text{ } \mu\text{g}/\text{m}^3}$$

2.9 SIGNIFICANT NEIGHBORING BACKGROUND SOURCES

For all Cumulative Impact Analysis (CIA) combustion emissions dispersion modeling (NO_x, CO, SO₂), only monitored background will be included. For all CIA combustion emissions dispersion modeling for 1-hour standards (NO_x, SO₂), will include only neighboring sources. CIA particulate dispersion modeling will include all significant neighboring sources within 10 kilometers of Gamerco HMA plus regional monitored background. PSD Increment Analysis dispersion modeling will include all PSD increment consuming neighboring sources within 25 kilometers and increment consuming neighboring sources with pollutant emission rates over 1000 lbs/hr out to 50 kilometers of Gamerco HMA. These sources will be obtained from the Air Quality Bureau's database. Neighboring sources located within the model receptor grid will have the input data verified for accuracy of location, emission rates, and model inputs parameters.

2.10 REGIONAL BACKGROUND CONCENTRATIONS

Ambient background concentrations represent the contribution of pollutant sources that are not included in the modeling analysis, including naturally occurring sources. If the modeled concentration of a criteria pollutant is above the modeling significance level, the background concentration for each criteria pollutant will be added to the maximum modeled concentration to calculate the total estimated pollutant concentration for comparison with the AAQS.

The ambient background concentrations are listed in the Air Quality Bureau Guidelines for NO₂, SO₂, PM₁₀, and PM_{2.5}. For PM₁₀, C&E Concrete is proposing using backgrounds from the Substation Monitor Station (Monitor ID 1H). For PM_{2.5}, C&E Concrete is proposing using backgrounds from Farmington Environmental Department (Monitor ID 1FO). For NO₂ and SO₂, C&E Concrete is proposing using backgrounds from Substation Monitor Station (Monitor ID 1H). For CO, C&E Concrete is proposing using backgrounds from the South Valley Monitoring Station (Monitor ID 350010029).

	PM_{2.5} (µg/m³)	PM₁₀ (µg/m³)	NO₂ (µg/m³)	CO (µg/m³)	SO₂ (µg/m³)
1 Hour			45.7	3297	27.9
8 Hour				1227	
24 Hour	11.77	66.0			
Annual	4.19		5.9		1.0



[External] - C&E Concrete's Gamarco HMA Permit 9027 Modeling Protocol

From Kassanjee, Sahil, ENV <sahil.kassanjee@env.nm.gov>

Date Thu 1/15/2026 9:32 AM

To Paul Wade <pwade@montrose-env.com>

This is the first time you received an email from this sender (sahil.kassanjee@env.nm.gov). Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

You don't often get email from sahil.kassanjee@env.nm.gov. [Learn why this is important](#)

Paul,

I am not sure if anyone got back to you regarding this modeling protocol, but it has been approved, and you may begin modeling.

Please let me know if you have any questions.

Regards,

Sahil Kassanjee
Senior Environmental Scientist
NMED – AQB – Air Modeling



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Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

Compliance Test History Table

Unit No.	Test Description	Test Date
17, 18	Initial HMA Drum Mixer Stack Test – NSPS Subpart I	9/18-20/2024

See Section 7 for Summary of Stack Test.

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.

No other relevant information is submitted with the application.

Section 22: Certification

Company Name: C&E Concrete, Inc.

I, Chris Meech, 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 4 day of February, 2026, upon my oath or affirmation, before a notary of the State of

New Mexico



*Signature

2/4/26

Date

Chris Meech
Printed Name

Vice President
Title

Scribed and sworn before me on this 4th day of February, 2026.

My authorization as a notary of the State of New Mexico expires on the

4th day of March, 2029.



Notary's Signature

GEORGENE DIVINE

Notary's Printed Name

2-4-2026

Date



STATE OF NEW MEXICO
NOTARY PUBLIC
Georgene Divine
Commission No. 1132765
Expires: March 04, 2029

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.

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CONCRETE, INC.

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PH: (505) 8287-2944

46247

88-957/1119

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PAY

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DATE

2-4-26

TO THE ORDER OF

NMSD AQB

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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
C&E Concrete Inc		February 4, 2026
Permittee/Company Contact	Phone	Email
Chris Meech	(505) 240-1153	cmeech@ceconcrete.net
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.	



February 5, 2026

New Mexico Environment Department
Air Quality Bureau
Permitting Section
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505

Subject: C&E Concrete, Inc. – NSR Significant Revision Permit 9027R1 Application for Gamerco HMA

Dear Ms. Romero:

Attached please find two (2) hardcopies of the 20.2.72 NMAC NSR Significant Revision Application for Permit #9027R1, C&E Concrete's Gamerco HMA. This letter is attached to the application copy that has the original notarized signature page (Section 22) and \$500 application fee. Electronic files will be submitted to the NMED AQB via a file share program.

The significant revision application is submitted for C&E Concrete's Gamerco HMA that consists of a 200 tons per hour (TPH) hot mix asphalt plant. Along with the application is dispersion modeling analysis that shows the facility will not cause an exceedance of any applicable ambient air quality standard.

Please let me know if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink that reads "Paul Wade".

Paul Wade
Senior Associate Engineer
Montrose Environmental Solutions, Inc.

Cc: Chris Meech, C&E Concrete, Inc.