

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: ☐ a NOI 20.2.73 NMAC ☐ 20.2.72 NMAC application or revision ☐ 20.2.72.300 NMAC Streamline application
 Title V Source: ☐ Title V (new) ☐ Title V renewal ☐ TV minor mod. ☐ TV significant mod. TV Acid Rain: ☐ New ☐ Renewal
 PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements:

- ☒ I acknowledge that a pre-application meeting is available to me upon request. ☐ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.
- ☐ \$500 NSR application Filing Fee enclosed **OR** ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).
- ☐ Check No.: _____ in the amount of _____
- ☒ 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: **20.2.70.300.B.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

1 Facility Name: Valencia Regional Landfill and Recycling Facility		AI # if known (see 1 st 3 to 5 #s of permit IDEA ID No.): 21664	Updating Permit/NOI #: P-247L-R2
		Plant primary SIC Code (4 digits): 4953	
a Facility Street Address (If no facility street address, provide directions from a prominent landmark): Mystic Mountain Road, 6 miles south of NM Hwy 6 in Valencia County, New Mexico, 87206		Plant NAIC code (6 digits): 562212	
2	Plant Operator Company Name: Waste Management of New Mexico, Inc.	Phone/Fax: 505-892-2055/505-892-2057	
a	Plant Operator Address: P.O. Box 15700, Rio Rancho, NM 87174		
b	Plant Operator's New Mexico Corporate ID or Tax ID: 01-799015007		

3	Plant Owner(s) name(s): Waste Management of New Mexico, Inc.	Phone/Fax: 505-892-2055/505-892-2057
a	Plant Owner(s) Mailing Address(s): P.O. Box 15700, Rio Rancho, NM 87174	
4	Bill To (Company): Waste Management of New Mexico, Inc.	Phone/Fax: 505-892-2055/505-892-2057
a	Mailing Address: P.O. Box 15700, Rio Rancho, NM 87174	E-mail: dshimic@wm.com
5	☐ Preparer: Waste Management of New Mexico, Inc. ☐ Consultant:	Phone/Fax: 480-352-2522
a	Mailing Address: 222 S. Mill Ave. Suite 301, Tempe, AZ 85281	E-mail: dmancheg@wm.com
6	Plant Operator Contact: Doug Shimic, Landfill District Manager	Phone/Fax: 505-433-6053/505-892-2057
a	Address: 40 Landfill Road, Los Lunas, NM 87031	E-mail: dshimic@wm.com
7	Air Permit Contact: Dave Bearden	Title: Senior Environmental Protection Manager
a	E-mail: dbearde2@wm.com	Phone/Fax: 602-708-9815
b	Mailing Address: 222 S. Mill Ave., Suite 333 Tempe, AZ 85281	
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-247L-R2
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☒ No	If yes, the NPR No. is: N/A
8	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☒ No	If yes, the NOI No. is: N/A
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☐ Yes ☒ No	If yes, the permit No. is: N/A
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ☒ No	If yes, the register No. is: N/A

Section 1-C: Facility Input Capacity & Production Rate

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

Section 1-D: Facility Location Information

1	Section: 27	Range: 2W	Township: 6N	County: Valencia	Elevation (ft): 5466
2	UTM Zone: ☐ 12 or ☒ 13			Datum: ☐ NAD 27 ☐ NAD 83 ☒ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 312,820			UTM N (in meters, to nearest 10 meters): 3,844,214	
b	AND Latitude (deg., min., sec.): 34° 43' 18.93" N			Longitude (deg., min., sec.): 107° 2' 34.8" W	
3	Name and zip code of nearest New Mexico town: Los Lunas, NM 87031				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From the intersection of Interstate 25 and NM Hwy 6 (Exit 203) drive 14.6 miles west on NM Hwy 6 to Mystic Mountain Road, turn south and travel 0.4-miles to the Scalehouse, then proceed approximately 5.8-miles to the site entrance.				
5	The facility is 16 miles west of Los Lunas, NM.				
6	Status of land at facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☐ Other (specify)				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: <u>Municipalities:</u> No municipalities are located within 10 miles of the facility <u>Indian tribes:</u> Isleta: 7 miles <u>Counties:</u> Valencia County: 0.0 miles Socorro County: 9.0 miles Cibola County: 9.3 miles Bernalillo County: 10.0 miles				
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: N/A				
9	Name nearest Class I area: Bosque del Apache National Wildlife Refuge				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 97.10 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: 4,020 meters southwest				
12	Method(s) used to delineate the Restricted Area: “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?				

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 ($\frac{\text{hours}}{\text{day}}$): N/A	($\frac{\text{days}}{\text{week}}$): N/A	($\frac{\text{weeks}}{\text{year}}$): N/A	($\frac{\text{hours}}{\text{year}}$): N/A
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start: N/A	☐ AM ☐ PM	End: N/A	☐ AM ☐ PM
3	Month and year of anticipated start of construction: N/A			

4	Month and year of anticipated construction completion: N/A
5	Month and year of anticipated startup of new or modified facility: N/A
6	Will this facility operate at this site for more than one year? ☐ Yes ☐ No N/A

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: N/A	NOV Tracking No: N/A	
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: N/A	Date: N/A	Requirement # (or page # and paragraph #): N/A
d	Provide the required text to be inserted in this permit: N/A		
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: Public Service Company of New Mexico (PNM) 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): Damon De Frates		Phone: Damon De Frates
a	R.O. Title: Director of Post Collections	R.O. e-mail: ddefrates@wm.com	
b	R. O. Address: 222 S. Mill Avenue, Suite 333, Tempe, AZ 85281		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): Dave Bearden		Phone: (602) 708-9815
a	A. R.O. Title: Environmental Protection Manager	A. R.O. e-mail: dbearde2@wm.com	
b	A. R. O. Address: 222 S. Mill Avenue, Suite 333, Tempe, AZ 85281		

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): Waste Management of New Mexico, Inc. San Juan County Regional Landfill Title V Permit No. P-246L-R2 & NSR Permit 9648 Waste Management of New Mexico, Inc. Rio Rancho Landfill Title V Permit No. P-208L-R3
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.): Waste Management Holdings, Inc
a	Address of Parent Company: 1001 Fannin, Suite 400, Houston, TX 77002
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): N/A
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: Mr. Douglas Shimic, Operations Manager (505) 433-6053 (office) (505) 206-0667 (cell) Mr Dave Bearden, Senior Environmental Protection Manager (602) 708-9815
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: Yes, the Valencia Regional Landfill and Recycling Facility is located fewer than 80 km (50 miles) from local air pollution control programs and Indian tribes or pueblos. <u>Other States:</u> None <u>Local Pollution Control Programs:</u> Bernalillo County: 16.3 km (10.0 miles) <u>Indian tribes and Pueblos:</u> Alamo: 45km (28 miles) Acoma Pueblo: 52 km (32 miles) To'hajilee (Cañoncito) Pueblo: 40 km (25 miles) Sandia Pueblo: 72.4 km (45 miles) Santa Ana Pueblo: 78.9 km (49 miles) Zia Pueblo: 77.2 km (48 miles) Laguna Pueblo: 25.8 km (16 miles) Isleta Pueblo: 11.3 km (7 miles)

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-toe 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.
- 3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two CD** copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a **single CD** submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB's secure file transfer service.

Electronic files sent by (check one):

☒ CD/DVD attached to paper application

☐ secure electronic transfer. Air Permit Contact Name _____, Email _____ Phone number _____.

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

- 4) Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD) following the instructions above and the instructions in 5 for applications subject to PSD review.
- 5) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** and/or electronic air dispersion modeling report, input, and output files. The dispersion modeling **summary report only** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.
- 6) If the applicant submits the electronic files on CD and the application is subject to PSD review under 20.2.74 NMAC (PSD) or NNSR under 20.2.79 NMC include,
 - a. one additional CD copy for US EPA,
 - b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
 - c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

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

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

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

- 3) It is preferred that this application form be submitted as 4 electronic files (3 MSWord docs: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and 1 Excel file of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.
- 4) The **electronic file names** shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the **core permit number** (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the **section #** (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the **header information** throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision number (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. Do not use special symbols (#, @, etc.) in file names. The footer information should not be modified by the applicant.

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

If you are using a form older than the most current form posted on the website, you are required to incorporate the changes listed. Periodically, AQB will announce when older form versions will no longer be accepted.

Version Date	Changes Incorporated
4/1/2021	Current version of this form. Older versions are not accepted.

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	Landfill Roads	N/A	N/A	N/A	N/A	N/A	N/A	1, 2	5010-0401	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
2	General Landfill Operations	N/A	N/A	N/A	N/A	N/A	N/A	1, 2	5010-0402	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
3	Landfill Gas Generation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5010-0406	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
4	PCS Landfarm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26200-30000	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
5	Engines	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2030-0101; 2030-0301	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
										☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
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										☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

¹ Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

² Specify dates required to determine regulatory applicability.

³ To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

⁴ "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Insignificant 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 20.2.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at <http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf>. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No.	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	
2a	Diesel Fuel Storage Tank	NA	N/A	8,000	20.2.72.202.B.2	2007	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			N/A	gallons	IA List Item #8	2007	
2b	Vehicle Maintenance Fluids	Castrol	N/A	<0.2	20.2.72.202.B.2	N/A	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			N/A	psi	IA List Item #5	N/A	
5a	Scalehouse Generator (Diesel)	Cummins	DGCB	90	20.2.72.202.B.3	08/2006	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			K06098811	hp	IA List Item #6	08/2006	
5b	Water Well Generator (Diesel)	Cummins	DGCB	90	Non-exempt	08/2006	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			K06098812	hp	IA List Item #6	08/2006	
5c	Portable Power Washer (Gas)	ALKOTA	53553B	20	20.2.72.202.A.2	N/A	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			254478	hp	IA List Item #6	N/A	
5d	Portable Air Compressor (Diesel)	Ingersoll Rand	P185WIR	69	20.2.72.202.A.2	N/A	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			303393UGJ219	hp	IA List Item #6	N/A	
5e	Portable Diesel Fuel Storage Tank Generator (Gas)	Generac	GP7500E	13	N/A	04/2015	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			9638235A	hp	IA List Item #6	12/14/2017	
5f	Portable Light Tower (Diesel)	SiteLite	Kubota D950-BG1	29	N/A	12/2004	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			N/A	hp	IA List Item #6	2/20/2017	
5g	Portable Trash Pump (3" Water Pump) (Gas)	Yamaha	MZ300 7VB8-020	10	N/A	2017	☒ Existing (unchanged) ☒ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			1000172	hp	IA List Item #6	11/13/2017	
5h	Portable Generator (Gas)	GENERAC XG10000E	0J2537	18	N/A	02/2015	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			E9180986.15047	hp	IA List Item #6	4/17/2015	
5i	Portable Tarping Machine (Diesel)	Tarpomatic	CAT C1.1	24	N/A	03/2015	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			G8N17832	hp	IA List Item #6	8/30/2015	
5j	Portable Small Generator (Gas)	Generac	Generac 5982-1	7	N/A	08/2014	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			9029590B	hp	IA List Item #6	11/14/2016	
5k	Portable Trash Pump (3" Water Pump) (Gas)	Multiquip	QP3TH	8	N/A	2023	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☒ Replacement Unit ☐ To Be Modified ☐ To Be Replaced
			1000172	hp	IA List Item #6	6/1/2023	
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced

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

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

Table 2-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	Landfill Roads	N/A	N/A	N/A	N/A	N/A	N/A	1, 2	5010-0401	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A				
							1988	N/A								
2	General Landfill Operations	N/A	N/A	N/A	N/A	N/A	N/A	1, 2	5010-0402	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A				
							1988	N/A								
3	Landfill Gas Generation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5010-0406	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A				
							1988	N/A								
4	PCS Landfarm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26200-30000	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A				
							2004	N/A								
5	Engines	Varies, See Units 5a & 5b on Table 2-B					N/A	N/A	2030-0101; 2030-0301	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A				
							2006	N/A								
										☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced						
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced						
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced						
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced						

¹ Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

² Specify dates required to determine regulatory applicability.

³ To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

⁴ "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Insignificant 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 <http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf>. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No.	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	
2a	Diesel Fuel Storage Tank	NA	N/A	8,000	20.2.72.202.B.2	2007	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	gallons	IA List Item #8	2007	
2b	Vehicle Maintenance Fluids	Castrol	N/A	<0.2	20.2.72.202.B.2	N/A	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	psi	IA List Item #5	N/A	
5a	Scalehouse Generator (Diesel)	Cummins	DGCB	90	20.2.72.202.B.3	10/2006	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			K06098811	hp	IA List Item #6	08/2006	
5b	Water Well Generator (Diesel)	Cummins	DGCB	90	Non-exempt	12/2006	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			K06098812	hp	IA List Item #6	08/2006	
5c	Portable Power Washer (Gas)	ALKOTA	53553B	20	20.2.72.202.A.2	N/A	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			254478	hp	IA List Item #6	N/A	
5d	Portable Air Compressor (Diesel)	Ingersoll Rand	P185WIR	69	20.2.72.202.A.2	N/A	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			303393UGJ219	hp	IA List Item #6	N/A	
5e	Portable Diesel Fuel Storage Tank Generator (Gas)	Generac	GP7500E	13	N/A	04/2015	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			9638235A	hp	IA List Item #6	12/14/2017	
5f	Portable Light Tower (Diesel)	SiteLite	Kubota D950-BG1	29	N/A	12/2004	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	hp	IA List Item #6	2/20/2017	
5g	Portable Trash Pump (3" Water Pump) (Gas)	Yamaha	MZ300 7VB8-020	10	N/A	2017	☐ Existing (unchanged) ☒ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			1000172	hp	IA List Item #6	11/13/2017	
5h	Portable Generator (Gas)	GENERAC XG10000E	0J2537	18	N/A	02/2015	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			E9180986.15047	hp	IA List Item #6	4/17/2015	
5i	Portable Tarping Machine (Diesel)	Tarpomatic	CAT C1.1	24	N/A	03/2015	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			G8N17832	hp	IA List Item #6	8/30/2015	
5j	Portable Small Generator (Gas)	Generac	Generac 5982-1	7	N/A	08/2014	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			9029590B	hp	IA List Item #6	11/14/2016	
5k	Portable Trash Pump (3" Water Pump) (Gas)	Multiquip	QP3TH	8	N/A	2023	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			1000172	hp	IA List Item #6	6/1/2023	
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

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

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

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.

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

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

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Title V Operating Permit

APPLICATION FOR PERMIT RENEWAL

Valencia Regional Landfill and Recycling Facility Los Lunas, New Mexico

Submitted To:

**Program Manager
Permitting Section
New Mexico Environment Department
Air Quality Bureau
525 Camino De Los Marquez
Santa Fe, New Mexico 87505
505.476.4300**

Prepared For:

**Waste Management of New Mexico, Inc.
P.O. Box 15700
Rio Rancho, New Mexico 87174
505.892.2055**



Prepared By:

**Gordon Environmental/PSC
333 Rio Rancho Blvd., Suite 400
Rio Rancho, New Mexico 87124
505.867.6990**

November 15, 2018

Gordon/PSC Project #: 01025418



Table 2-D-1: Generator Emissions Estimates

***For NSR Applicability**

Emission Factors based on *Exhaust Emission Data Sheet, 60DGCB, 60 Hz Diesel Generator (Cummins Power Generation, 11-04-14)*

Brake Horsepower: Prime Power Rating utilized for both generators based on *Power Rating Sheet (Cummins Power Generation, 11-04-14)*

Water Well Generator (Non-Emergency) - Unit 5b								
Parameter	Emission Factor (g/hp-hour)	Rated Power Class	Brake Horsepower: Prime Power Rating	g/lb	hrs/yr	lb/ton	Emissions (lbs/hr)	Emissions (tons/yr)
Hydrocarbons (VOCs)	0.4	37 ≤ kW < 75	90	453.6	8,760	2,000	0.08	0.35
NOx	7.97						1.6	6.9
CO	0.75						0.15	0.65
PM (TSP, PM ₁₀ , and PM _{2.5})	0.13						0.03	0.11
SO ₂	0.60						0.12	0.52

Notes:

g = grams

hp = horsepower

Table 2-D-1: Generator Emissions Estimates

***For NSR Applicability**

Emission Factors based on *Exhaust Emission Data Sheet, 60DGCB, 60 Hz Diesel Generator (Cummins Power Generation, 11-04-14)*

Brake Horsepower: Prime Power Rating utilized for both generators based on *Power Rating Sheet (Cummins Power Generation, 11-04-14)*

Water Well Generator (Non-Emergency) - Unit 5b								
Parameter	Emission Factor (g/hp-hour)	Rated Power Class	Brake Horsepower: Prime Power Rating	g/lb	hrs/yr	lb/ton	Emissions (lbs/hr)	Emissions (tons/yr)
Hydrocarbons (VOCs)	0.4	37 ≤ kW < 75	90	453.6	8,760	2,000	0.08	0.35
NO _x	7.97						1.6	6.9
CO	0.75						0.15	0.65
PM (TSP, PM ₁₀ , and PM _{2.5})	0.13						0.03	0.11
SO ₂	0.60						0.12	0.52

Notes:

g = grams

hp = horsepower

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).

Condensable Particulate Matter: Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

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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[x] 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]

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]

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

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

[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
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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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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	
Note: 1.00 bbl = 0.159 M ³ = 42.0 gal					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

Note: 1.00 bbl = 0.159 M³ = 42.0 gal

[illegible]

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]

**VALENCIA COUNTY REGIONAL LANDFILL
2024 PERMIT RENEWAL APPLICATION
SUMMARY OF POTENTIAL EMISSIONS THROUGH 2030**

Emission Source	Regulated Air Pollutant	Estimated Actual Emissions	
		pounds/hour	tons/year, except CO ₂ & CH ₄
Unpaved Roadways (Emission Unit 1) Landfill Haul Roads)	PM _{2.5}	0.75	0.85
	PM ₁₀	7.45	8.45
	TSP	27.61	31.31
Landfill Equipment (Emission Unit 2a)	PM _{2.5}	0.65	0.73
	PM ₁₀	6.48	7.35
	TSP	23.99	27.21
Cover Operations (Emission Unit 2b)	PM _{2.5}	0.0008	0.00
	PM ₁₀	0.0054	0.01
	TSP	0.0115	0.01
Landfill Gas Surface Emissions (Emission Unit 3)	VOC	1.16	5.07
	NMOC	2.73	11.97
	HAPs	1.15	5.03
	CO ₂ (Mg/yr)	995.21	4,359.00
	CH ₄ (Mg/yr)	362.79	1,589.00
	Xylene	0.06	0.27
	Toluene	0.77	3.37
PCS (Emission Unit 4)	HAPs	2.0097	8.80
	VOC	2.0097	8.80
Total From All Emission Points	PM _{2.5}	0.65	0.74
	PM ₁₀	6.48	7.35
	TSP	24.00	27.22
	VOC	3.17	13.88
	NMOC	2.73	11.97
	HAPs	3.16	13.83

NOTE: An insignificant quantity of double counting of VOCs occurs because many reported HAPs are also considered VOCs.

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.

On March 27, 2009, the Valencia Regional Landfill and Recycling Facility (VRLRF) was issued Title V Permit Number P247L after NMED Air Quality Bureau (aqb) approval of the November 16, 2007 Title V Operating Permit Application. On December 3, 2009, VRLRF was issued Title V Permit Number P247L-M1, a Minor Permit Modification to HAP emissions for the site's permitted petroleum contaminated soils (PCS) landfarm. On November 20, 2014, the NMED Air Quality Bureau approved the Title V Application for Operating Permit Renewal, issuing permit Number P247L-R1. VRLRF currently operates under Title V Permit Number P247L-R2, which is scheduled to expire July 17, 2025. This Application for Permit Renewal is being submitted at least 12 months prior to that expiration date, as required by 20.2.70.300.B(2) NMAC.

The portable engines identified as unit numbers 5.e through 5.j in **Table 2-B** are units that are not subject to 20.2.72 NMAC and are insignificant activities under 20.2.70 NMAC. Accordingly, they are not included in emission calculation totals for the facility, or in air dispersion modeling. These units are not identified as stationary sources subject to construction permitting under 20.2.72 NMAC because they are not "stationary sources" or "portable stationary sources" as defined therein. Although the engines are portable sources, they are not "portable stationary" sources because they instead meet the definition of non-road engine under federal regulations. As set forth in 40 C.F.R. 89.2 (in pertinent part), a portable non-road engine is one that is neither regulated by a federal New Source Performance Standard ("NSPS"), nor remains at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A "location" is defined as any single site at a building, structure, facility or installation; EPA has confirmed that an engine that is frequently moved to various locations

within a facility would be correctly characterized as a non-road, rather than stationary, source. See e.g. EPA Applicability Determination Control Number M090038.

The categorization of these engines is not altered by either NMED's regulatory definitions or its Permitting Guidance dated April 2, 2014 re: *The regulation of non-road engines under 20.2.70, 20.2.72, and 20.2.73 NMAC*. While NMED's definition of "portable stationary source" does include certain portable units, it is most appropriately applicable to large portable units associated with asphalt plants and crusher plants, which may be subject to federal NSPS and typically remain at a single location for more than 12 consecutive months or a shorter period of time in the case of seasonal sources. NMED's definition cites asphalt plants as an example of a portable stationary source, as does the Permitting Guidance. The Permitting Guidance further explains NMED's interest in regulating portable engines that are utilized in operations that are dependent on their use, such as in the aggregate industry, oil and gas industry, and mining industry. In each of these examples, portable engines are used to power a production process, are integral to the operation of those sources, and are likely for that reason to remain on site in a single location for time periods that would render the units stationary under the federal definition and thereby fall within the applicability of an NSPS standard. As stated in the Permitting Guidance: *The operation of the aggregate processing equipment is dependent upon the use of non-road engines, as absent any available line power the aggregate processing equipment could not operate without a source of electric power. As such, the portable generators are integral to the operation of the aggregate processing equipment.*

By contrast, the portable engines used at the Valencia Regional Landfill and Recycling Facility are small power generators used only on an as-needed basis to provide lighting at the working face of the landfill, to provide temporary power for tarping machines or to assist in leachate or water pumping. They are not subject to any NSPS standard and do not remain at a single location for 12 months – in fact, they may be moved on a daily basis. Unlike asphalt and aggregate plants, landfill operations are not entirely dependent on the portable generators. These units do not appear to fall within the purview of the NMED's Permitting Guidance, and to our knowledge have not been historically subject to NMED construction permitting requirements. For these reasons, the units are not identified as "portable stationary" sources within the relevant NMED definitions and guidance and are instead identified as both exempt from construction permit requirements established pursuant to 20.2.72 NMAC and Title V permit requirements established pursuant to 20.2.70 NMAC.

Units 5a and 5b are stationary engines. Unit 5a is an emergency back-up generator operated no greater than 500 hours per year and is considered exempt and insignificant. Unit 5b is a generator utilized to pump water for site dust control and general construction. Unit 5b is considered non-exempt, but

insignificant. Consistent with prevailing Bureau policy, emissions calculations for Unit 5b is provided in this Application (**Table 2-D-1**), and emission rates are not listed in **Tables 2-D** and **2-E**.

VRLRF is a municipal solid waste (MSW) landfill operating pursuant to NMED Solid Waste Facility Permit Nos. SWM-013229 and SWM-013230 (SP). The facility is currently authorized to dispose of municipal solid waste (MSW) and the following approved special wastes:

- Chemical Spill Residue
- Petroleum Contaminated Soils (PCS)
- Sludge
- Packing House & Killing Plant Offal
- Industrial Solid Waste
- Oil Conservation Division Waste
- Treated Formerly Characteristic Hazardous Waste

Following is a description of measures taken to mitigate potential source emissions during startups, shutdowns, and emergencies for landfill operations that have the potential to emit pollutants of concern (e.g., particulates, NMOCs, HAPs, VOCs). Landfill operations associated with the emission of particulate matter (e.g., TSP, PM₁₀, and PM_{2.5}) consist of vehicle travel on landfill roads, and general landfill operations (e.g., heavy equipment operations, wind erosion). The measures taken to mitigate potential fugitive particulate emissions during startups, shutdowns, and emergencies include a water wagon(s) (5,000 gallon capacity or others), which is used on a daily basis when the landfill is operational.

The landfill may also utilize recycled asphalt (cold millings) as a road covering to control fugitive dust emissions potentially originating from vehicle travel on unpaved surfaces. Fugitive dust emissions are also minimized by controlling the speed of waste delivery vehicles and landfill equipment. Signs are posted within the Landfill Operations Area and along the Disposal Route and landfill access roads limiting vehicle speed to 15 mph.

On September 4, 2009, VRLRF modified their permit to address minor modifications to hazardous air pollutant (HAP) emissions from the facility's PCS landfarm, and to discuss the applicability of 40 CFR 63 Subparts HHHHHH (6H) and XXXXXX (6X) to the facility's surface coating operation. It was determined that these Subparts are not applicable to the facility. Additionally, surface coating operations are no longer conducted at the facility.

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.

Four process flow sheets are included in this Section. These flow sheets correspond to the following Emission Units:

- **Emission Unit No. 1: Landfill Roads – Disposal Route and Access Roads**

Emission Unit 1 is comprised of potential particulate emissions from vehicle travel on landfill roads.

Figure 4.1 presents a process flow diagram for potential emissions from these operations.

- **Emission Unit No. 2: General Landfill Operations**

General landfill operations include activities associated with waste disposal and soil cover, as well as potential fugitive emissions from wind erosion on actively disturbed areas. **Figure 4.2** presents a process flow diagram for potential emissions from landfill operations.

- **Emission Unit No. 3: Landfill Gas Generation**

Uncontrolled emissions of methane and non-methane organic compounds (NMOCs) can be generated as a result of anaerobic decomposition of municipal solid waste (MSW). **Figure 4.3** presents a process flow diagram for potential emissions of NMOCs.

- **Emission Unit No. 4: PCS Landfarm Treatment**

Petroleum contaminated soils (PCS) are treated to NMED standards by landfarming (a combination of biodegradation and volatilization). During landfarm treatment, hazardous air pollutants (HAPs) may be emitted. **Figure 4.4** presents a process flow diagram for potential HAP emissions from PCS landfarm treatment.

- **Emission Unit No. 5: Stationary and Portable Engines**

Emission Unit No. 5 is comprised of two stationary and multiple portable engines used for facility or equipment maintenance and support to landfill operations. **Figure 4.5** presents a process flow diagram for potential emissions from the stationary and portable engines. **Figure 4.5** presents a process flow diagram for potential emissions from stationary engines. With the exemption of Engine 5b, all of the site's portable engines are considered exempt and insignificant. Engine 5b meets the definition of an insignificant source.

Figure 4.1
Landfill Roads Process Flow Diagram
(Emission Unit 1)

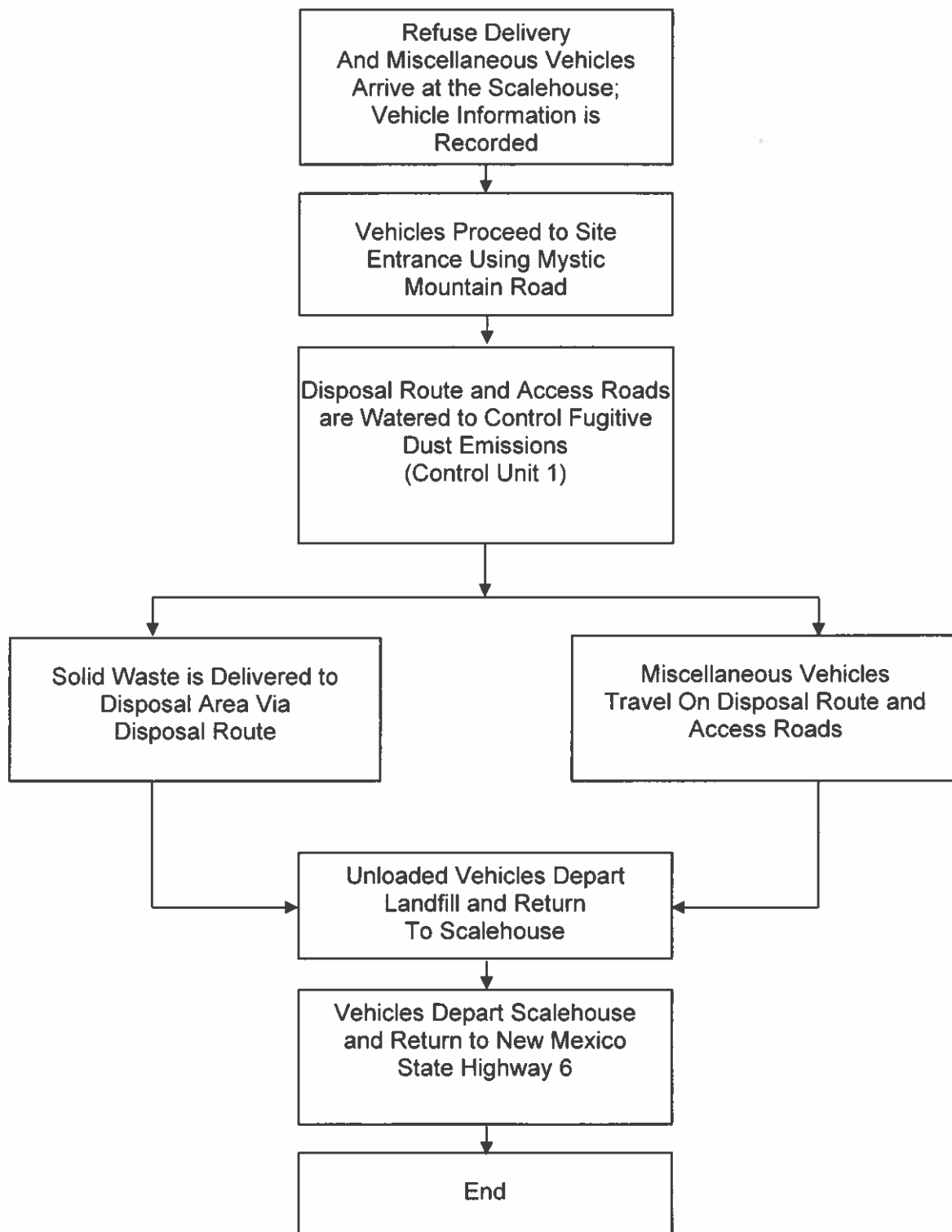


Figure 4.2
General Landfill Operations Process Flow Diagram
(Emission Unit 2)

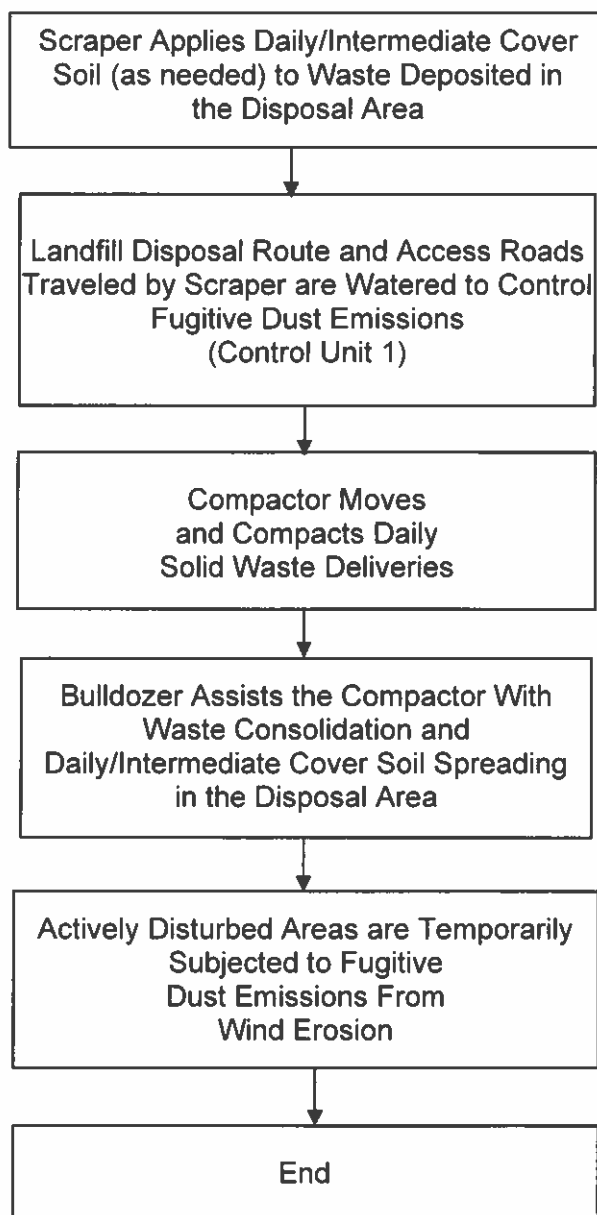


Figure 4.3
Landfill Gas Generation Process Flow Diagram
(Emission Unit 3)

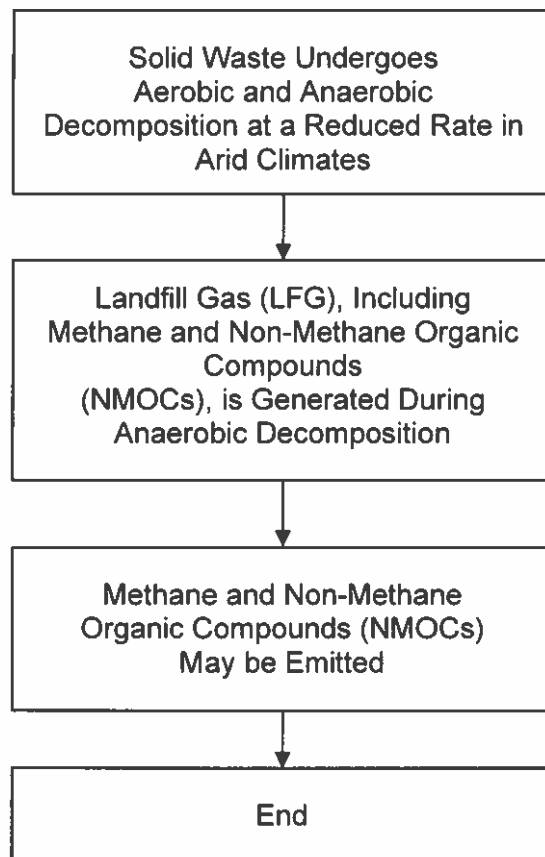


Figure 4.4
PCS Landfarm Treatment Process Flow Diagram
(Emission Unit 4)

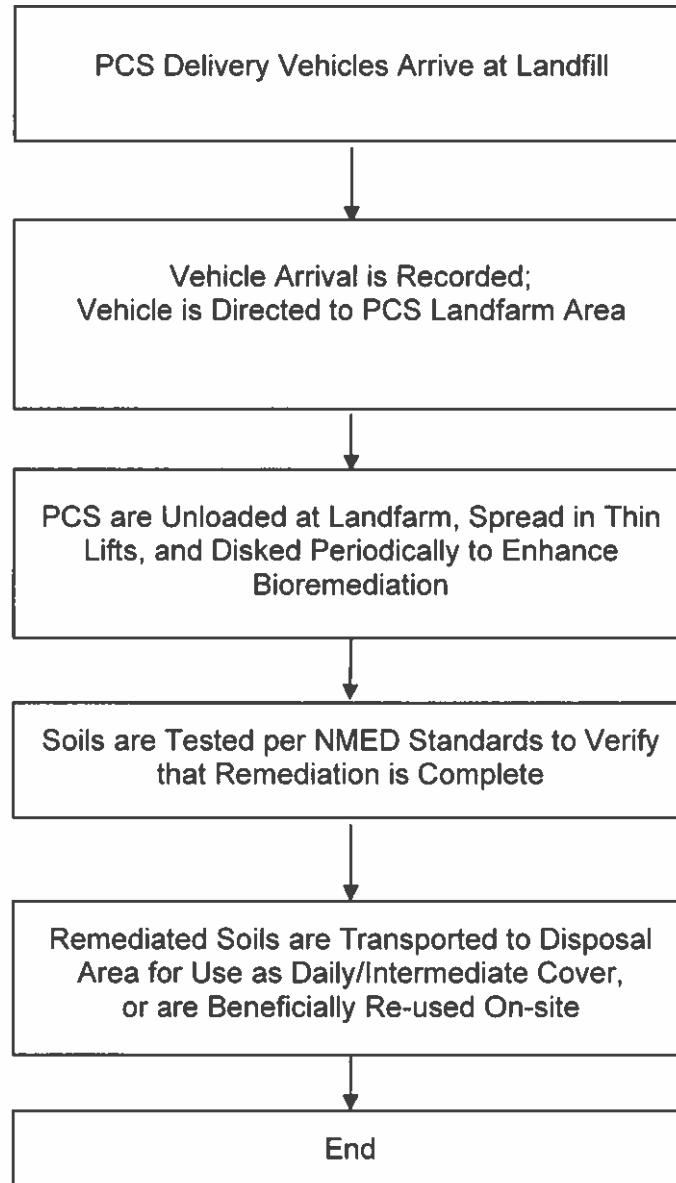
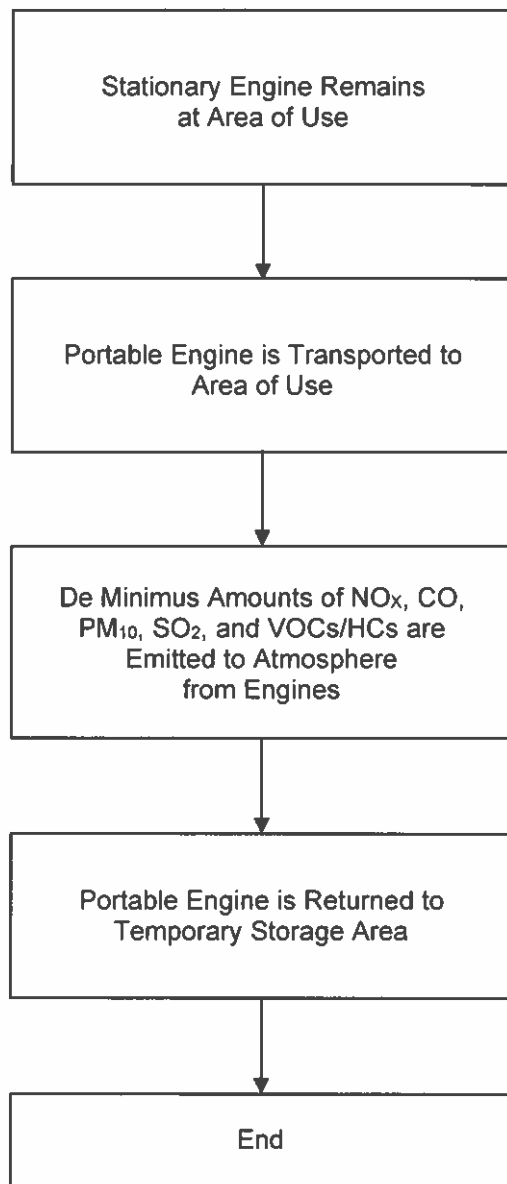


Figure 4.5
Engine Process Flow Diagram
(Emission Unit 5)



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.

A scaled map (Plot Plan) of VRLRF showing emission points, structures, tanks, and fences is included in this Section. Designated as **Figure 5.1**, the Plot Plan denotes the items listed above.

LEGEND

- SOLID WASTE FACILITY BOUNDARY
- PERMITTED LIMIT OF WASTE
- PHASE SEPARATION BOUNDARY
- PETROLEUM CONTAMINATED SOILS REMEDIATION AREA BOUNDARY
- DISPOSAL AREA
- LANDFILL FENCE
- DISPOSAL ROUTE (COLD MILLINGS)
- DISPOSAL ROUTE (COLD MILLINGS)
- ACCESS ROAD (UNPAVED)
- ACCESS ROAD (UNPAVED)
- SOIL BORROW AREA
- EMISSION UNIT
- CONTROL POINT AND ELEVATION
- SITE GRID NMI STATE PLANE NAD83 FT

EMISSION UNITS

- DISPOSAL ROUTE AND ACCESS ROAD TRAVEL
- GENERAL LANDFILL OPERATIONS
- LANDFILL GAS DEGENERATION
- PETROLEUM CONTAMINATED SOILS LANDFARM
- EMISSIONS

NOTES

- EXISTING MAP INFORMATION PROVIDED BY VARIAN AND COMPILED FROM AERIAL PHOTOGRAPHY DATED NOVEMBER, 2017 BY WILLET GREEN ASSOCIATES, INC.

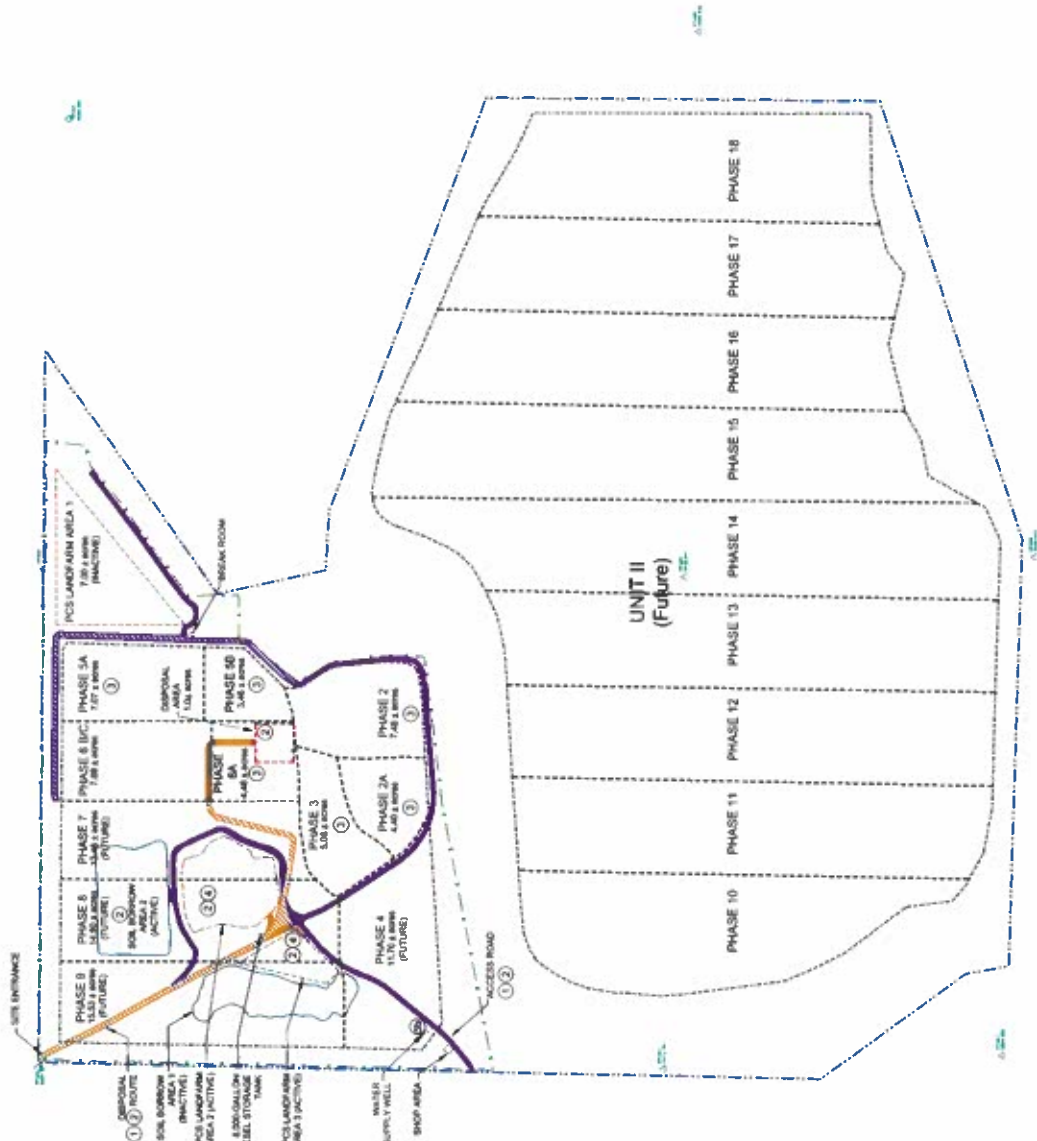


PLOT PLAN

VALENCIA REGIONAL LANDFILL AND RECYCLING FACILITY
VALENCIA COUNTY, NEW MEXICO

GORDONPSC 333 Rio Pecos Blvd. NE Albuquerque, New Mexico Phone: (505) 424-4800 Fax: (505) 424-4801 E-MAIL: info@gordonpsc.com PROJECT # - 2024-13	
DATE: 1/20/2024	CAD FILE: 2024-13.dwg
DRAWN BY: JAC	REVIEWED BY: JAC
APPROVED BY: JAC	

FIGURE 5.1



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.

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List of Attachments Title

Attachment	Title
6.1	Emission Unit 1 - Uncontrolled and Controlled Emissions -
6.2	Emission Unit 2 - Uncontrolled and Controlled Emissions -
6.3	Emission Unit 3 - NMOC Emissions Estimate, LandGEM Output, & Tier 2 Landfill Gas Sampling Report
6.4	Emission Unit 4 - Sample PCS Tracking Sheet and 10 Year Emission Review

6.0 Introduction

This Section describes the methods used to estimate potential fugitive emissions of particulate matter (TSP, PM₁₀, and PM_{2.5}); non-methane organic compounds (NMOCs); hazardous air pollutants (HAPs); and volatile organic compounds (VOCs) from the following area and point sources (i.e., Emission Units):

- Emission Unit 1 – Landfill Roads
- Emission Unit 2 – General Landfill Operations
- Emission Unit 3 – Landfill Gas Generation
- Emission Unit 4 – Petroleum Contaminated Soils Landfarm

Emission rate estimates from these units are summarized in **Tables 2-D and 2-E**. **Sections 6.1 and 6.2** provide discussion of the landfill activities associated with potential fugitive dust emissions. Landfill

processes related to potential NMOC, VOC and HAPS emissions are discussed in **Sections 6.3 and 6.4**. **Section 6.8** addresses the requirements for start-up, shutdown, and maintenance (SSM); and discussion of green house gas (GHG) is provided in **Section 6.a**.

6.1 Landfill Roads – Emission Unit 1

Landfill roads consist of the Disposal Route and landfill access roads constructed of unpaved surfaces as well as temporary graded roadways. Vehicles traveling on the unpaved portions of the Disposal Route and access roads (**Figure 5.1, Section 5**) have the potential to generate fugitive dust emissions. Cumulatively, potential fugitive dust emissions from vehicular traffic at VRLRF have been designated Emission Unit 1. Unpaved road surfaces are currently watered on a routine basis, or treated with cold millings (recycled asphalt) and watered for dust control. For the purposes of this Application for Permit Renewal, unpaved portions of the Disposal Route and access roads are characterized as being treated with water only.

This Section provides emission rate estimates for Municipal Solid Waste (MSW) and Petroleum Contaminated Soils (PCS) Delivery Vehicles.

To calculate the emissions, the equation published in AP-42, Section 13.2.2, “Unpaved Roads” (November, 2006), was used with the following input variables:

- AP-42 default empirical constants.
- AP-42 default average surface material silt content.
- Maximum potential average vehicle weight, as described above, of 25.6 tons.
- The number of days per year with at least 0.01 inches of precipitation is 60 (AP-42, Fig 13.2.2-1).
- The maximum round trip mileage is 1.3 miles.
- The average operating year consists of 312 days.

According to the guidance presented in AP-42, Section 13.2.2, the equation is not intended to be used to calculate separate emission factors for multiple vehicle types simultaneously. Therefore, an “average” refuse delivery vehicle was determined based on scalehouse receipts. Receipts from the scalehouse are used to determine (1) the total annual number of delivery vehicles and (2) the average weight of those vehicles. In order to determine the maximum Potential-to-Emit fugitive dust emissions, the number of vehicles and weights for 2023 was used. While 2023 had only 11,140 tons of degradable waste, the site was used for the disposal of a large area clean up. The total tonnage was 304,579 tons. Prior to 2023, the largest annual disposal rate was 93,427 accepted in 2012. The rare event increased the vehicle traffic and the average vehicle weight. Detailed emissions calculations for Emission Unit 1 activities are provided in **Attachment 6.1**.

Control of fugitive emissions is via the routine use of facility water truck (typically 5,000-gallon-capacity). The water truck currently applies approximately 7.8 million gallons of water annually to the Disposal

Route and landfill access roads. Consistent with existing New Mexico Environment Department (NMED) Air Quality Bureau (AQB) policy, an overall water control efficiency of 60% was applied to unpaved portions of the Disposal Route and access roads which receive only water as a dust control measure.

6.2 General Landfill Operations – Emission Unit 2

General landfill operations include solid waste disposal at the Disposal Area, daily/intermediate cover soil application, and wind erosion on actively disturbed areas; and have been designated Emission Unit 2. Detailed emissions calculations for general landfill operations are provided in **Attachments 6.2**.

Fugitive dust emissions from Disposal Area operations result primarily from the daily operations of heavy equipment such as scraper unloading, road graders, bulldozers, and compactors. The scraper is used to transport daily/intermediate cover soil from Soil Borrow Area 2 to the Disposal Area. Road graders maintain the Disposal Route and access roads. Compactors consolidate waste at the Disposal Area, and bulldozers assist the compactors at the Disposal Area by positioning waste so it can be easily consolidated.

Potential fugitive dust emissions from the heavy equipment associated with heavy equipment were calculated using data from VRLRF equipment operating logs for each piece of equipment at the Landfill. Given the operating hours and an average vehicle operating speed, the mileage was calculated for each piece of equipment.

The weights for each piece of equipment was from the Caterpillar from the Caterpillar® Performance Handbook, Edition 42 (Caterpillar® 2012) or similar resource. An average of empty and fully loaded weights were used for equipment with soil carrying capacities. A weighted average of all equipment based on each equipment's mileage was determined.

Emission were calculated using the same equations and control efficiencies for vehicle travel on the disposal route and access roads (See **Section 6.1**) and the following information:

- The number of days per year with at least 0.01 inches of precipitation is 60 (AP-42, Fig 13.2.2-1).
- AP-42 default average surface material silt content.
- Maximum potential average vehicle weight, as described above, of 34.1 tons.
- Mileage is based on actual equipment use.
- The average operating year consists of 312 days.

Emission factors were calculated using the most recent edition of AP-42 (USEPA, 1995, updated 1998, 2006, and 2008).

Fugitive dust control measures are employed in order to reduce potential fugitive dust emissions during normal operations. A control efficiency of 60% was applied to the scraper and grader travel on unpaved landfill roads treated with watered.

6.3 Landfill Gas Generation – Emission Unit 3

Solid waste is subject to aerobic and anaerobic decomposition that results in the potential generation of landfill gas (LFG). The rate of LFG generation is a function of the composition, moisture content, age, temperature, pH, alkalinity of the refuse, nutrient supply, etc. Methane (CH₄) and carbon dioxide (CO₂) are the primary constituents of LFG, generated in approximately equal proportions. In addition, LFG also contains a very small proportion (0.07%) of non-methane organic compounds (NMOCs), of which Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs) are subsets. The uncontrolled emissions of NMOCs from the landfill are designated Emission Unit 3.

The EPA model LandGEM (Landfill Gas Emissions Model), Version 3.02 (USEPA, May 2005) was deployed to calculate total potential LFG and NMOC emission rates for the landfill. The Model estimates emissions resulting from the biodegradation of refuse in landfills and is recommended by EPA for use in developing estimates for state inventories. The Model uses a first-order decay rate equation and estimates annual emissions over a time period specified by the user. This model is proven to over-estimate LFG production and emission rates for arid landfills. The time period specified for VRLRF was 1988 (the first year of waste acceptance) through 2030. The following values were input into LandGEM to estimate total LFG generation rates from VRLRF:

- A Clean Air Act (CAA) default value for the potential methane generation capacity of refuse, $L_0 = 100 \text{ m}^3/\text{Mg}$ refuse.
- A methane generation rate constant, $k = 0.02 \text{ yr}^{-1}$ (CAA default for arid regions).
- A site-specific NMOC concentration (C_{NMOC}) value of 700.6 ppm_v as hexane submitted 2/9/21.
- The landfill type selected was no co-disposal (i.e., no landfilling of hazardous waste along with municipal solid waste).
- The site is treated as active (i.e., accepting waste) for the years 1988 – 2030.
- The composition of LFG is modeled as 50.0% methane (CAA default for arid regions)

In June 2006, an aerial survey of VRLRF was performed to determine the amount of in-place waste. The survey results showed that approximately 193,595 Mg of waste (degradable and non-degradable) had been deposited at the site since 1988. Waste acceptance rates/types were not well documented from 1988 through 1993. Waste types identified in the 1994 – 1999 Annual Reports submitted to NMED Solid Waste Bureau include residential waste; yard or landscape waste; non-degradable wastes (e.g., construction/demolition debris); commercial waste; special waste (which may include sludge, petroleum contaminated soil, industrial solid waste, etc); and other (i.e., tires, etc). Based on information provided

by VRLRF, the waste types included in the incoming waste stream from 1994 – 1999 are indicative of waste accepted for disposal during years of historical waste acceptance rates (1988 – 1993).

VRLRF began accepting waste in 1988 under the name Tri-Sect Landfill. From 1988 through 1999, materials deposited at the site included residential, commercial, and yard/landscape wastes, as well as construction and demolition (C&D) debris, petroleum contaminated soils (PCS), and tires. From March 1999 through March 2007, only PCS (processed on-site for remediation) were accepted. In April 2007, the site resumed acceptance of the historical MSW waste stream, as well as other recently permitted special wastes.

The estimated annual acceptance rate of 8,096 tons/yr was input into LandGEM to estimate NMOC generation rates for each year of unrecorded waste acceptance (i.e., 1988 through 1993). Actual waste acceptance values (less C&D debris) reported in Annual Reports were used after 1994.

To determine the maximum potential-to-emit LFG emissions for the years 2024 through 2030, the last ten years of deposits of degradable waste were evaluated. The acceptance rate has decreased significantly from a high of 83,342 tons in 2015 to 11,140 tons in 2023. In order to maximize emissions, the 2015 maximum disposal rate was assumed for 2024 and subsequent years were increased by 3%.

LandGEM calculated an NMOC emission rate of approximately 12.0 Mg/yr in 2030 for wastes disposed of in the landfill through 2023 and forecasted through 2030. Model results are included as **Attachment 6.3**). The LandGEM result report includes common Volatile Organic Compounds (VOCs) are a subset of NMOCs, and comprise approximately 39% (by weight) of NMOCs (AP-42, Table 2.4-2, Draft, October 2008). **Attachment 6.3** includes the calculation for VOCs.

6.4 Petroleum Contaminated Soils Landfarm – Emission Unit 4

VRLRF is permitted by NMED Solid Waste Bureau (SWB) to accept petroleum contaminated soils (PCS) for remediation via landfarming; for beneficial use as daily/intermediate cover soil; or for direct disposal. The PCS landfarm area (**Figure 5.1, Section 5**) has been designated Emission Unit 4, and remediation of PCS is performed over lined or future lined areas of the landfill. Consistent with the New Mexico Solid Waste Rules (August 2007), PCS are considered remediated for the purpose of beneficial use when soil sample analyses meet the following conditions:

1. the sum of benzene, toluene, ethylbenzene, and xylene isomer concentrations (i.e., BTEX) is less than 500 mg/Kg, with benzene individually less than 10 mg/Kg; and
2. the total petroleum hydrocarbon (TPH) concentration is less than 1,000 mg/Kg

Prior to acceptance by VRLRF, incoming shipments of PCS are required to be analyzed for total petroleum hydrocarbon (TPH) concentration using EPA Method 8015B and BTEX via EPA Method

8260B (or approved equivalents); and must be approved by WMNM and issued an approved profile number prior to arrival at the landfill. PCS shipments are recorded on a "non-hazardous waste manifest form" with the approved profile number identifying the project.

VRLRF periodically collects samples from the in-situ PCS within the landfarm, and the samples are analyzed for TPH and BTEX in order to track the remediation process, and to verify its success.

Benzene, toluene, ethylbenzene, and xylene (BTEX) are the main constituents of concern in PCS that have the potential to volatilize, and are considered volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). The existing permit condition uses BTEX as the compliance parameters for calculation of the HAP emissions specifies individual HAP values be calculated using the highest single concentration of an individual HAP from all of the generator analytical data. This permit condition creates an artificially exaggerated emission result by excluding all the other data points. Therefore, WMNM proposes the following methodology:

A more accurate method of determining the individual HAP emissions would be to use an Upper Confidence Limit (UCL) using an 80% confidence interval which includes the entire analytical data set as specified in SW-846, Chapter 9. When determining an UCL using an 80% confidence interval, one is actually determining a concentration with 90% confidence.

The emissions of each HAP from PCS will be calculated every 12 months using the following equation:

$$MHAPs = [(UCL)(MPCS)(VLF)] \times [1 \times 10^6]$$

Where:

MHAPS=mass of HAPs emitted per year from PCS landfarm (tons per year)

UCL= estimated concentration of HAPs in PCS accepted for landfarm treatment (ppm or mg/kg)
using the Upper Confidence Limit at the 80% confidence interval (SW-846, Chapter 9)

MPCS=mass of PCS accepted for treatment (tons)

VLF=100% of HAPs volatilized by landfarm treatment = 1

Calculation for individual HAP emissions shall be based upon the UCL at the 80% confidence interval of the individual HAPs as determined from the analytical test results associated with each PCS profile.

VRLRF electronically tracks the BTEX analytical results from each remediation project and volume/mass of each inbound PCS shipment using the above methodologies. This approach provides a very conservative indicator of HAP emissions; and WMNM will track the accumulated daily volume of PCS accepted, by approved profile number, by using a spreadsheet similar to the one provided as in **Attachment 6.4**. VRLRF tracks total HAP emissions from PCS such that, on an annual basis, total site emissions do not exceed 10 tons/year for individual HAP or 25 tons/year of aggregate HAPs on a site-wide basis. This includes HAPs emitted as part of fugitive LFG emissions.

The amount of PCS accepted varies largely – from 468 tons in 2018 to 30,473 tons in 2015. In order to determine the maximum Potential-to-Emit for HAPs emissions from the PCS farm, the past ten years was considered. The maximum for BTEX over the ten year period from 2014 through 2023 was used as PTE. Summing these emissions, from 2015, 2019, & 2020, a total of 8.80 tons of BTEX was used for the maximum. Total site-wide HAP emissions are discussed in detail **Section 6.6**.

6.5 Engines – Emission Unit 5

See discussions in Section 3.0 Application Summary, and Section 7.4 Insignificant Activities and Equipment.

6.6 Hazardous Air Pollutant (HAP) Sources

The purpose of the information provided in this Section is to demonstrate that the VRLRF is not a major source for hazardous air pollutants (HAPs) subject to Section 112(r) of the Clean Air Act (CAA). On January 16, 2003, the EPA published a maximum achievable control technology (MACT) standard for municipal solid waste landfills that applies to both major HAP sources and area sources. Section 112(a)

of the CAA defines a major source as *"any stationary source or group of stationary sources that emits or has the potential to emit, considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants."* Section 112(a) of the CAA also defines an area source as *"any stationary source of hazardous air pollutants that is not a major source."*

The MACT standard for landfills is published in 40 CFR 63 Subpart AAAA, [National Emission Standards for Hazardous Air Pollutants (NESHAP): Municipal Solid Waste Landfills]. NESHAP applies to area source landfills if they:

1. have a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³)
2. have accepted waste since November 8, 1987 (or have additional capacity for waste deposition), and have estimated uncontrolled emissions of 50 Mg/yr NMOC or more
3. are operated as a bioreactor

The LandGEM Model estimates emissions of 27 HAPs, which are a subset of NMOCs, and are potentially present in landfill gas. The user-defined data input into the Model generates a concentration output for individual HAPs (**Attachment 6.3**). The total from the LandGEM is 5.03 tons per year; 3.98 tons of which is Benzene, Ethylbenzene, Toluene & Xylens (BTEX). As mentioned in Section 6.3, the LandGEM model is maximized with a maximum projected disposal rates. The 5.03 tons is the potential-to-emit value used for HAPs limitations discussed below.

In order to stay beneath the MACT threshold, the total PCS emissions are tracked to ensure the total HAPs is below 24.5 tons. Given the 5.03 tons potential maximum modeled from landfill gas, the limit for HAPs emissions from the PCS farm is below 19.47 tons per year. Given the 10 year maximum for BTEX of 8.80 tons, VRLRF is confident the 19.47 tons is a reasonable limit.

Given the maximum potential-to-emissions is below the 25 ton threshold, VRLRF is not a major source for HAP (either individually or in the aggregate), as defined in Section 112(r) of the Clean Air Act.

6.7 Regulatory Applicability

Because the design capacity of VRLRF is greater than 2.5 million megagrams and VRLRF has accepted waste since November 8, 1987, is subject to 40 CFR 63 Subpart AAAA. The NESHAP regulation was revised in September 28, 2021, however, the standards for applicability have not changed. However, as the Site has estimated uncontrolled NMOC emissions less than 50 Mg per year, the Site is not yet subject to the operational, reporting or recordkeeping provisions of 40 CFR 63 Subpart AAAA. Similarly, the VRLRF is also subject to the New Source Performance Standards (NSPS) provisions of 40 CFR 60,

Subpart Cf, but as site's NMOC emissions do not surpass the 34 Mg per year threshold, is not subject to the operational, reporting or recordkeeping provisions of NSPS 40 CFR 60 Sub-part Cf.

6.8 Additional Emissions During Startup, Shutdown, and Routine Maintenance

Table 2-F, Section 2, which is reserved for requesting additional allowances for potential emissions during startup, shutdown, and routine maintenance (SSM), has intentionally been left blank for this Application for Permit Renewal. Additional emissions allowances for SSM emissions are not being requested for this facility, as none of the processes which take place at VRLRF produces an excess amount of emissions during SSM. Following is a description of measures to be taken to mitigate source emissions during SSM for landfill operations that have the potential to emit pollutants of concern (e.g., particulates, NMOCs, HAPs, VOCs).

6.8.1 Particulates

Landfill operations associated with the potential emission of particulate matter (e.g., TSP, PM₁₀, and PM_{2.5}) consist of vehicle travel on treated and unpaved landfill roads, and general landfill operations (e.g., heavy equipment operations, wind erosion). The measures taken to mitigate against potential excessive fugitive particulate emissions during startups, shutdowns, and emergencies consist of a water wagon (typically 5,000-gallon capacity) which serves as the site's primary dust suppression mode, and is used on a daily basis when the landfill is operational. The source of the water for the wagons is the VRLRF water well located at the western boundary of the facility (**Figure 5.1**). In addition, the site's Disposal Route is treated with recycled basecourse (cold millings) from the facility entrance to the disposal area turnoff. Control efficiencies relating to water application and types of road material (e.g., cold millings, unpaved) are presented in **Sections 6.1**. Additional equipment can be leased from local suppliers, or another WMNM facility in the region (i.e., Rio Rancho Landfill). VRLRF may also utilize processed green waste as a soil amendment to promote vegetative growth and minimize soil erosion on areas requiring intermediate/final cover.

In addition to the above procedures, VRLRF currently implements dust control measures outlined in the Plan of Operations (Volume II, Section 7.2 of the Solid Waste Permit), which is maintained as part of the Landfill's NMED-approved April 2004 (Updated August 2005) Application for Permit at the Scalehouse.

6.8.2 NMOCs

Municipal solid waste (MSW) decomposition produces landfill gas (LFG), which typically contains a small amount (i.e. 0.07%) of non-methane organic compounds (NMOCs). At this time, there is no provision to mitigate NMOC emissions during startup, shutdown, or emergencies. NMOC generation from MSW decomposition is a continual process that is not subject to "malfunction", and is not "started up" or "shut down" at will.

6.8.3 VOC/HAP Emissions

Emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) could potentially occur from the landfarming of petroleum contaminated soils (PCS) or the decomposition of municipal solid waste (MSW). At this time, there is no provision to mitigate VOC/HAP emissions from PCS remediation during startup, shutdown, or emergencies, as remediation is a continual process that is not subject to "malfunction", and is not "started up" or "shut down" at will.

6.9 References

AP-42: Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition, Office of Air Quality Planning and Standards/Office of Air and Radiation, US Environmental Protection Agency, Research Triangle Park, NC 27711, October 2008 (Draft), November 2006; September, October, and November 1998; January 1995; and September 1991.

Caterpillar® Performance Handbook, Edition 42, Caterpillar®, Inc., Peoria, Illinois, 2012.

LandGEM (Landfill Gas Emissions Model), Version 3.02, Control Technology Center, US Environmental Protection Agency, Research Triangle Park, NC, 27711, and Office of Research and Development, Washington, DC 20460, May 2005.

ATTACHMENT 6.1
UNCONTROLLED & CONTROLLED EMISSIONS
EMISSION UNIT 1 – FUGITIVE DUST FROM VEHICLE TRAFFIC

**VALENCIA COUNTY REGIONAL LANDFILL
2024 PERMIT RENEWAL APPLICATION
FUGITIVE EMISSIONS FROM UNPAVED ROADWAYS**

Emission Source: Emission Unit 1 - Vehicle Travel on Roads

Estimate of Total Vehicle Miles Traveled	
Average Weight Calculation, 2023	Estimated Vehicle Count
Total Gross Weight, tons:	587,124
Total Tare Weight, tons:	282,545
Total Average Weight, tons:	434,835
Total Number of Vehicles:	17,012
Average Vehicle Weight, tons:	25.6
Length of Road, roundtrip, miles	1.3
Total Vehicle Miles Traveled (VMT)	22,626.0

Operations Data	
Description	Value
Hours/Day	9
Days/Week	5
Weeks/Year	52
Days/Yr	260
Hours/Year	2,268

Assumptions:

Vehicle usage data provided by Waste Management.

Road surfaces are treated every hour for a control efficiency of 60% $PM_{10}/PM_{2.5}$

Mean vehicle weights were derived by averaging the full and empty vehicle weights.

Emissions Calculation Methodology (AP-42, Section 13.2.2 for Unpaved Roads):

$$E_{ext} = [k * (s/12)^a * (W/3)^b] * [(365 - p)/365]$$

Where:

- E_{ext} = Annual size-specific emission factor extrapolated for natural mitigation (lb/VMT)
- k = Empirical constant (lb/VMT)
- a, b = Empirical constant (unitless)
- s = Surface material silt content [%]
- W = Vehicle weight (tons)
- p = Number of days per year with >0.01 inch of rainfall (AP-42, Figure 13.2.2-1 or climate website)
- M_{dry} = Surface material moisture content under dry, uncontrolled conditions [%]

Variables:

k factor for $PM_{2.5}$ =	0.15 lb/VMT	(from AP-42, Table 13.2.2-2.)
k factor for PM_{10} =	1.5 lb/VMT	(from AP-42, Table 13.2.2-2.)
k factor for TSP =	4.9 lb/VMT	(from AP-42, Table 13.2.2-2.)
Fleet Average Vehicle Weight (W)	25.56 tons	
Mean Silt content (s)	6.4 %	(from AP-42, Table 13.2.4-1 - MSW landfills cover soils)
# of days w/ >0.01 in. rainfall (p)	60 days/year	(from AP-42, Figure 13.2.1-2)
a (constant) =	0.9	(from AP-42, Table 13.2.2-2.)
	0.7	(from AP-42, Table 13.2.2-2.) (TSP)
b (constant) =	0.45	(from AP-42, Table 13.2.2-2.)
E_{ext} =	0.19 lb/VMT	($PM_{2.5}$)
	1.87 lb/VMT	(PM_{10})
	6.92 lb/VMT	(TSP)

Example Calculations - PM_{10} :

Obtain emissions in pounds per year as follows:

$$\begin{aligned} \text{lbs/year} &= E * \text{VMT} * (1 - \text{reduction rate for dust control measures}) \\ &= 16,904 \end{aligned}$$

Total Particulate Matter Emissions Due to Vehicle Traffic on Unpaved Roads

Pollutant	Total VMT			Emission Factor (lb/VMT)	Control Efficiency (%)	Actual Emissions	
	VMT/hr	VMT/day	VMT/yr			lb/hr	tons/yr
$PM_{2.5}$	9.7	87.0	22,626.0	0.19	60%	0.75	0.85
PM_{10}	9.7	87.0	22,626.0	1.87	60%	7.45	8.45
TSP	9.7	87.0	22,626.0	6.92	60%	27.61	31.31

ATTACHMENT 6.2
UNCONTROLLED & CONTROLLED EMISSIONS
EMISSION UNIT 2 – FUGITIVE DUST FROM LANDFILL OPERATIONS

**VALENCIA COUNTY REGIONAL LANDFILL
2024 PERMIT RENEWAL APPLICATION
EMISSIONS FROM LANDFILL EQUIPMENT OPERATIONS**

Emission Source: Emission Unit 2a- Landfill Operations, Heavy Equipment

Estimate of Total Vehicle Miles Traveled

Type of Landfill Equipment	Annual Hours	Avg. Vehicle Speed (mph)	Total VMT miles/year	Average Weight tons
Compactors				
826G Compactor	180.0	2	360	40.7
826H Compactor	260.0	2	520	40.7
Dozers				
D6R Dozer	1881.0	2	3,762	22.7
850J Dozer	421.0	2	842	19.9
Scrapers				
627G Scraper	370.0	10	3,700	85.5
Motor Graders				
140G Grader	306.0	2	612	14.0
Backhoes				
410J Backhoe	113.0	2	226	9.3
Water Trucks				
CAT 613C Waterwagon	0.0	5	0	16.5
Freightline FL80 Water Truck	579.0	5	2,895	18.1
Peterbilt 348 Water Truck	870.0	5	4,350	16.5
Total - All Vehicles			17,267	

Operations Data

Description	Value
Hours/Day	9
Days/Week	5
Weeks/Year	52
Days/Year	259
Hours/Year	2,268

Assumptions:

Vehicle usage data provided by Waste Management

Average vehicle weights are based on Caterpillar data (from Caterpillar Performance Handbook Edition 31, Oct. 2000).

Water trucks/dust suppressants are utilized as needed for control efficiency of 60% PM₁₀ / PM_{2.5}

Emissions Calculation Methodology:

Calculation of emission factor for fugitive emissions for construction vehicles on landfill surface and unpaved haul roads -

Use Equation 1a in AP-42 Section 13.2.2, p. 13.2.2-4, with an adjustment for rainfall per AP-42 Equation 2 (p. 13.2.2-7).

$$E_{ext} = [k * (s/12)^a * (W/3)^b] * [(365 - p)/365]$$

Where:

E_{ext} = Annual size-specific emission factor extrapolated for natural mitigation (lb/VMT)

k = Empirical constant (lb/VMT)

a, b = Empirical constant (unitless)

s = Surface material silt content [%]

W = Vehicle weight [tons]

p = Number of days per year with >0.01 inch of rainfall (AP-42, Figure 13.2.2-1 or climate website)

M_{dry} = Surface material moisture content under dry, uncontrolled conditions [%]

Variables:

k factor for PM _{2.5} =	0.15 lb/VMT	(from AP-42, Table 13.2.2-2.)
k factor for PM ₁₀ =	1.5 lb/VMT	(from AP-42, Table 13.2.2-2.)
k factor for TSP =	4.9 lb/VMT	(from AP-42, Table 13.2.2-2.)
Fleet Average Vehicle Weight (W) =	34.1 tons	
Mean Silt content (s) =	6.4 %	(from AP-42, Table 13.2.4-1 - MSW landfills cover soils)
# of days w/ >0.01 in. rainfall (p) =	60 days/year	(from AP-42, Figure 13.2.1-2)
a (constant) =	0.9	(from AP-42, Table 13.2.2-2.)
	0.7	(from AP-42, Table 13.2.2-2.) (TSP)
b (constant) =	0.45	(from AP-42, Table 13.2.2-2.)
E_{ext} =	0.21 lb/VMT	(PM _{2.5})
	2.13 lb/VMT	(PM ₁₀)
	7.88 lb/VMT	(TSP)

**VALENCIA COUNTY REGIONAL LANDFILL
2024 PERMIT RENEWAL APPLICATION
EMISSIONS FROM LANDFILL EQUIPMENT OPERATIONS**

Example Calculations - PM₁₀:

Obtain emissions in pounds per day as follows:

$$\begin{aligned} \text{lbs/year} &= E_{\text{net}} * \text{VMT} * (1 - \text{reduction rate for dust control measures}) \\ &= 14,690 \end{aligned}$$

Total Particulate Matter Emissions Due to Landfilling Equipment Operations

Pollutant	Total VMT			Emission Factor (lb/VMT)	Control Efficiency (%)	Actual Emissions	
	VMT/hr	VMT/day	VMT/yr			lb/hr	tons/yr
PM _{2.5}	7.6	66.7	17,267	0.21	60%	0.65	0.73
PM ₁₀	7.6	66.7	17,267	2.13	60%	6.48	7.35
TSP	7.6	66.7	17,267	7.88	60%	23.99	27.21

**VALENCIA COUNTY REGIONAL LANDFILL
2024 PERMIT RENEWAL APPLICATION
FUGITIVE EMISSIONS FROM COVER OPERATIONS**

Emission Source: Emission Unit 2b, Landfill Operations, Cover

Assumptions:

For conservative purposes, assume aerodynamic particle size is less than 10 microns.

Water trucks are utilized as needed for a dust control efficiency of

50%

CALCULATION OF EMISSIONS FROM LOADOUT OF COVER ONTO LANDFILL SURFACE

Estimate total Amount of Cover Used

Total cover used [cy/day] = (disposal rate [tons]*(2000 lb/ton)/(refuse density) [lb/cy]*(% soil volume)

Operations Data

Description	Quantity	Units	Description	Value
Disposal Rate	1,176	tons/day	Hours/Day	9
	304,579	tons/yr*	Days/Week	5
Refuse Density	1,800	lb/cy	Weeks/Year	52
% Soil Volume	25%		Hours/Year	2,268
Soil Cover Density	2,600	lb/cy	%Winter	25%
Daily Cover	425	tons/day	%Spring	25%
Active Days	259	days/yr	%Summer	25%
Total Cover Used	109,987	tons/yr	%Fall	25%

* Includes inert waste

Calculate Emission Factor

$$E = k (0.0032) (U/5)^{1.3} / (M/2)^{1.4}$$

(From AP-42, Section 13.2.4.3, Equation 1)

Where:

k = particle size multiplier

0.053 $PM_{2.5}$

0.35 PM_{10}

0.74 TSP

U = mean wind speed (mph)

10 mph

M = material moisture content (%)

12.00 %

E = emissions factor (lbs/ton)

3.40E-05 lbs/ton ($PM_{2.5}$)

2.24E-04 lbs/ton (PM_{10})

4.75E-04 lbs/ton (TSP)

Total Emissions From Cover Operations

Pollutant	Total Cover Used (tons)	Emission Factor (lb/ton)	Control Efficiency (%)	Actual Emissions (tons/yr)
$PM_{2.5}$	109,987	3.40E-05	50%	0.0009
PM_{10}	109,987	2.24E-04	50%	0.0062
TSP	109,987	4.75E-04	50%	0.0130

ATTACHMENT 6.3
UNCONTROLLED & CONTROLLED EMISSIONS
EMISSION UNITS 3 – LANDFILL GAS

**VALENCIA COUNTY REGIONAL LANDFILL
2024 PERMIT RENEWAL APPLICATION
LANDFILL GAS EMISSIONS**

Emission Sources:

Emission Unit 3 - Landfill Gas Surface Emissions

Pollutant	Pollutant Code	Molecular Weight (g/Mol)	Average Concentration Found In LFG (ppmv) (1)	Estimated Actual Emissions			
				LFG Generation (tons/yr) (2)	Non-Fugitive Emissions from Landfill (tons/yr) (3)	Fugitive Emissions from Landfill (tons/yr) (4)	Total LFG Surface Emissions
Hazardous Air Pollutants (HAPs) (1)							
1,1,1-Trichloroethane (methyl chloroform)	71556	133.41	0.48	0.014	0.010	0.003	0.014
1,1,2,2-Tetrachloroethane	79345	167.85	1.10	0.040	0.030	0.010	0.040
1,1-Dichloroethane (ethylidene dichloride)	75343	98.97	2.40	0.051	0.038	0.013	0.051
1,1-Dichloroethene (vinylidene chloride)	75354	96.94	0.20	0.004	0.003	0.001	0.004
1,2-Dichloroethane (ethylene dichloride)	107062	98.96	0.41	0.009	0.007	0.002	0.009
1,2-Dichloropropane (propylene dichloride)	78875	112.99	0.18	0.004	0.003	1.09E-03	0.004
Acrylonitrile	107131	53.06	6.30	0.072	0.054	0.018	7.20E-02
Benzene	71432	78.11	11.00	0.185	0.139	0.046	0.185
Carbon disulfide	75150	76.13	0.58	0.010	0.007	0.002	0.010
Carbon tetrachloride	56235	153.84	0.00	0.000	0.000	3.31E-05	1.33E-04
Carbonyl sulfide	463581	60.07	0.49	0.006	0.005	0.0016	0.006
Chlorobenzene	108907	112.56	0.25	0.006	0.005	0.002	0.006
Chloroethane (ethyl chloride)	75003	64.52	1.30	0.018	0.014	0.005	0.018
Chloroform	67663	119.39	0.03	0.001	0.001	1.93E-04	0.001
Chloromethane (methyl chloride)	74873	50.49	1.20	0.013	0.010	0.003	0.013
Dichlorobenzene (1,4-Dichlorobenzene)	106467	147.00	0.21	0.007	0.005	0.002	0.007
Dichloromethane (Methylene Chloride)	75092	84.94	14.00	0.256	0.192	0.064	0.256
Ethylbenzene	100414	106.16	4.60	0.105	0.079	0.026	0.105
Ethylene dibromide (1,2-Dibromoethane)	106934	187.88	0.00	0.000	0.000	0.000	0.000
Hexane	110543	86.18	6.60	0.122	0.092	0.031	0.122
Mercury (total)*	7439976	200.61	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	78933	72.11	7.10	0.110	0.083	0.028	0.110
Methyl isobutyl ketone	108101	100.16	1.90	0.041	0.031	0.010	0.041
Perchloroethylene (tetrachloroethylene)	127184	165.83	3.70	0.132	0.099	0.033	0.132
Toluene	108883	92.13	170.00	3.373	2.529	0.843	3.373
Trichloroethylene (trichloroethene)	79016	131.40	2.80	0.079	0.059	0.020	0.079
Vinyl chloride	75014	62.50	7.30	0.098	0.074	0.025	0.098
Xylenes	1330207	106.16	12.00	0.274	0.206	0.069	0.274
Total HAPs				5.031	3.773	1.258	5.031
Criteria Air Pollutants							
VOCs (5)		86.18	273	5.07	3.81	1.27	5.07
Other Regulated Air Pollutants							
Methane (7) (Mg)		16.04	--	1,589	1191.75	397.25	1589.00
Carbon Dioxide (7) (Mg)		44.01	--	4,359	3,269.25	1,089.75	4,359.00
NMOCs as Hexane (6)		86.18	701	11.97	8.98	2.99	11.97

**VALENCIA COUNTY REGIONAL LANDFILL
2024 PERMIT RENEWAL APPLICATION
LANDFILL GAS EMISSIONS**

NOTES:

- (1) Listed Hazardous Air Pollutants (HAPs) are among compounds commonly found in landfill gas (LFG), as presented in AP-42, Tables 2.4-1 and 2.4-2
- (2) Based on average concentrations of compounds found in LFG, and an estimated current LFG generation of **320** scfm, based on USEPA's LandGEM estimates using region-specific k ($=0.020$) and L_0 ($= 100 \text{ m}^3/\text{Mg}$) input parameters recommended in AP-42 (p. 2.4-4).
- (3) Portion of generated LFG that is assumed to be collectable per AP-42 (75%) allowed for sites without gas collection systems to differentiate fugitive and non-fugitive.
- (4) LFG that is not considered collectable.
- (5) According to AP-42, Table 2.4-2, Note C, VOC content at MSW sites with unknown concentrations equals 39% by weight of total NMOC concentration.
- (6) Site specific NMOC concentration was determined during the 2020 Tier II test.
- (7) Taken from GHG calculations per LandGEM and are in metric tons/year.

MODEL INPUT VARIABLES

Estimated Methane Content of LFG	50%
Collectable LFG (4)	75% based on EPA AP-42 estimated collection efficiency achievable
Landfill Gas Generation Rate	320 scfm (at 50% methane) based on U.S. EPA's LANDGEM 3.02 and region-specific inputs.

EXAMPLE CALCULATIONS

(HAPs, VOCs, NMOCs)

Landfill Gas Generation Rate (scfm) = (Methane Generation From Landfill [m^3/yr]) * (1/Estimated Methane Content of Landfill) * (35.3147 cf/m^3) / (525,600 min/year)

LFG Generation (tons/year) = (Molecular Weight of Compound [g/mol]) * (Concentration of Compound [ppm] / 1,000,000) * (LFG Generation Rate (scfm)) * (525,600 min/yr) * (1ton / 2,000lb)

Non-Fugitive Emissions from Landfill = LFG Generation (tons/year) * Collectable LFG (75%)

Fugitive Emissions From Landfill = (LFG Generation (tons/year)) - (Non-Fugitive LFG (tons/year))

Total LFG Emissions From Flare and Landfill = (Fugitive Emissions From Landfill) + (Non-Fugitive Emissions from Landfill).

**VALENCIA COUNTY REGIONAL LANDFILL
2024 PERMIT RENEWAL APPLICATION
DISPOSAL HISTORY (DEGRADEABLE WASTE)**

Year	Disposal Rate (tons/yr)	Refuse In-Place (tons)	Disposal Rate (Mg/yr)	Refuse In-Place (Mg)
1988	8,096	0	7,367	0
1989	8,096	8,096	7,367	7,367
1990	8,096	16,192	7,367	14,735
1991	8,096	24,288	7,367	22,102
1992	8,096	32,384	7,367	29,469
1993	8,096	40,480	7,367	36,837
1994	2,694	48,576	2,452	44,204
1995	19,165	51,270	17,440	46,656
1996	26,780	70,435	24,370	64,096
1997	50,943	97,215	46,358	88,466
1998	47,151	148,158	42,907	134,824
1999	12,714	195,309	11,570	177,731
2000	7,650	208,023	6,962	189,301
2001	42,153	215,673	38,359	196,262
2002	5,940	257,826	5,405	234,622
2003	13,755	263,766	12,517	240,027
2004	24,147	277,521	21,974	252,544
2005	10,662	301,668	9,702	274,518
2006	7,895	312,330	7,184	284,220
2007	35,546	320,225	32,347	291,405
2008	56,531	355,771	51,443	323,752
2009	63,323	412,302	57,624	375,195
2010	73,384	475,625	66,779	432,819
2011	85,832	549,009	78,107	499,598
2012	93,427	634,841	85,019	577,705
2013	66,738	728,268	60,732	662,724
2014	66,380	795,006	60,406	723,455
2015	83,342	861,386	75,841	783,861
2016	40,034	944,728	36,431	859,702
2017	39,287	984,762	35,751	896,133
2018	36,990	1,024,049	33,661	931,885
2019	42,014	1,061,039	38,233	965,545
2020	23,134	1,103,053	21,052	1,003,778
2021	31,730	1,126,187	28,874	1,024,830
2022	14,847	1,157,917	13,511	1,053,704
2023	11,140	1,172,764	10,137	1,067,215
2024*	83,342	1,183,903	75,841	1,077,352
2025*	85,842	1,267,245	78,116	1,153,193
2026*	88,417	1,353,087	80,459	1,231,310
2027*	91,070	1,441,504	82,874	1,311,769
2028*	93,802	1,532,574	85,360	1,394,643
2029*	96,616	1,626,376	87,921	1,480,003
2030*	99,514	1,722,992	90,558	1,567,923

* Waste deposit based on 10 year maximum and a 3% growth



Summary Report

Landfill Name or Identifier: Valencia Regional Landfill

Date: Thursday, July 11, 2024

Description/Comments:

2024 Title V Permit Renewal. Historical inputs from 2020 Site Specific Tier II Test and NMOC Report. Waste acceptance excludes inert waste.

About LandGEM:

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^n \sum_{j=0.1}^1 k L_o \left(\frac{M_i}{10} \right) e^{-k t_{ij}}$$

Where,

Q_{CH_4} = annual methane generation in the year of the calculation ($m^3/year$)

i = 1-year time increment

n = (year of the calculation) - (initial year of waste acceptance)

j = 0.1-year time increment

k = methane generation rate ($year^{-1}$)

L_o = potential methane generation capacity (m^3/Mg)

M_i = mass of waste accepted in the i^{th} year (Mg)

t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year (decimal years, e.g., 3.2 years)

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at <http://www.epa.gov/ttnatw01/landfill/landflpg.html>.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for conventional landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review**LANDFILL CHARACTERISTICS**

Landfill Open Year	1988	
Landfill Closure Year (with 80-year limit)	2030	
Actual Closure Year (without limit)	2030	
Have Model Calculate Closure Year?	No	
Waste Design Capacity		megagrams

MODEL PARAMETERS

Methane Generation Rate, k	0.020	year ⁻¹
Potential Methane Generation Capacity, L ₀	100	m ³ /Mg
NMOC Concentration	701	ppmv as hexane
Methane Content	50	% by volume

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	Total landfill gas
Gas / Pollutant #2:	Methane
Gas / Pollutant #3:	Carbon dioxide
Gas / Pollutant #4:	Toluene - Co-disposal - HAP/VOC

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
1988	7,360	8,096	0	0
1989	7,360	8,096	7,360	8,096
1990	7,360	8,096	14,720	16,192
1991	7,360	8,096	22,080	24,288
1992	7,360	8,096	29,440	32,384
1993	7,360	8,096	36,800	40,480
1994	2,449	2,694	44,160	48,576
1995	17,423	19,165	46,609	51,270
1996	24,345	26,780	64,032	70,435
1997	46,312	50,943	88,377	97,215
1998	42,865	47,151	134,689	148,158
1999	11,558	12,714	177,554	195,309
2000	6,955	7,650	189,112	208,023
2001	38,321	42,153	196,066	215,673
2002	5,400	5,940	234,387	257,826
2003	12,505	13,755	239,787	263,766
2004	21,952	24,147	252,292	277,521
2005	9,693	10,662	274,244	301,668
2006	7,177	7,895	283,936	312,330
2007	32,315	35,546	291,114	320,225
2008	51,392	56,531	323,428	355,771
2009	57,566	63,323	374,820	412,302
2010	66,713	73,384	432,386	475,625
2011	78,029	85,832	499,099	549,009
2012	84,934	93,427	577,128	634,841
2013	60,671	66,738	662,062	728,268
2014	60,345	66,380	722,733	795,006
2015	75,765	83,342	783,078	861,386
2016	36,395	40,034	858,844	944,728
2017	35,715	39,287	895,238	984,762
2018	33,627	36,990	930,954	1,024,049
2019	38,195	42,014	964,581	1,061,039
2020	21,031	23,134	1,002,775	1,103,053
2021	28,845	31,730	1,023,806	1,126,187
2022	13,497	14,847	1,052,652	1,157,917
2023	10,127	11,140	1,066,149	1,172,764
2024	75,765	83,342	1,076,276	1,183,904
2025	78,038	85,842	1,152,042	1,267,246
2026	80,379	88,417	1,230,080	1,353,088
2027	82,791	91,070	1,310,459	1,441,505

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
2028	85,275	93,802	1,393,250	1,532,575
2029	87,833	96,616	1,478,524	1,626,377
2030	90,467	99,514	1,566,357	1,722,993
2031	0	0	1,656,824	1,822,507
2032	0	0	1,656,824	1,822,507
2033	0	0	1,656,824	1,822,507
2034	0	0	1,656,824	1,822,507
2035	0	0	1,656,824	1,822,507
2036	0	0	1,656,824	1,822,507
2037	0	0	1,656,824	1,822,507
2038	0	0	1,656,824	1,822,507
2039	0	0	1,656,824	1,822,507
2040	0	0	1,656,824	1,822,507
2041	0	0	1,656,824	1,822,507
2042	0	0	1,656,824	1,822,507
2043	0	0	1,656,824	1,822,507
2044	0	0	1,656,824	1,822,507
2045	0	0	1,656,824	1,822,507
2046	0	0	1,656,824	1,822,507
2047	0	0	1,656,824	1,822,507
2048	0	0	1,656,824	1,822,507
2049	0	0	1,656,824	1,822,507
2050	0	0	1,656,824	1,822,507
2051	0	0	1,656,824	1,822,507
2052	0	0	1,656,824	1,822,507
2053	0	0	1,656,824	1,822,507
2054	0	0	1,656,824	1,822,507
2055	0	0	1,656,824	1,822,507
2056	0	0	1,656,824	1,822,507
2057	0	0	1,656,824	1,822,507
2058	0	0	1,656,824	1,822,507
2059	0	0	1,656,824	1,822,507
2060	0	0	1,656,824	1,822,507
2061	0	0	1,656,824	1,822,507
2062	0	0	1,656,824	1,822,507
2063	0	0	1,656,824	1,822,507
2064	0	0	1,656,824	1,822,507
2065	0	0	1,656,824	1,822,507
2066	0	0	1,656,824	1,822,507
2067	0	0	1,656,824	1,822,507

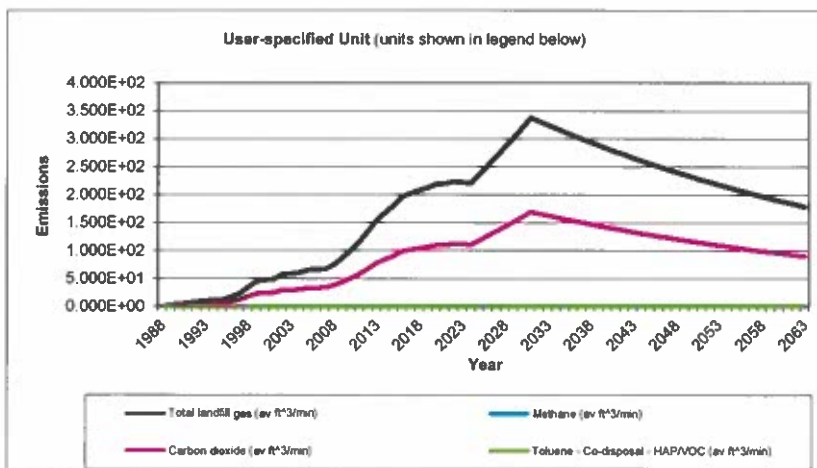
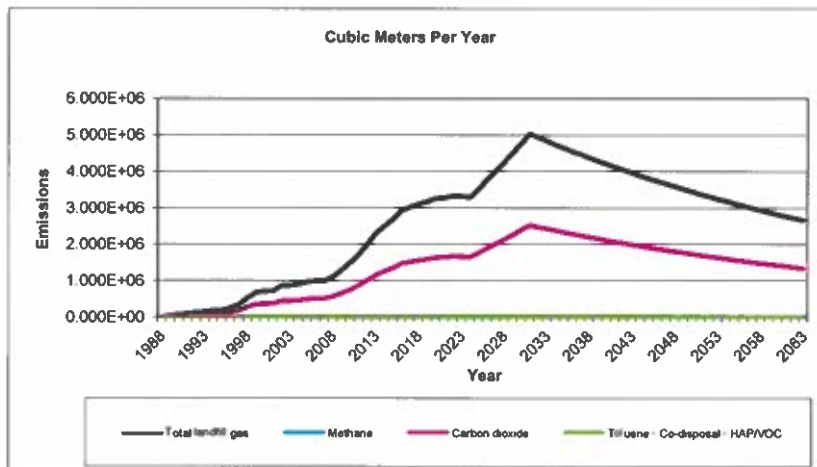
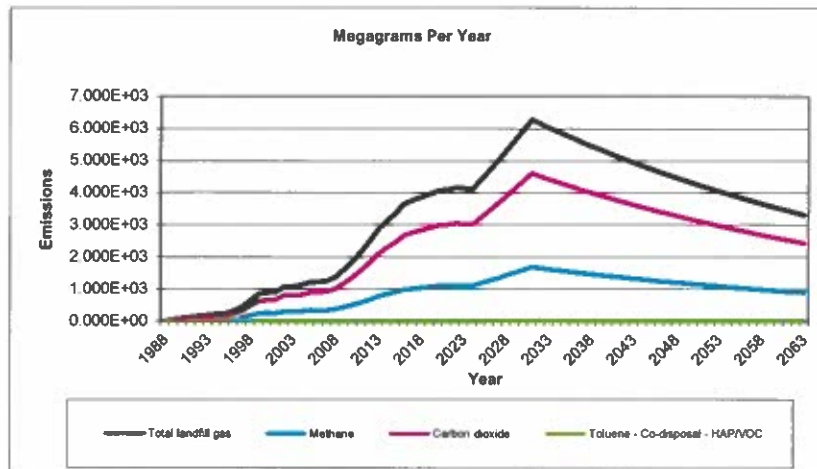
Pollutant Parameters

Gas / Pollutant Default Parameters:				User-specified Pollutant Parameters:	
	Compound	Concentration (ppmv)	Molecular Weight	Concentration (ppmv)	Molecular Weight
Gases	Total landfill gas		0.00		
	Methane		16.04		
	Carbon dioxide		44.01		
	NMOC	4,000	86.18		
Pollutants	1,1,1-Trichloroethane (methyl chloroform) - HAP	0.48	133.41		
	1,1,2,2- Tetrachloroethane - HAP/VOC	1.1	167.85		
	1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.4	98.97		
	1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	0.20	96.94		
	1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	0.41	98.96		
	1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.18	112.99		
	2-Propanol (isopropyl alcohol) - VOC	50	60.11		
	Acetone	7.0	58.08		
	Acrylonitrile - HAP/VOC	6.3	53.06		
	Benzene - No or Unknown Co-disposal - HAP/VOC	1.9	78.11		
	Benzene - Co-disposal - HAP/VOC	11	78.11		
	Bromodichloromethane - VOC	3.1	163.83		
	Butane - VOC	5.0	58.12		
	Carbon disulfide - HAP/VOC	0.58	76.13		
	Carbon monoxide	140	28.01		
	Carbon tetrachloride - HAP/VOC	4.0E-03	153.84		
	Carbonyl sulfide - HAP/VOC	0.49	60.07		
	Chlorobenzene - HAP/VOC	0.25	112.56		
	Chlorodifluoromethane	1.3	86.47		
	Chloroethane (ethyl chloride) - HAP/VOC	1.3	64.52		
	Chloroform - HAP/VOC	0.03	119.39		
	Chloromethane - VOC	1.2	50.49		
	Dichlorobenzene - (HAP for para isomer/VOC)	0.21	147		
	Dichlorodifluoromethane	16	120.91		
	Dichlorofluoromethane - VOC	2.6	102.92		
	Dichloromethane (methylene chloride) - HAP	14	84.94		
	Dimethyl sulfide (methyl sulfide) - VOC	7.8	62.13		
	Ethane	890	30.07		
	Ethanol - VOC	27	46.08		

Pollutant Parameters (Continued)

Gas / Pollutant Default Parameters:				User-specified Pollutant Parameters:	
	Compound	Concentration (ppmv)	Molecular Weight	Concentration (ppmv)	Molecular Weight
Pollutants	Ethyl mercaptan (ethanethiol) - VOC	2.3	62.13		
	Ethylbenzene - HAP/VOC	4.6	106.16		
	Ethylene dibromide - HAP/VOC	1.0E-03	187.88		
	Fluorotrichloromethane - VOC	0.76	137.38		
	Hexane - HAP/VOC	6.6	86.18		
	Hydrogen sulfide	36	34.08		
	Mercury (total) - HAP	2.9E-04	200.61		
	Methyl ethyl ketone - HAP/VOC	7.1	72.11		
	Methyl isobutyl ketone - HAP/VOC	1.9	100.16		
	Methyl mercaptan - VOC	2.5	48.11		
	Pentane - VOC	3.3	72.15		
	Perchloroethylene (tetrachloroethylene) - HAP	3.7	165.83		
	Propane - VOC	11	44.09		
	t-1,2-Dichloroethene - VOC	2.8	96.94		
	Toluene - No or Unknown Co-disposal - HAP/VOC	39	92.13		
	Toluene - Co-disposal - HAP/VOC	170	92.13		
	Trichloroethylene (trichloroethene) - HAP/VOC	2.8	131.40		
	Vinyl chloride - HAP/VOC	7.3	62.50		
	Xylenes - HAP/VOC	12	106.16		

Graphs



Results

Year	Total landfill gas			Methane		
	(Mg/year)	(m ³ /year)	(av ft ³ /min)	(Mg/year)	(m ³ /year)	(av ft ³ /min)
1988	0	0	0	0	0	0
1989	3.644E+01	2.918E+04	1.960E+00	9.733E+00	1.459E+04	9.802E-01
1990	7.215E+01	5.778E+04	3.882E+00	1.927E+01	2.889E+04	1.941E+00
1991	1.072E+02	8.581E+04	5.765E+00	2.862E+01	4.290E+04	2.883E+00
1992	1.415E+02	1.133E+05	7.612E+00	3.779E+01	5.664E+04	3.806E+00
1993	1.751E+02	1.402E+05	9.421E+00	4.677E+01	7.011E+04	4.711E+00
1994	2.081E+02	1.666E+05	1.120E+01	5.558E+01	8.331E+04	5.598E+00
1995	2.161E+02	1.730E+05	1.163E+01	5.772E+01	8.651E+04	5.813E+00
1996	2.981E+02	2.387E+05	1.604E+01	7.961E+01	1.193E+05	8.018E+00
1997	4.127E+02	3.305E+05	2.220E+01	1.102E+02	1.652E+05	1.110E+01
1998	6.338E+02	5.075E+05	3.410E+01	1.693E+02	2.538E+05	1.705E+01
1999	8.334E+02	6.674E+05	4.484E+01	2.226E+02	3.337E+05	2.242E+01
2000	8.742E+02	7.000E+05	4.703E+01	2.335E+02	3.500E+05	2.352E+01
2001	8.913E+02	7.137E+05	4.795E+01	2.381E+02	3.568E+05	2.398E+01
2002	1.063E+03	8.515E+05	5.721E+01	2.840E+02	4.257E+05	2.861E+01
2003	1.069E+03	8.560E+05	5.752E+01	2.855E+02	4.280E+05	2.876E+01
2004	1.110E+03	8.886E+05	5.971E+01	2.964E+02	4.443E+05	2.985E+01
2005	1.196E+03	9.581E+05	6.437E+01	3.196E+02	4.790E+05	3.219E+01
2006	1.221E+03	9.775E+05	6.568E+01	3.261E+02	4.888E+05	3.284E+01
2007	1.232E+03	9.866E+05	6.629E+01	3.291E+02	4.933E+05	3.315E+01
2008	1.368E+03	1.095E+06	7.359E+01	3.653E+02	5.476E+05	3.679E+01
2009	1.595E+03	1.277E+06	8.582E+01	4.260E+02	6.386E+05	4.291E+01
2010	1.848E+03	1.480E+06	9.945E+01	4.937E+02	7.401E+05	4.973E+01
2011	2.142E+03	1.715E+06	1.153E+02	5.722E+02	8.576E+05	5.763E+01
2012	2.486E+03	1.991E+06	1.338E+02	6.640E+02	9.953E+05	6.688E+01
2013	2.857E+03	2.288E+06	1.537E+02	7.632E+02	1.144E+06	7.686E+01
2014	3.101E+03	2.483E+06	1.668E+02	8.283E+02	1.242E+06	8.342E+01
2015	3.338E+03	2.673E+06	1.796E+02	8.917E+02	1.337E+06	8.981E+01
2016	3.647E+03	2.921E+06	1.962E+02	9.742E+02	1.460E+06	9.812E+01
2017	3.755E+03	3.007E+06	2.020E+02	1.003E+03	1.504E+06	1.010E+02
2018	3.858E+03	3.089E+06	2.076E+02	1.030E+03	1.545E+06	1.038E+02
2019	3.948E+03	3.161E+06	2.124E+02	1.055E+03	1.581E+06	1.062E+02
2020	4.059E+03	3.250E+06	2.184E+02	1.084E+03	1.625E+06	1.092E+02
2021	4.082E+03	3.269E+06	2.196E+02	1.090E+03	1.635E+06	1.098E+02
2022	4.144E+03	3.319E+06	2.230E+02	1.107E+03	1.659E+06	1.115E+02
2023	4.129E+03	3.306E+06	2.222E+02	1.103E+03	1.653E+06	1.111E+02
2024	4.098E+03	3.281E+06	2.205E+02	1.095E+03	1.641E+06	1.102E+02
2025	4.392E+03	3.517E+06	2.363E+02	1.173E+03	1.758E+06	1.181E+02
2026	4.691E+03	3.756E+06	2.524E+02	1.253E+03	1.878E+06	1.262E+02
2027	4.996E+03	4.001E+06	2.688E+02	1.334E+03	2.000E+06	1.344E+02
2028	5.307E+03	4.250E+06	2.855E+02	1.418E+03	2.125E+06	1.428E+02
2029	5.624E+03	4.503E+06	3.026E+02	1.502E+03	2.252E+06	1.513E+02
2030	5.947E+03	4.762E+06	3.200E+02	1.589E+03	2.381E+06	1.600E+02
2031	6.278E+03	5.027E+06	3.377E+02	1.677E+03	2.513E+06	1.689E+02
2032	6.153E+03	4.927E+06	3.311E+02	1.644E+03	2.464E+06	1.655E+02
2033	6.031E+03	4.830E+06	3.245E+02	1.611E+03	2.415E+06	1.623E+02
2034	5.912E+03	4.734E+06	3.181E+02	1.579E+03	2.367E+06	1.590E+02
2035	5.795E+03	4.640E+06	3.118E+02	1.548E+03	2.320E+06	1.559E+02
2036	5.680E+03	4.548E+06	3.056E+02	1.517E+03	2.274E+06	1.528E+02
2037	5.568E+03	4.458E+06	2.996E+02	1.487E+03	2.229E+06	1.498E+02

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m ³ /year)	(av ft ³ /min)	(Mg/year)	(m ³ /year)	(av ft ³ /min)
2038	5.457E+03	4.370E+06	2.936E+02	1.458E+03	2.185E+06	1.468E+02
2039	5.349E+03	4.284E+06	2.878E+02	1.429E+03	2.142E+06	1.439E+02
2040	5.243E+03	4.199E+06	2.821E+02	1.401E+03	2.099E+06	1.411E+02
2041	5.140E+03	4.116E+06	2.765E+02	1.373E+03	2.058E+06	1.383E+02
2042	5.038E+03	4.034E+06	2.710E+02	1.346E+03	2.017E+06	1.355E+02
2043	4.938E+03	3.954E+06	2.657E+02	1.319E+03	1.977E+06	1.328E+02
2044	4.840E+03	3.876E+06	2.604E+02	1.293E+03	1.938E+06	1.302E+02
2045	4.744E+03	3.799E+06	2.553E+02	1.267E+03	1.900E+06	1.276E+02
2046	4.651E+03	3.724E+06	2.502E+02	1.242E+03	1.862E+06	1.251E+02
2047	4.558E+03	3.650E+06	2.453E+02	1.218E+03	1.825E+06	1.226E+02
2048	4.468E+03	3.578E+06	2.404E+02	1.193E+03	1.789E+06	1.202E+02
2049	4.380E+03	3.507E+06	2.356E+02	1.170E+03	1.754E+06	1.178E+02
2050	4.293E+03	3.438E+06	2.310E+02	1.147E+03	1.719E+06	1.155E+02
2051	4.208E+03	3.370E+06	2.264E+02	1.124E+03	1.685E+06	1.132E+02
2052	4.125E+03	3.303E+06	2.219E+02	1.102E+03	1.651E+06	1.110E+02
2053	4.043E+03	3.237E+06	2.175E+02	1.080E+03	1.619E+06	1.088E+02
2054	3.963E+03	3.173E+06	2.132E+02	1.059E+03	1.587E+06	1.066E+02
2055	3.884E+03	3.110E+06	2.090E+02	1.038E+03	1.555E+06	1.045E+02
2056	3.808E+03	3.049E+06	2.049E+02	1.017E+03	1.524E+06	1.024E+02
2057	3.732E+03	2.989E+06	2.008E+02	9.969E+02	1.494E+06	1.004E+02
2058	3.658E+03	2.929E+06	1.968E+02	9.772E+02	1.465E+06	9.841E+01
2059	3.586E+03	2.871E+06	1.929E+02	9.578E+02	1.436E+06	9.646E+01
2060	3.515E+03	2.814E+06	1.891E+02	9.388E+02	1.407E+06	9.455E+01
2061	3.445E+03	2.759E+06	1.854E+02	9.202E+02	1.379E+06	9.268E+01
2062	3.377E+03	2.704E+06	1.817E+02	9.020E+02	1.352E+06	9.084E+01
2063	3.310E+03	2.651E+06	1.781E+02	8.842E+02	1.325E+06	8.905E+01
2064	3.245E+03	2.598E+06	1.746E+02	8.667E+02	1.299E+06	8.728E+01
2065	3.180E+03	2.547E+06	1.711E+02	8.495E+02	1.273E+06	8.555E+01
2066	3.117E+03	2.496E+06	1.677E+02	8.327E+02	1.248E+06	8.386E+01
2067	3.056E+03	2.447E+06	1.644E+02	8.162E+02	1.223E+06	8.220E+01
2068	2.995E+03	2.398E+06	1.611E+02	8.000E+02	1.199E+06	8.057E+01
2069	2.936E+03	2.351E+06	1.580E+02	7.842E+02	1.175E+06	7.898E+01
2070	2.878E+03	2.304E+06	1.548E+02	7.687E+02	1.152E+06	7.741E+01
2071	2.821E+03	2.259E+06	1.518E+02	7.534E+02	1.129E+06	7.588E+01
2072	2.765E+03	2.214E+06	1.488E+02	7.385E+02	1.107E+06	7.438E+01
2073	2.710E+03	2.170E+06	1.458E+02	7.239E+02	1.085E+06	7.290E+01
2074	2.656E+03	2.127E+06	1.429E+02	7.096E+02	1.064E+06	7.146E+01
2075	2.604E+03	2.085E+06	1.401E+02	6.955E+02	1.043E+06	7.005E+01
2076	2.552E+03	2.044E+06	1.373E+02	6.817E+02	1.022E+06	6.866E+01
2077	2.502E+03	2.003E+06	1.346E+02	6.682E+02	1.002E+06	6.730E+01
2078	2.452E+03	1.964E+06	1.319E+02	6.550E+02	9.818E+05	6.597E+01
2079	2.404E+03	1.925E+06	1.293E+02	6.420E+02	9.624E+05	6.466E+01
2080	2.356E+03	1.887E+06	1.268E+02	6.293E+02	9.433E+05	6.338E+01
2081	2.309E+03	1.849E+06	1.243E+02	6.169E+02	9.246E+05	6.213E+01
2082	2.264E+03	1.813E+06	1.218E+02	6.046E+02	9.063E+05	6.089E+01
2083	2.219E+03	1.777E+06	1.194E+02	5.927E+02	8.884E+05	5.969E+01
2084	2.175E+03	1.742E+06	1.170E+02	5.809E+02	8.708E+05	5.851E+01
2085	2.132E+03	1.707E+06	1.147E+02	5.694E+02	8.535E+05	5.735E+01
2086	2.090E+03	1.673E+06	1.124E+02	5.582E+02	8.366E+05	5.621E+01
2087	2.048E+03	1.640E+06	1.102E+02	5.471E+02	8.201E+05	5.510E+01
2088	2.008E+03	1.608E+06	1.080E+02	5.363E+02	8.038E+05	5.401E+01

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m ³ /year)	(av ft ³ /min)	(Mg/year)	(m ³ /year)	(av ft ³ /min)
2089	1.968E+03	1.576E+06	1.059E+02	5.257E+02	7.879E+05	5.294E+01
2090	1.929E+03	1.545E+06	1.038E+02	5.152E+02	7.723E+05	5.189E+01
2091	1.891E+03	1.514E+06	1.017E+02	5.050E+02	7.570E+05	5.086E+01
2092	1.853E+03	1.484E+06	9.971E+01	4.950E+02	7.420E+05	4.986E+01
2093	1.817E+03	1.455E+06	9.774E+01	4.852E+02	7.273E+05	4.887E+01
2094	1.781E+03	1.426E+06	9.580E+01	4.756E+02	7.129E+05	4.790E+01
2095	1.745E+03	1.398E+06	9.391E+01	4.662E+02	6.988E+05	4.695E+01
2096	1.711E+03	1.370E+06	9.205E+01	4.570E+02	6.850E+05	4.602E+01
2097	1.677E+03	1.343E+06	9.022E+01	4.479E+02	6.714E+05	4.511E+01
2098	1.644E+03	1.316E+06	8.844E+01	4.391E+02	6.581E+05	4.422E+01
2099	1.611E+03	1.290E+06	8.669E+01	4.304E+02	6.451E+05	4.334E+01
2100	1.579E+03	1.265E+06	8.497E+01	4.218E+02	6.323E+05	4.248E+01
2101	1.548E+03	1.240E+06	8.329E+01	4.135E+02	6.198E+05	4.164E+01
2102	1.517E+03	1.215E+06	8.164E+01	4.053E+02	6.075E+05	4.082E+01
2103	1.487E+03	1.191E+06	8.002E+01	3.973E+02	5.955E+05	4.001E+01
2104	1.458E+03	1.167E+06	7.844E+01	3.894E+02	5.837E+05	3.922E+01
2105	1.429E+03	1.144E+06	7.688E+01	3.817E+02	5.721E+05	3.844E+01
2106	1.401E+03	1.122E+06	7.536E+01	3.741E+02	5.608E+05	3.768E+01
2107	1.373E+03	1.099E+06	7.387E+01	3.667E+02	5.497E+05	3.693E+01
2108	1.346E+03	1.078E+06	7.241E+01	3.595E+02	5.388E+05	3.620E+01
2109	1.319E+03	1.056E+06	7.097E+01	3.524E+02	5.282E+05	3.549E+01
2110	1.293E+03	1.035E+06	6.957E+01	3.454E+02	5.177E+05	3.478E+01
2111	1.267E+03	1.015E+06	6.819E+01	3.385E+02	5.074E+05	3.409E+01
2112	1.242E+03	9.948E+05	6.684E+01	3.318E+02	4.974E+05	3.342E+01
2113	1.218E+03	9.751E+05	6.552E+01	3.253E+02	4.875E+05	3.276E+01
2114	1.194E+03	9.558E+05	6.422E+01	3.188E+02	4.779E+05	3.211E+01
2115	1.170E+03	9.369E+05	6.295E+01	3.125E+02	4.684E+05	3.147E+01
2116	1.147E+03	9.183E+05	6.170E+01	3.063E+02	4.592E+05	3.085E+01
2117	1.124E+03	9.001E+05	6.048E+01	3.003E+02	4.501E+05	3.024E+01
2118	1.102E+03	8.823E+05	5.928E+01	2.943E+02	4.411E+05	2.964E+01
2119	1.080E+03	8.648E+05	5.811E+01	2.885E+02	4.324E+05	2.905E+01
2120	1.059E+03	8.477E+05	5.696E+01	2.828E+02	4.239E+05	2.848E+01
2121	1.038E+03	8.309E+05	5.583E+01	2.772E+02	4.155E+05	2.791E+01
2122	1.017E+03	8.145E+05	5.472E+01	2.717E+02	4.072E+05	2.736E+01
2123	9.970E+02	7.983E+05	5.364E+01	2.663E+02	3.992E+05	2.682E+01
2124	9.772E+02	7.825E+05	5.258E+01	2.610E+02	3.913E+05	2.629E+01
2125	9.579E+02	7.670E+05	5.154E+01	2.559E+02	3.835E+05	2.577E+01
2126	9.389E+02	7.518E+05	5.052E+01	2.508E+02	3.759E+05	2.526E+01
2127	9.203E+02	7.370E+05	4.952E+01	2.458E+02	3.685E+05	2.476E+01
2128	9.021E+02	7.224E+05	4.854E+01	2.410E+02	3.612E+05	2.427E+01

Results (Continued)

Year	Carbon dioxide			Toluene - Co-disposal - HAP/VOC		
	(Mg/year)	(m ³ /year)	(av ft ³ /min)	(Mg/year)	(m ³ /year)	(av ft ³ /min)
1988	0	0	0	0	0	0
1989	2.670E+01	1.459E+04	9.802E-01	1.901E-02	4.960E+00	3.333E-04
1990	5.288E+01	2.889E+04	1.941E+00	3.764E-02	9.822E+00	6.599E-04
1991	7.854E+01	4.290E+04	2.883E+00	5.590E-02	1.459E+01	9.801E-04
1992	1.037E+02	5.664E+04	3.806E+00	7.380E-02	1.926E+01	1.294E-03
1993	1.283E+02	7.011E+04	4.711E+00	9.134E-02	2.384E+01	1.602E-03
1994	1.525E+02	8.331E+04	5.598E+00	1.085E-01	2.833E+01	1.903E-03
1995	1.584E+02	8.651E+04	5.813E+00	1.127E-01	2.941E+01	1.976E-03
1996	2.184E+02	1.193E+05	8.018E+00	1.555E-01	4.057E+01	2.726E-03
1997	3.024E+02	1.652E+05	1.110E+01	2.153E-01	5.618E+01	3.775E-03
1998	4.645E+02	2.538E+05	1.705E+01	3.306E-01	8.628E+01	5.797E-03
1999	6.108E+02	3.337E+05	2.242E+01	4.348E-01	1.135E+02	7.623E-03
2000	6.407E+02	3.500E+05	2.352E+01	4.560E-01	1.190E+02	7.995E-03
2001	6.532E+02	3.568E+05	2.398E+01	4.649E-01	1.213E+02	8.152E-03
2002	7.793E+02	4.257E+05	2.861E+01	5.547E-01	1.448E+02	9.726E-03
2003	7.835E+02	4.280E+05	2.876E+01	5.576E-01	1.455E+02	9.778E-03
2004	8.133E+02	4.443E+05	2.985E+01	5.789E-01	1.511E+02	1.015E-02
2005	8.769E+02	4.790E+05	3.219E+01	6.241E-01	1.629E+02	1.094E-02
2006	8.947E+02	4.888E+05	3.284E+01	6.368E-01	1.662E+02	1.117E-02
2007	9.030E+02	4.933E+05	3.315E+01	6.427E-01	1.677E+02	1.127E-02
2008	1.002E+03	5.476E+05	3.679E+01	7.134E-01	1.862E+02	1.251E-02
2009	1.169E+03	6.386E+05	4.291E+01	8.320E-01	2.171E+02	1.459E-02
2010	1.355E+03	7.401E+05	4.973E+01	9.642E-01	2.516E+02	1.691E-02
2011	1.570E+03	8.576E+05	5.763E+01	1.117E+00	2.916E+02	1.959E-02
2012	1.822E+03	9.953E+05	6.688E+01	1.297E+00	3.384E+02	2.274E-02
2013	2.094E+03	1.144E+06	7.686E+01	1.490E+00	3.889E+02	2.613E-02
2014	2.273E+03	1.242E+06	8.342E+01	1.618E+00	4.221E+02	2.836E-02
2015	2.447E+03	1.337E+06	8.981E+01	1.741E+00	4.544E+02	3.053E-02
2016	2.673E+03	1.460E+06	9.812E+01	1.903E+00	4.965E+02	3.336E-02
2017	2.752E+03	1.504E+06	1.010E+02	1.959E+00	5.112E+02	3.435E-02
2018	2.827E+03	1.545E+06	1.038E+02	2.012E+00	5.251E+02	3.528E-02
2019	2.893E+03	1.581E+06	1.062E+02	2.059E+00	5.374E+02	3.611E-02
2020	2.975E+03	1.625E+06	1.092E+02	2.117E+00	5.525E+02	3.712E-02
2021	2.992E+03	1.635E+06	1.098E+02	2.130E+00	5.557E+02	3.734E-02
2022	3.037E+03	1.659E+06	1.115E+02	2.162E+00	5.642E+02	3.791E-02
2023	3.026E+03	1.653E+06	1.111E+02	2.154E+00	5.621E+02	3.777E-02
2024	3.003E+03	1.641E+06	1.102E+02	2.137E+00	5.578E+02	3.748E-02
2025	3.219E+03	1.758E+06	1.181E+02	2.291E+00	5.978E+02	4.017E-02
2026	3.438E+03	1.878E+06	1.262E+02	2.447E+00	6.386E+02	4.291E-02
2027	3.661E+03	2.000E+06	1.344E+02	2.606E+00	6.801E+02	4.570E-02
2028	3.889E+03	2.125E+06	1.428E+02	2.768E+00	7.224E+02	4.854E-02
2029	4.122E+03	2.252E+06	1.513E+02	2.934E+00	7.656E+02	5.144E-02
2030	4.359E+03	2.381E+06	1.600E+02	3.102E+00	8.096E+02	5.440E-02
2031	4.601E+03	2.513E+06	1.689E+02	3.275E+00	8.545E+02	5.742E-02
2032	4.510E+03	2.464E+06	1.655E+02	3.210E+00	8.376E+02	5.628E-02
2033	4.420E+03	2.415E+06	1.623E+02	3.146E+00	8.210E+02	5.517E-02
2034	4.333E+03	2.367E+06	1.590E+02	3.084E+00	8.048E+02	5.407E-02
2035	4.247E+03	2.320E+06	1.559E+02	3.023E+00	7.888E+02	5.300E-02
2036	4.163E+03	2.274E+06	1.528E+02	2.963E+00	7.732E+02	5.195E-02
2037	4.080E+03	2.229E+06	1.498E+02	2.904E+00	7.579E+02	5.092E-02

Results (Continued)

Year	Carbon dioxide			Toluene - Co-disposal - HAP/VOC		
	(Mg/year)	(m ³ /year)	(av ft ³ /min)	(Mg/year)	(m ³ /year)	(av ft ³ /min)
2038	4.000E+03	2.185E+06	1.468E+02	2.847E+00	7.429E+02	4.992E-02
2039	3.920E+03	2.142E+06	1.439E+02	2.790E+00	7.282E+02	4.893E-02
2040	3.843E+03	2.099E+06	1.411E+02	2.735E+00	7.138E+02	4.796E-02
2041	3.767E+03	2.058E+06	1.383E+02	2.681E+00	6.996E+02	4.701E-02
2042	3.692E+03	2.017E+06	1.355E+02	2.628E+00	6.858E+02	4.608E-02
2043	3.619E+03	1.977E+06	1.328E+02	2.576E+00	6.722E+02	4.517E-02
2044	3.547E+03	1.938E+06	1.302E+02	2.525E+00	6.589E+02	4.427E-02
2045	3.477E+03	1.900E+06	1.276E+02	2.475E+00	6.459E+02	4.339E-02
2046	3.408E+03	1.862E+06	1.251E+02	2.426E+00	6.331E+02	4.254E-02
2047	3.341E+03	1.825E+06	1.226E+02	2.378E+00	6.205E+02	4.169E-02
2048	3.275E+03	1.789E+06	1.202E+02	2.331E+00	6.082E+02	4.087E-02
2049	3.210E+03	1.754E+06	1.178E+02	2.285E+00	5.962E+02	4.006E-02
2050	3.146E+03	1.719E+06	1.155E+02	2.239E+00	5.844E+02	3.927E-02
2051	3.084E+03	1.685E+06	1.132E+02	2.195E+00	5.728E+02	3.849E-02
2052	3.023E+03	1.651E+06	1.110E+02	2.152E+00	5.615E+02	3.773E-02
2053	2.963E+03	1.619E+06	1.088E+02	2.109E+00	5.504E+02	3.698E-02
2054	2.904E+03	1.587E+06	1.066E+02	2.067E+00	5.395E+02	3.625E-02
2055	2.847E+03	1.555E+06	1.045E+02	2.026E+00	5.288E+02	3.553E-02
2056	2.790E+03	1.524E+06	1.024E+02	1.986E+00	5.183E+02	3.483E-02
2057	2.735E+03	1.494E+06	1.004E+02	1.947E+00	5.080E+02	3.414E-02
2058	2.681E+03	1.465E+06	9.841E+01	1.908E+00	4.980E+02	3.346E-02
2059	2.628E+03	1.436E+06	9.646E+01	1.870E+00	4.881E+02	3.280E-02
2060	2.576E+03	1.407E+06	9.455E+01	1.833E+00	4.785E+02	3.215E-02
2061	2.525E+03	1.379E+06	9.268E+01	1.797E+00	4.690E+02	3.151E-02
2062	2.475E+03	1.352E+06	9.084E+01	1.762E+00	4.597E+02	3.089E-02
2063	2.426E+03	1.325E+06	8.905E+01	1.727E+00	4.506E+02	3.028E-02
2064	2.378E+03	1.299E+06	8.728E+01	1.692E+00	4.417E+02	2.968E-02
2065	2.331E+03	1.273E+06	8.555E+01	1.659E+00	4.329E+02	2.909E-02
2066	2.285E+03	1.248E+06	8.386E+01	1.626E+00	4.244E+02	2.851E-02
2067	2.239E+03	1.223E+06	8.220E+01	1.594E+00	4.160E+02	2.795E-02
2068	2.195E+03	1.199E+06	8.057E+01	1.562E+00	4.077E+02	2.739E-02
2069	2.152E+03	1.175E+06	7.898E+01	1.531E+00	3.996E+02	2.685E-02
2070	2.109E+03	1.152E+06	7.741E+01	1.501E+00	3.917E+02	2.632E-02
2071	2.067E+03	1.129E+06	7.588E+01	1.471E+00	3.840E+02	2.580E-02
2072	2.026E+03	1.107E+06	7.438E+01	1.442E+00	3.764E+02	2.529E-02
2073	1.986E+03	1.085E+06	7.290E+01	1.414E+00	3.689E+02	2.479E-02
2074	1.947E+03	1.064E+06	7.146E+01	1.386E+00	3.616E+02	2.430E-02
2075	1.908E+03	1.043E+06	7.005E+01	1.358E+00	3.545E+02	2.382E-02
2076	1.871E+03	1.022E+06	6.866E+01	1.331E+00	3.474E+02	2.334E-02
2077	1.833E+03	1.002E+06	6.730E+01	1.305E+00	3.406E+02	2.288E-02
2078	1.797E+03	9.818E+05	6.597E+01	1.279E+00	3.338E+02	2.243E-02
2079	1.762E+03	9.624E+05	6.466E+01	1.254E+00	3.272E+02	2.198E-02
2080	1.727E+03	9.433E+05	6.338E+01	1.229E+00	3.207E+02	2.155E-02
2081	1.693E+03	9.246E+05	6.213E+01	1.205E+00	3.144E+02	2.112E-02
2082	1.659E+03	9.063E+05	6.089E+01	1.181E+00	3.081E+02	2.070E-02
2083	1.626E+03	8.884E+05	5.969E+01	1.157E+00	3.020E+02	2.029E-02
2084	1.594E+03	8.708E+05	5.851E+01	1.134E+00	2.961E+02	1.989E-02
2085	1.562E+03	8.535E+05	5.735E+01	1.112E+00	2.902E+02	1.950E-02
2086	1.531E+03	8.366E+05	5.621E+01	1.090E+00	2.845E+02	1.911E-02
2087	1.501E+03	8.201E+05	5.510E+01	1.068E+00	2.788E+02	1.873E-02
2088	1.471E+03	8.038E+05	5.401E+01	1.047E+00	2.733E+02	1.836E-02

Results (Continued)

Year	Carbon dioxide			Toluene - Co-disposal - HAP/VOC		
	(Mg/year)	(m ³ /year)	(av ft ³ /min)	(Mg/year)	(m ³ /year)	(av ft ³ /min)
2089	1.442E+03	7.879E+05	5.294E+01	1.027E+00	2.679E+02	1.800E-02
2090	1.414E+03	7.723E+05	5.189E+01	1.006E+00	2.626E+02	1.764E-02
2091	1.386E+03	7.570E+05	5.086E+01	9.863E-01	2.574E+02	1.729E-02
2092	1.358E+03	7.420E+05	4.986E+01	9.668E-01	2.523E+02	1.695E-02
2093	1.331E+03	7.273E+05	4.887E+01	9.476E-01	2.473E+02	1.662E-02
2094	1.305E+03	7.129E+05	4.790E+01	9.288E-01	2.424E+02	1.629E-02
2095	1.279E+03	6.988E+05	4.695E+01	9.105E-01	2.376E+02	1.596E-02
2096	1.254E+03	6.850E+05	4.602E+01	8.924E-01	2.329E+02	1.565E-02
2097	1.229E+03	6.714E+05	4.511E+01	8.748E-01	2.283E+02	1.534E-02
2098	1.205E+03	6.581E+05	4.422E+01	8.574E-01	2.238E+02	1.503E-02
2099	1.181E+03	6.451E+05	4.334E+01	8.405E-01	2.193E+02	1.474E-02
2100	1.157E+03	6.323E+05	4.248E+01	8.238E-01	2.150E+02	1.444E-02
2101	1.135E+03	6.198E+05	4.164E+01	8.075E-01	2.107E+02	1.416E-02
2102	1.112E+03	6.075E+05	4.082E+01	7.915E-01	2.066E+02	1.388E-02
2103	1.090E+03	5.955E+05	4.001E+01	7.758E-01	2.025E+02	1.360E-02
2104	1.068E+03	5.837E+05	3.922E+01	7.605E-01	1.985E+02	1.333E-02
2105	1.047E+03	5.721E+05	3.844E+01	7.454E-01	1.945E+02	1.307E-02
2106	1.027E+03	5.608E+05	3.768E+01	7.307E-01	1.907E+02	1.281E-02
2107	1.006E+03	5.497E+05	3.693E+01	7.162E-01	1.869E+02	1.256E-02
2108	9.863E+02	5.388E+05	3.620E+01	7.020E-01	1.832E+02	1.231E-02
2109	9.668E+02	5.282E+05	3.549E+01	6.881E-01	1.796E+02	1.207E-02
2110	9.476E+02	5.177E+05	3.478E+01	6.745E-01	1.760E+02	1.183E-02
2111	9.289E+02	5.074E+05	3.409E+01	6.611E-01	1.725E+02	1.159E-02
2112	9.105E+02	4.974E+05	3.342E+01	6.480E-01	1.691E+02	1.136E-02
2113	8.925E+02	4.875E+05	3.276E+01	6.352E-01	1.658E+02	1.114E-02
2114	8.748E+02	4.779E+05	3.211E+01	6.226E-01	1.625E+02	1.092E-02
2115	8.575E+02	4.684E+05	3.147E+01	6.103E-01	1.593E+02	1.070E-02
2116	8.405E+02	4.592E+05	3.085E+01	5.982E-01	1.561E+02	1.049E-02
2117	8.238E+02	4.501E+05	3.024E+01	5.864E-01	1.530E+02	1.028E-02
2118	8.075E+02	4.411E+05	2.964E+01	5.748E-01	1.500E+02	1.008E-02
2119	7.915E+02	4.324E+05	2.905E+01	5.634E-01	1.470E+02	9.878E-03
2120	7.759E+02	4.239E+05	2.848E+01	5.522E-01	1.441E+02	9.683E-03
2121	7.605E+02	4.155E+05	2.791E+01	5.413E-01	1.413E+02	9.491E-03
2122	7.454E+02	4.072E+05	2.736E+01	5.306E-01	1.385E+02	9.303E-03
2123	7.307E+02	3.992E+05	2.682E+01	5.201E-01	1.357E+02	9.119E-03
2124	7.162E+02	3.913E+05	2.629E+01	5.098E-01	1.330E+02	8.938E-03
2125	7.020E+02	3.835E+05	2.577E+01	4.997E-01	1.304E+02	8.761E-03
2126	6.881E+02	3.759E+05	2.526E+01	4.898E-01	1.278E+02	8.588E-03
2127	6.745E+02	3.685E+05	2.476E+01	4.801E-01	1.253E+02	8.418E-03
2128	6.611E+02	3.612E+05	2.427E+01	4.706E-01	1.228E+02	8.251E-03



New Mexico Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375



Version 1/1/2010

NMED USE ONLY	
DTS	
TEMPO	

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

NMED USE ONLY	
Staff	
Admin	

Submit to: Stacktest.aqb@state.nm.us

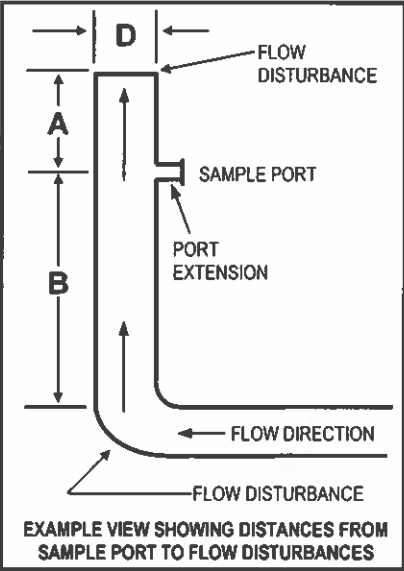
I. DATABASE HEADER INFORMATION (drop down menus in bold)			
a. At# 21664	Test Report		Periodic Test (EPA Method)
d. Company Name: Waste Management of New Mexico,		e. Facility Name: Valencia Landfill	
f. Emission Unit Numbers: N/A		g. Emission Unit Description (boiler, Waukesha 7042, etc) Landfill	
h. Reports - Tracking Number from notification response: CMT N/A		i. Proposed Test Date: 12/13/20	j. Actual test date: 12/13/20 - 12/14/20
k. Reason for test (name permit requirement, NSPS, MACT, consent decree, etc. Indicate here is this notification is a revised test date only) NSPS Cf Requirment - Landfill NMOC Tier 2 Sampling			

II. GENERAL COMPANY AND FACILITY INFORMATION					
a. Company Address: P.O. Box 15700			k. Facility Address: 40 Landfill Road		
b. City: Rio Rancho	c. State: NM	d. Zip: 8 7 1 7 4	l. City: Los Lunas	m. State: NM	n. Zip: 87031
e. Environmental Contact: Mark Franc		f. Title: Senior Engineer		o. Facility Contact: Doug Shimic	
g. Phone Number:		h. Cell Number: 801.726.7052		p. Title: District Manager	
i. Email Address: markfranc@wm.com		q. Phone Number: 505.433.6051		r. Cell Number: 505.206.0667	
j. Title V Permit Number: P247-L-R1		s. Email Address: dshimic@wm.com		t. NSR Permit Number:	
u. Detailed driving directions from nearest New Mexico town: From Los Lunas take NM-6 W for 17 miles					

III. TESTING FIRM		
a. Company: Vista GeoScience		g. Contact: Ted Stockwell
b. Address 1: 130 Capital Dr.		h. Title: Field Operations Manager
c. Address 2: Suite A	i. Office Phone: 303.277.1694	j. Cell Phone: 815.545.1117

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

d. City: Golden	e. State: CO	f. Zip: 80401	k. Email Address: tstockwell@vistageoscience.com
---------------------------	------------------------	-------------------------	--

IV. EMISSION UNIT			STACK PARAMETERS
a. Emission Unit Number: N/A	b. Make & Model Number N/A		m. Velocity (ft/sec):
c. Serial Number: N/A	d. Permitted Capacity: N/A		n. Temperature (°C):
e. Exceptions: Explain if test is late, rescheduled, related to an enforcement action: N/A			o. Stack Diameter, D (in.):
			p. Distance to Stack Bends or Obstructions: Upstream, Distance A (in.):
			Downstream, Distance B (in.):
g. Emission Unit Description and brief process name or description: N/A			 EXAMPLE VIEW SHOWING DISTANCES FROM SAMPLE PORT TO FLOW DISTURBANCES
h. Installation Date: N/A	i. Startup Date: N/A	k. Date Reached Max. Capacity: N/A	
l. Control Equipment Description as listed in permit (model, ser. # etc. if applicable): N/A			
Attach an explanation or drawing to explain any difficult or unusual stack geometry or parameters.			

V. POLLUTANTS AND PROPOSED TEST METHODS			
Pollutant or Parameter:	Proposed Test Methods (Deviations from approved methods require supporting documentation and prior authorization)		Deviation to Test Method Requested
☐ Portable Analyzer Methods for NO _x , CO, SO ₂			☐
☐ NO _x	EPA Method 7E		☐
☐ CO	EPA Method 10		☐
☐ SO ₂	EPA Method 6		☐
☐ VOCs	(Specify)		☐
☐ HAPs	(Specify)		☐
☐ PM (TSP)	EPA Method 5		☐
☐ PM ₁₀	EPA Method 201		☐
☐ PM _{2.5}	(Specify)		☐
☐ Opacity	EPA Method 9		☐
☐ Visual E.	EPA Method 22		☐
☐ Stack Flow	EPA Methods 1 - 3		☐
☐ Moisture	EPA Method 4		☐
☒ Other	(Specify) NMOC EPA Method 25C		☐
☒ Other	(Specify) Nitrogen & Oxygen EPA Method 3C		☐

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

List Specific VOC's and HAP's: **N/A**

VI. PROPOSED TEST RUN AND TEST LOAD INFORMATION

a. Number of Test Runs: N/A	b. Run Duration N/A	c. Required by (regulation or permit number): NSPS	d. Specific Condition or Section: Subpart Cf
PLEASE NOTE – Default run duration is 60 minutes, unless otherwise specified by an applicable regulation.			
e. Expected Load: N/A	f. Percent of Permitted Capacity: N/A	g. Is this an opacity test? Yes ☐ No ☒	h. If yes, no. of observation pts.:
i. If expected load during test is less than 90% of capacity, explain: N/A			
NOTE – Failure to test at 90-100% of permitted load will limit unit operation to 110% of tested load until a new initial compliance test is conducted.			
PLANT OR UNIT OPERATING PARAMETERS TO BE MONITORED			
j. List and explain the plant operating parameters that will be monitored and applicable permit conditions or regulatory standards. N/A			

VII. ADDITIONAL DETAILS (where applicable)

RATA and INSTRUMENTAL ANALYZER CALIBRATION PROCEDURES	
a. Do any of the methods you are proposing utilize instrumental analyzers (i.e.; EPA Methods 3A, 6C, 7E, 10, 18, 25/25A, 320 etc.)? If yes, briefly describe analyzer calibration procedures and/or calibration standard procedures. Enter the highest pollutant concentration expected and the proposed concentrations of calibration gases.	☐ Yes ☒ No
SAMPLING TRAIN LEAK CHECK PROCEDURES	
b. Do any of the methods you are proposing utilize the EPA Method 5 sampling train (i.e.; EPA Methods 1-4, 5, 17, 26/26A, 29, etc.)? If yes, briefly describe sampling train and pitot tube leak check procedures:	☐ Yes ☒ No
EPA METHOD 19 IN LIEU OF EPA METHODS 1-4	
c. Are you proposing to utilize EPA Method 19 in lieu of EPA Methods 1-4? If yes, explain why you believe this proposal is justified:	☐ Yes ☒ No
PLEASE NOTE – EPA Method 19 may be utilized in lieu of EPA Methods 1-4, subject to the approval of the Department. If you are proposing to utilize EPA Method 19 in lieu of EPA Methods 1-4, you MUST include a recent fuel gas heating value analysis as well as a recent fuel flow meter calibration certificate, preferably conducted on the day of the test, but no earlier than three months prior to the test date. If the analyses have been conducted prior to the test date, you MUST append the certificates to the protocol. If conducted on the day of the test, you MUST append the certificates to the final test report.	

**UNIVERSAL STACK TEST
NOTIFICATION, PROTOCOL AND
REPORT FORM**

VIII. ATTACHMENTS (as needed to support proposed test; check all that apply)	
NOTIFICATION/PROTOCOL ATTACHMENTS	
☐	Road Map Indicating Directions from Nearest New Mexico Town to Facility
☐	Schematic of process being tested showing emission points, sampling sites and stack cross-section
☐	Copy of proposed test methods (except for those promulgated test methods found in 40 CFR 51, 60, 61 and 63)
☐	Fuel Heating Value Analysis
☐	Fuel Flow Meter Calibration Certificate
☐	Other: _____
☐	Other: _____
TEST REPORT ATTACHMENTS	
☒	Section 2. Tables of Results
☒	Supporting Documents (Specify) Source Test Report
Retain Report Section 3 - Test Procedures, Data, Calculations, Appendices - 2 years NSR permits, 5 years TV	

IX. CERTIFICATION		
This document has been prepared under my supervision and is accurate and complete to the best of my knowledge. I understand that acceptance of this protocol does not waive the requirements of any permit or regulation. I understand that any procedural errors or omissions are the sole responsibility of the permit holder.		
Signature: 	Print Name and Title: Doug Shimic, District Manager	Date: 2/9/21
Responsible Official for Title V? ☒ Yes ☐ No (R.O signature not required for routine periodic testing)		



February 10, 2021

Via electronic transmission

New Mexico Environment Department
525 Camino de los Marques, Suite 1
Santa Fe, New Mexico 87505

Re: 2020 Tier 2 Non-Methane Organic Compound Emission Rate Report
Valencia Landfill
Operating Permit No. 9247-L-R1
AI No. 21664
Project No. 0086-733-50-00-03

To Whom It May Concern:

On behalf of our client, Waste Management of New Mexico, Inc., Weaver Consultants Group (WCG) is submitting the attached 2020 Tier 2 Non-Methane Organic Compound (NMOC) Emission Rate Report for the Valencia Landfill (VLF), located in Los Lunas, New Mexico.

VLF is an existing municipal solid waste (MSW) landfill, as defined in the New Source Performance Standards (NSPS) for MSW landfills located in 40 Code of Federal Regulations (CFR) Part 60, Subpart Cf. NSPS Cf requires facilities to test and submit a Tier 2 report containing the site-specific NMOC concentration every 5 years.

The Tier 2 test was performed from December 13, 2020 through December 14, 2020. The Tier 2 test was performed to determine the current site-specific concentration of NMOC for use in calculating the landfill's NMOC emission rate. Using the site-specific NMOC concentration of 700.64 parts per million by volume (ppmv) as hexane as determined by the Tier 2 test results, the United States Environmental Protection Agency's (EPA) Landfill Gas Emissions Model (LandGEM) was used to calculate the NMOC emission rate for the facility.

The Tier 2 results indicate that the NMOC emission rate is 14.11 megagrams/year (Mg/yr) for 2021 and will remain below the regulatory compliance limit of 34 Mg/yr for the next 5 years (through 2025). Per 40 CFR §60.35(f)(a)(3) of the NSPS, no further NMOC emissions estimating will be completed until the year 2025, unless the actual refuse acceptance rate exceeds the estimated value used in the calculations and the site exceeds 34 Mg/year.

A written response to this submittal is requested.

February 10, 2021

Page 2

If you should have any questions or comments regarding this letter, please do not hesitate to contact us.

Sincerely,
Weaver Consultants Group



Melissa Green
Senior Project Manager



John C. Briest, P.E.
Principal

Attachment

cc: Mark Franc, Waste Management of New Mexico, Inc. *(via email)*
Doug Shimic, Waste Management of New Mexico, Inc. *(via email)*



VALENCIA LANDFILL

2020 TIER 2 NON-METHANE ORGANIC COMPOUND EMISSION RATE REPORT

PREPARED FOR

WASTE MANAGEMENT OF NEW MEXICO, INC.

February 10, 2021

PREPARED BY



REPORT CERTIFICATION

Tier 2 NMOC Emission Rate Report
Valencia Landfill
Los Lunas, New Mexico

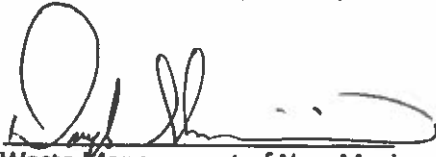
I have reviewed this document and agree that the information contained herein is true, accurate, and complete, to the best of my knowledge. The material and data in this report were prepared under the supervision and direction of the undersigned.



Vista GeoScience
Ted Stockwell
Test Team Leader



Weaver Consultants Group
Melissa Green
Project Manager/Report Preparation



Waste Management of New Mexico, Inc.
Doug Shimmic
Responsible Official

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APPENDICES

Appendix A	Field Data
Appendix B	Laboratory Results and Information
Appendix C	Tier 2 NMOC Emission Rate Calculations

1 INTRODUCTION

The New Source Performance Standards (NSPS), 40 Code of Federal Regulations (CFR) Part 60, Subpart Cf, require facilities to test and submit a Tier 2 report containing the site-specific non-methane organic compound (NMOC) concentration every 5 years. Weaver Consultants Group (WCG) conducted a Tier 2 NMOC test at the Valencia Landfill (VLF) from December 13, 2020 through December 14, 2020.

The Tier 2 test was performed to determine the current site-specific concentration of NMOCs for use in calculating the landfill's NMOC emission rate. The NMOC emission rate was estimated using the U.S. Environmental Protection Agency's (EPA) Landfill Gas Emissions Model (LandGEM) and the site-specific NMOC concentration of 700.64 ppmv as hexane as determined by the Tier 2 test results.

The Tier 2 results indicate that the NMOC emission rate is 14.11 megagrams/year (Mg/yr) for 2021 and will remain below the regulatory compliance limit of 34 Mg/yr for the next 5 years (through 2025). Per 40 CFR §60.35(f)(a)(3) of the NSPS, no further NMOC emissions estimating will be completed until the year 2025, unless the actual refuse acceptance rate exceeds the estimated value used in the calculations and the site exceeds 34 Mg/year.

This report includes a description of the field procedures used to collect the landfill gas (LFG) samples for laboratory analysis, the laboratory results, the completed Tier 2 NMOC emission rate calculations, and a discussion of the Tier 2 test results.

2 SAMPLING PROCEDURES

In accordance with NSPS requirements, two samples must be collected for every hectare of landfill in which refuse has been in place for more than 2 years, to a maximum of 50 samples. Approximately 32.3 acres (13.0 hectares) of landfill has had refuse in place for more than 2 years. As such, 26 LFG samples were required.

Field sampling involved using a direct-push sampling unit to push a sampling probe through the landfill surface, approximately 20 to 25 feet into the refuse. Once the probe was driven, a field technician purged the sampling apparatus and collected a LFG sample in a Summa[®] passivated canister, using the required methods. Once the sample was collected, the temporary sampling probe was removed. The sampling locations were determined according to field conditions.

During field sampling, a portable LFG monitoring instrument was used to field measure and record the concentrations of methane, carbon dioxide, oxygen, and balance gas (assumed to be nitrogen) in each LFG sample. The field data is provided in Appendix A.

Once the samples were collected, the canisters were sent by overnight delivery to Air Technology Laboratories for analysis. The canisters were analyzed using EPA Method 25C for the NMOC analysis, with the nitrogen and oxygen concentrations of each sample being determined by EPA Method 3C. A copy of the chain-of-custody form used during shipment of the canisters is included within Appendix B.

3 LABORATORY RESULTS

The analytical results for the Tier 2 testing are provided in Appendix B. Air Technology Laboratories used the equations in Section 12 of Method 25C to correct for dilution of the samples by water vapor, oxygen, and pressurization of the canister in the lab.

Landfill samples were taken as composite samples. Two or three samples were collected and analyzed with the results averaged. The summary of the Method 3C results are presented in Table 1. The average of the analytical results for each composite sample is presented below in Table 2 and is expressed as total NMOC parts per million by volume as carbon.

On October 7, 2020, EPA updated the Federal Register for determination of NMOC in LFG. Per 12.5.2 of the Federal Register, if the 3-year average annual rainfall is less than 20 inches, the NMOC concentration should be corrected for oxygen concentration. Therefore, the NMOC corrected for oxygen was used to determine the site-specific NMOC concentration.

Table 1
Summary of Laboratory Method 3C Results

Lab Number	Field Locations	Oxygen (%)	Nitrogen (%)	Methane (%)	Carbon Dioxide (%)
L121804-01	15,22, 23	ND	5.1	53	38
L121804-02	24, 21, 16	ND	9.4	53	35
L121804-03	17, 20, 25	ND	23	40	35
L121804-04	26, 19, 18	ND	49	19	28
L121804-05	11, 10, 6	ND	7.4	42	48
L121804-06	4, 2, 1	ND	ND	43	52
L121804-07	3, 5, 9	ND	ND	43	50
L121804-09	12, 7, 8	ND	ND	57	39
L121804-10	13, 14	ND	ND	54	39

Table 2
Summary of Laboratory Method 25C Results

Lab Number	Field Locations	Oxygen Corrected NMOC as Carbon (ppmv)	Oxygen Corrected NMOC as Hexane (ppmv) ¹	Weighting Factor	Weighted Contribution to Average NMOC as Hexane (ppmv)
L121804-01	15, 22, 23	2,900	483.33	3/26	55.77
L121804-02	24, 21, 16	3,100	516.67	3/26	59.62
L121804-03	17, 20, 25	4,500	750.00	3/26	86.54
L121804-04	26, 19, 18	3,700	616.67	3/26	71.15
L121804-05	11, 10, 6	4,800	800.00	3/26	92.31
L121804-06	4, 2, 1	5,200	866.67	3/26	100.00
L121804-07	3, 5, 9	5,200	866.67	3/26	100.00
L121804-09	12, 7, 8	4,300	716.67	3/26	82.69
L121804-10	13, 14	4,100	683.33	2/26	52.56
Weighted Average:					700.64

Notes: ¹ Weaver Consultants Group divided the non-methane organic compound (NMOC) concentration, as carbon, by six to obtain NMOC as hexane.

4 NMOC EMISSION RATE RESULTS

4.1 NMOC Emission Rate Results

The NMOC emission rate was calculated using an average annual refuse acceptance rate for years in which the actual acceptance was unknown (1988-1993), actual refuse acceptance rates for years in which they were known (1994-2020), and a site-specific NMOC concentration of 700.64 ppmv as hexane, as determined by the Tier 2 test results from the site.

In accordance with the NSPS, a methane generation potential (Lo) of 170 cubic meters per megagram was used in the NMOC calculations. As per the NSPS requirements within §60.35(f)(a) a methane generation rate constant (k) of 0.02 per year was used. The estimated 2021 NMOC emission rate for the VLF was calculated to be 14.11 Mg/yr. The average annual refuse acceptance rate, actual refuse acceptance rates, and Tier 2 NMOC emission rate calculations for the landfill are provided within Appendix C.

4.2 NMOC Emission Rate Projections

The results indicate that the NMOC emission rate for 2021 (14.11 Mg/yr) is below the regulatory compliance limit of 34 Mg/yr. In accordance with the NSPS requirements, the owner or operator is required to retest the site-specific NMOC concentration at least once within 5 years, using the methods specified in §60.35(f)(a)(3). In addition, §60.38(f)(c)(1) states that the NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures described within §60.35(f)(a).

The NMOC emission rates for the next 5 years are shown on Table 3 – Summary of Estimated 5-Year NMOC Emission Rates. The supporting calculations are provided in Appendix C.

Table 3
Summary of Estimated 5-Year NMOC Emission Rates

Year	Annual Waste Inflow Rate (tons)	NMOC Emission Rate (Mg/yr)
2021	85,000	14.11
2022	85,000	15.13
2023	85,000	16.14
2024	85,000	17.13
2025	85,000	18.10

As the NMOC emission rate calculations did not exceed 34 Mg/yr for each year of the 5-year period, this report serves as a 5-year report for NSPS compliance. As such, the site will retest for the NMOC concentration in 2025 and submit a source test report to New Mexico Environment Department (NMED). The site will also internally confirm that the actual annual waste inflow rate for 2021 through 2025 is below those used in the calculations and listed above in Table 3. If the actual annual refuse acceptance rate should exceed the values used and the calculated NMOC emission rate exceeds 34 Mg/yr, then VLF will revise and resubmit this Tier 2 NMOC Emission Rate Report to the NMED.

APPENDIX A
FIELD DATA



*Expert Environmental
Support Services for Site
Investigation & Remediation*

January 19, 2020

Melissa Green

Weaver Consultants Group

7340 East Caley Avenue, Suite 110

Centennial, CO 80111

Phone: (541) 760-0499

E-Mail: mgreen@wcgrp.com

RE: Vista Project #: 20173.07

Final Field Collection Data Report

Waste Management Valencia Regional Landfill Gas Survey

Site Address: 1600 NM-6, Los Lunas, NM 87031

Melissa,

Enclosed is a report for the landfill gas survey conducted in December of 2020 at the above referenced landfill. Please feel free to contact us if you have any questions or concerns regarding the information described herein.

Sincerely,

Matthew Berkes

Environmental Scientist / Subsurface Imaging Specialist

Vista GeoScience

Reviewed by:

Ted Stockwell

Field Operations Manager

Vista GeoScience



Landfill Soil Gas Survey Field Collection Data Report

Valencia Regional Landfill
1600 NM-6, Los Lunas, NM 87031



Prepared for:



December 14, 2020

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3	Table of Sample Location Coordinates	6
4	Landfill Gas Sampling Data Logs	7
5	Daily Reports	8

1 DAILY ACTIVITY SUMMARY

Vista Geoscience arrived at the Waste Management Valencia Landfill on December 13, 2020 to meet with the onsite representative of Waste Management. After receiving keys and an escort to the landfill from the landfill representative, the crew began its landfill gas sampling activities. Each morning, the Landtec GEM 5000 was calibrated onsite prior to sample collection. For collection of each landfill gas sample, 1.50-inch probe rod was pushed with expendable points to depth and pulled up to create a sampling void for each location. The post run tubing method used for sampling utilizes Teflon lined 3/8" polyethylene tubing with a threaded PRT adapter which threads into the point holder to make a down-hole seal. The downhole line was purged with the GEM 5000 until gas levels stabilized, at which point the corresponding values were recorded. After the gas readings were recorded, the sampling tree was switched to the summa canister and the sample was taken at a rate of equal to or less than 200 mL/min. Once a minimum of 1 liter was taken, the sampling rod was pulled, and the borehole was backfilled with bentonite crumbles. All 26 sampling locations were completed utilizing this method over the course of two days onsite. Three extra samples were completed at the request of the Waste Management representative onsite. Lab analysis will not be completed on these three locations unless requested by either Weaver or Waste Management.

Each location was initially pushed to 25' below ground surface (bgs) at the request of the client. Water was observed in the Teflon lined polyethylene tubing at 20' bgs during the sampling of the first two locations. Pulling the drill rods to 15' bgs, instead of 20' bgs, cleared out the water and made it possible to sample. Due to the water in the lines, many rods had to be pulled more than 5' in order to sample. The depth in which the drill rods were pulled can be seen in the Landfill Gas Sampling logs, which can be seen later in this report.

LL-11 had to be pushed twice and offset during the second sampling attempt. During the first attempt, high Oxygen readings were observed. The high Oxygen readings are thought to be due to the location being in between landfill cells. The location was moved to a spot where the landfill was noticed. The original area was next to a road, between two cells, in a low and flat area.

Locations LL-9, LL-12, LL-7, LL-8, LL-13, and LL-14 were moved due to being located in an active area of the landfill and in trash that is less than two years old. The crew learned this when they approached the landfill manager to inform them that they would be sampling inside the active area. The landfill manager contacted a Waste Management representative who was knowledgeable of the age of trash in the active area. The crew then contacted the Weaver Consultant Group to make sure everyone agreed with moving the boring locations.

2 SAMPLE LOCATION MAP

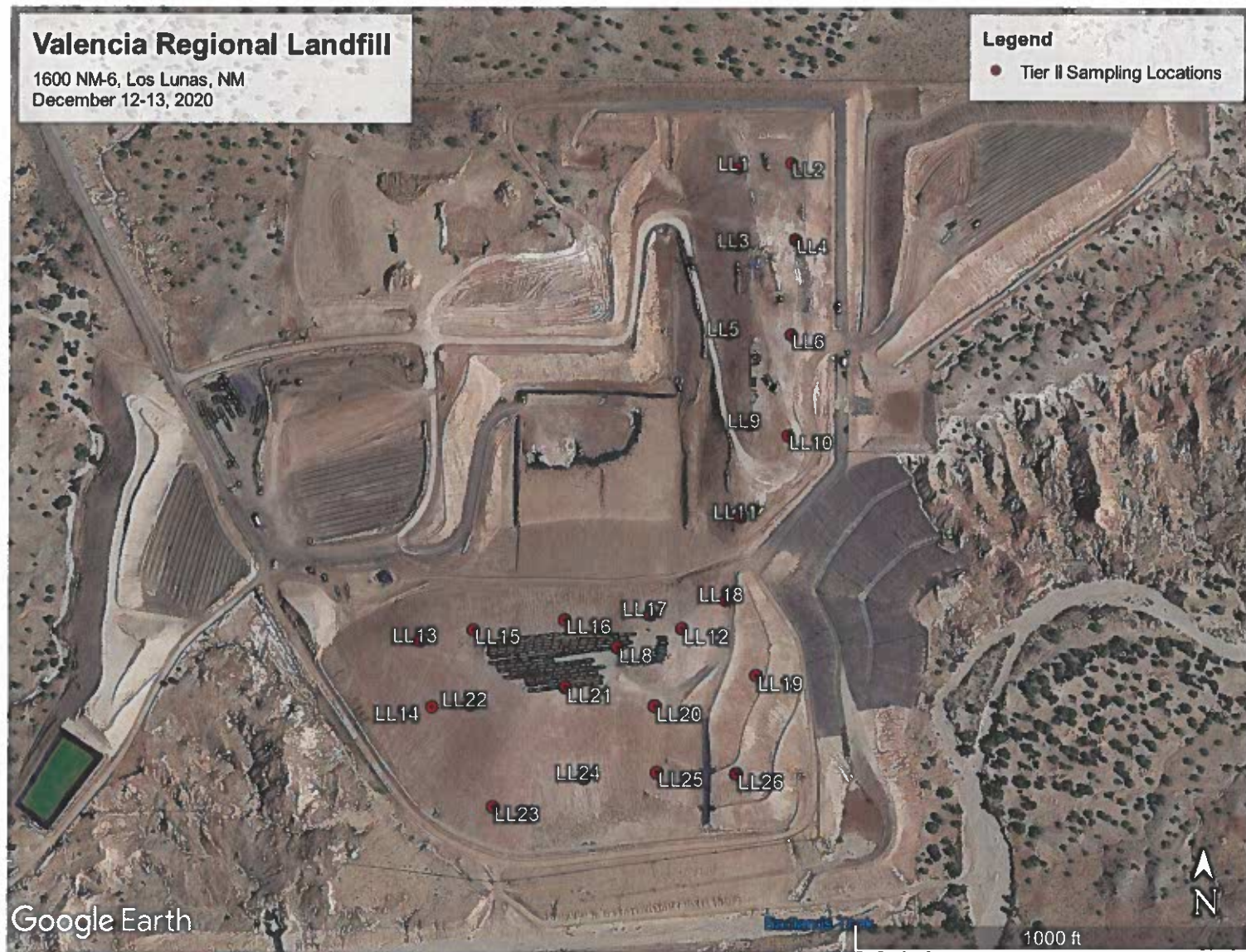
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Valencia Regional Landfill

1600 NM-6, Los Lunas, NM
December 12-13, 2020

Legend

- Tier II Sampling Locations



3 TABLE OF SAMPLE LOCATION COORDINATES

Location	Latitude	Longitude
LL01	34.72399	-107.038
LL02	34.72402	-107.038
LL03	34.72337	-107.038
LL04	34.72341	-107.038
LL05	34.72269	-107.038
LL06	34.72268	-107.038
LL08	34.72038	-107.039
LL09	34.722	-107.038
LL10	34.72191	-107.038
LL11	34.72131	-107.038
LL12	34.72051	-107.039
LL13	34.72042	-107.041
LL14	34.71997	-107.041
LL15	34.7205	-107.041
LL16	34.72057	-107.04
LL17	34.72061	-107.039
LL18	34.72071	-107.038
LL19	34.72019	-107.038
LL20	34.71998	-107.039
LL21	34.72011	-107.04
LL22	34.71998	-107.041
LL23	34.71929	-107.04
LL24	34.71949	-107.04
LL25	34.71952	-107.039
LL26	34.71952	-107.038

4 LANDFILL GAS SAMPLING DATA LOGS

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EPA TEST METHOD 25C TIER-2 LANDFILL GAS SAMPLING LOG

Page ____ of ____



www.VistaGeoScience.com
130 Capital Drive, Suite C
Golden, CO 80401
PH: 303-277-1694

Project No.: 20173.00	Sampling Technician: Matt Berkes		Signature: _____
CLIENT: Weaver	Gas Meter:	Calibration Check (date/time):	
CLIENT FIELD REP:	Rig/Probe: 7822DT	Flowmeter (ml/min):	
LANDFILL NAME: Valencia Regional Landfill	Gas Meter: Gem 5000+	Vacuum Gauge:	
LANDFILL ADDRESS: 1600 NM-6, Los Lunas, NM 87031			

Date	Sample Location Number	Canister Lab I D	SYSTEM PRE-PURGE TIME				IR GAS METER ANALYSIS					SUMMA CANNISTER PRESSURE- VOLUME						Est. Δ Vol. Calc. (Liters)	Depth (ft.)		Temp.	Temp.	Ambient Press. (IN HG)	
			Start Time	End Time	Flow (ml/min)	Est. Vol. (liters)	CH ₄ %	CO ₂ %	O ₂ %	N ₂ % Bal.	Total Check	Start Time	End Time	Start Flow	End Flow	Initial P. (mm Hg)	Final P. (mm Hg)		Δ Press. mmHg	Top	Btm	Bottom °F		Ambient °F
12/13/20	15	N4134	9:38	9:43	400	2	61.7	41.2	0.0	0.0	102.9	9:43	9:48	200	200	-407.5	-292.5	115.0	1	15	25	84	25	24.75
12/13/20	22	N4134	10:01	10:06	400	2	61.3	40.8	0.0	0.0	102.1	10:06	10:11	200	200	-290.2	-175.7	114.50	1	15	25	82	26	24.75
12/13/20	23	N4134	10:28	10:33	400	2	58.6	41.4	0.0	0.0	100.0	10:33	10:38	200	200	-175.8	-50.3	125.5	1	15	20	70	29	24.82
12/13/20	24	1408	11:05	11:10	400	2	48.8	29.5	3.4	17.8	99.5	11:10	11:15	200	200	-408.2	-293.4	114.80	1	15	25	62	31	24.82
12/13/20	21	1408	11:25	11:30	400	2	64.7	38.4	0.0	0	103.1	11:30	11:35	200	200	-286.8	-161.7	125.1	1	15	25	58	32	24.76
12/13/20	16	1408	11:44	11:49	400	2	61.3	39.9	0.0	0.0	101.2	11:49	11:54	200	200	-171.2	-55.5	115.70	1	15	25	64	33	24.76
12/13/20	17	1366	13:00	13:05	400	2	79.3	39.7	0.0	0.0	119.0	13:05	13:10	200	200	-403.3	-288.3	115.0	1	15	25	79	37	24.72
12/13/20	20	1366	13:15	13:20	400	2	62.5	37.6	0.0	0.0	100.1	13:20	13:25	200	200	-287.2	-172.2	115.00	1	10	25	78	38	24.74
12/13/20	25	1366	13:45	13:50	400	2	41.4	33.5	0.0	25.2	100.1	13:50	13:55	200	200	-179.8	-64.6	115.2	1	15	25	72	38	24.82
12/13/20	26	1429	14:14	14:19	400	2	23.6	27.8	0.0	48.6	100.0	14:19	14:24	200	200	-406.2	-290.6	115.60	1	15	25	78	40	24.78
12/13/20	19	1429	14:36	14:41	400	2	43.2	33.2	0.1	23.6	100.1	14:41	14:46	200	200	-289.1	-174.4	114.7	1	15	25	76	40	24.79
12/13/20	18	1429	15:02	15:07	400	2	31.4	30.8	0.0	37.7	99.9	15:07	15:12	200	200	-184.5	-69.4	115.10	1	15	25	76	39	24.76
12/13/20	11	1392	16:12	16:17	400	2	49.0	50.4	0.6	0.0	100.0	16:17	16:22	200	200	-410.5	-295.6	114.9	1	15	25	58	37	24.75
12/13/20	10	1392	16:33	16:38	400	2	48.3	56.3	0.0	0.0	104.6	16:38	16:43	200	200	-296.9	-181.4	115.50	1	15	25	62	35	24.73
12/14/20	06	1392	8:35	8:40	400	2	47.8	46.0	0.0	5.9	99.7	8:40	8:45	200	200	-180.6	-65.4	115.2	1	20	25	70	22	24.57
12/14/20	04	5410	8:58	9:03	400	2	46.1	54.1	0.0	0.0	100.2	9:03	9:08	200	200	-410.1	-295.2	114.90	1	20	25	78	27	24.57
12/14/20	02	5410	9:16	9:21	400	2	47.5	50.9	0.0	1.5	99.9	9:21	9:26	200	200	-296.2	-181.3	114.9	1	20	25	72	27	24.57
12/14/20	01	5410	9:33	9:38	400	2	42.4	57.8	0.0	3.1	103.1	9:38	9:43	200	200	-183.0	-67.4	115.60	1	20	25	72	27	24.56
12/14/20	03	5849	10:08	10:13	400	2	49.6	47.1	0.0	3.1	99.8	10:13	10:18	200	200	-399.0	-284.3	114.7	1	20	25	80	28	24.56
12/14/20	03	1465	10:20	10:25	400	2	51.4	46.9	0.0	1.3	99.6	10:25	10:30	200	200	-404.8	-289.7	115.10	1	20	25	77	28	24.56
12/14/20	05	1465	10:37	10:42	400	2	42.3	57.7	0.0	0.0	100.0	10:42	10:47	200	200	-290.7	-175.5	115.2	1	20	25	72	30	24.53
12/14/20	05	5849	10:50	10:55	400	2	42.3	57.7	0.0	0.0	100.0	10:55	11:00	200	200	-284.9	-169.6	115.30	1	20	25	77	30	24.53

EPA TEST METHOD 25C TIER-2 LANDFILL GAS SAMPLING LOG

Page ____ of ____



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130 Capital Drive, Suite C
Golden, CO 80401
PH: 303-277-1694

Project No.: 20173.00	Sampling Technician: Matt Berkes	Signature: _____
CLIENT: Weaver	Gas Meter:	Calibration Check (date/time):
CLIENT FIELD REP:	Rig/Probe: 7822DT	Flowmeter (ml/min):
LANDFILL NAME: Valencia Regional Landfill	Gas Meter: Gem 5000+	Vacuum Gauge:
LANDFILL ADDRESS: 1600 NM-6, Los Lunas, NM 87031		

Date	Sample Location Number	Canister Lab I.D.	SYSTEM PRE-PURGE TIME				IR GAS METER ANALYSIS					SUMMA CANNISTER PRESSURE- VOLUME							Est. Δ Vol. Calc. (Liters)	Depth (ft.)		Temp. Bottom °F	Temp. Ambient °F	Ambient Press. (IN HG)
			Start Time	End Time	Flow (ml/min)	Est. Vol (Liters)	CH ₄ %	CO ₂ %	O ₂ %	N ₂ % Bal.	Total Check	Start Time	End Time	Start Flow	End Flow	Initial P (mm Hg)	Final P (mm Hg)	Δ Press. mmHg		Top	Botm			
12/14/20	09	5849	11:14	11:19	400	2	44.4	55.7	0.0	0.0	100.1	11:19	11:24	200	200	-169.6	-54.3	115.3	1	20	25	78	30	24.47
12/14/20	09	1465	11:26	11:31	400	2	44.9	55.1	0.0	0.0	100.0	11:31	11:36	200	200	-173.2	-58	115.20	1	20	25	78	30	24.45
12/14/20	12	1370	12:24	12:29	400	2	52.6	43.4	0.0	4.0	100.0	12:29	12:34	200	200	-403.1	-287.9	115.2	1	15	25	78	28	24.38
12/14/20	07	1370	12:36	12:41	400	2	56.6	40.8	0.0	2.7	100.1	12:41	12:46	200	200	-289.1	-174.8	114.30	1	20	25	74	28	24.38
12/14/20	08	1370	12:52	12:57	400	2	55.6	42.6	0.0	1.6	99.8	12:57	13:02	200	200	-173.4	-58.1	115.3	1	20	25	74	28	24.36
12/14/20	13	1381	13:16	13:21	400	2	55.4	42.7	0.0	1.7	99.8	13:21	13:26	200	200	-398.4	-282.1	116.30	1	20	25	79	28	24.37
12/14/20	14	1381	13:38	13:43	400	2	56.6	41.6	0.0	1.7	99.9	13:43	13:48	200	200	-283.6	-168.7	114.9	1	15	25	72	34	24.39

5 DAILY REPORTS

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Vista GeoScience Daily Drilling Services Report

This is NOT an invoice, but the information will be used for invoicing purposes.
To be completed at the end of each day and signed by Vista GeoScience and Client Representatives.

PROJECT INFORMATION		VISTA Project#: 20173.01	DATE: 12/17/2020	RIG: 7822DT
Vista Field Engineers: TS, MB		Utility Locate Ticket Number:		
Client: Waste Management		Site Manager:		
Client Project Name:		Client Project Number:		
Site Description:		Site Address:		

DAILY TIME REPORT		(use 24-hour clock)	Time Exceeded 4 Hr Min: YES / NO
Day Number: 1	Total Hours on Site:	Mobilization Mileage:	
Time Requested on Location:	Client's Standby Hours:	To Site: 350	
Time on Location:	- Vista's Standby Hours:	Return:	
Time off Location:	- Lunch / Break Hours:	Total:	
Lunch Break - From: To:	= Total Bill Hours @ Level: []:	Drive Hours: 8.5	
Standby Sessions (describe):			

EXPENDABLES USED AND DAMAGED TOOLS		(circle or fill in bracketed items)	
QTY	ITEM	QTY	ITEM
LINERS/TUBING		ABANDONMENT MATERIALS	
[]	Soil Core Liners (ea) Type:	[]	Bentonite [Granular], [Chip], [Powder] (50# bag)
[]	Soil Core Liners (ea) Type:	[]	Silica Sand (50# bag)
[]	Other Liners: []	[]	Portland Cement (94# bag)
[]	[1/4", [3/8"] or [1/2"] Polyethylene Tubing (ft)	[]	[Asphalt Patch], [Concrete] (lb. bag)
[]	3/8" Silicone Tubing (ft)	[]	
[]	Other Tubing: []	[]	
EXPENDABLES/PVC		RENTAL EQUIPMENT/CONTRACT:	
[]	[]" Expandable Points (ea):	[]	Pump: []
[]	[]" [Grip Anchor Point] or [Expandable Cutting Shoe] (circle)	[]	[PID/OVM] or [LandTec]
[]	[]" x 5' PVC Riser (section) Sch []	[]	Exhaust Fan / Ductwork / CO Monitor
[]	[]" x 10' PVC Riser (section) Sch []	[]	Subcontracted Concrete Coring / Barricading
[]	[]" x 5' PVC Screen (section) Sch []	[]	3.25" Casing and Auger Add-On
[]	[]" x 10' PVC Screen (section) Sch []	[]	[Decon] or [Support] Trailer / Truck
[]	[]" TFJ PVC Plug/Cap (ea)	[]	Gamma Logger
[]	[]" PVC Slip Cap (ea)	[]	Core Drill: []" x []" x []"
		[]	Generator
SUPPLIES		Additional Items Used / Damaged Tools / PPE:	
[]	[]" J-Plug and Lock (set)	[]	
[]	[]" x []" Prepacked Screen (ea)	[]	
[]	Flush-Mount Traffic Cover []" Diameter	[]	
[]	4" x 4" x 5' Sq. Steel Protective Well Cover/Riser	[]	
[]	Concrete Anchor Bolts	[]	
[]	[30] or [55] gallon Drum, each	[]	

APPROVALS & SIGNATURES	
Vista Field Engineer: [Signature]	Client's Supervisor:

NOTES: Mob to Los Lunas	Samples Returned to Vista Lab ☐
-------------------------	--

OPS DPT footage: []	OPS 1" Well Material Footage: []	OPS Auger Footage: []	OPS 2" Well Material Footage: []
#Total Test Holes: []	#Cores: []	H2O Samples: []	Gamma Log Ft: []
Total Drilled Ft: []	Well Ft: []	#Wells: []	

Vista GeoScience Daily Drilling Services Report

This is NOT an invoice, but the information will be used for invoicing purposes.
To be completed at the end of each day and signed by Vista GeoScience and Client Representatives.

PROJECT INFORMATION		VISTA Project#: <u>20173.6</u> DATE: <u>12/13/2020</u> RIG: <u>78220T</u>
Vista Field Engineers: <u>TS, MB</u>	Utility Locate Ticket Number:	
Client: <u>Waste Management</u>	Site Manager:	
Client Project Name:	Client Project Number: <u>Valencia</u>	
Site Description: <u>land fill</u>	Site Address: <u>Los Lunas Land Fill</u>	

DAILY TIME REPORT		(use 24-hour clock)	Time Exceeded 4 Hr Min: YES / NO
Day Number: <u>2</u>	Total Hours on Site: <u>9.5</u>	Mobilization Mileage:	
Time Requested on Location: <u>730</u>	Client's Standby Hours:	To Site: <u>20</u>	
Time on Location: <u>730</u>	- Vista's Standby Hours:	Return: <u>20</u>	
Time off Location: <u>1745 1700</u>	- Lunch / Break Hours:	Total: <u>40</u>	
Lunch Break - From: - To: -	= Total Bill Hours @ Level: <u>[D]: 9.5</u>	Drive Hours: <u>1</u>	
Standby Sessions (describe):			

EXPENDABLES USED AND DAMAGED TOOLS		(circle or fill in bracketed items)	
QTY	ITEM	QTY	ITEM
LINERS/TUBING		ABANDONMENT MATERIALS	
	[] Soil Core Liners (ea) Type:	<u>4</u>	Bentonite <u>[Granular]</u> , [Chip], [Powder] (50# bag)
	[] Soil Core Liners (ea) Type:		Silica Sand (50# bag)
	Other Liners: []		Portland Cement (94# bag)
	[1/4"], [3/8"] or [1/2"] Polyethylene Tubing (ft)		[Asphalt Patch], [Concrete] (lb. bag)
<u>1</u>	3/8" Silicone Tubing (ft)		
<u>30</u>	Other Tubing: <u>Teflon Lined Poly</u>		
EXPENDABLES/PVC		RENTAL EQUIPMENT/CONTRACT:	
<u>15</u>	[] 1" Expendable Points (ea):		Pump: []
	[] [Grip Anchor Point] or [Expendable Cutting Shoe] (circle)	<u>1</u>	[PID/OVM] or <u>[LandTec]</u> <u>5000</u>
	[] 1" x 5' PVC Riser (section) Sch []		Exhaust Fan / Ductwork / CO Monitor
	[] 1" x 10' PVC Riser (section) Sch []		Subcontracted Concrete Coring / Barricading
	[] 1" x 5' PVC Screen (section) Sch []		3.25" Casing and Auger Add-On
	[] 1" x 10' PVC Screen (section) Sch []		[Decon] or [Support] Trailer / Truck
	[] 1" TFJ PVC Plug/Cap (ea)		Gamma Logger
	[] 1" PVC Slip Cap (ea)		Core Drill: [] x [] x []
SUPPLIES			Generator
	[] 1" J-Plug and Lock (set)	<u>1</u>	<u>GPS</u>
	[] 1" x [] Prepacked Screen (ea)		<u>Per ITT Inc</u>
	Flush-Mount Traffic Cover [] Diameter	Additional Items Used / Damaged Tools / PPE:	
	4" x 4" x 5' Sq. Steel Protective Well Cover/Riser		
	Concrete Anchor Bolts		
	[30] or [55] gallon Drum, each		

APPROVALS & SIGNATURES	
Vista Field Engineer: <u>[Signature]</u>	Client's Supervisor:
NOTES: <u>14 points completed</u>	
Samples Returned to Vista Lab ☐	

OPS DPT footage: [] OPS 1" Well Material Footage: [] OPS Auger Footage: [] OPS 2" Well Material Footage: []
#Total Test Holes: [] #Cores: [] H2O Samples: [] Gamma Log Ft: [] Total Drilled Ft: [] Well Ft: [] #Wells: []

Vista GeoScience Daily Drilling Services Report

This is NOT an invoice, but the information will be used for invoicing purposes.
To be completed at the end of each day and signed by Vista GeoScience and Client Representatives.

PROJECT INFORMATION		VISTA Project#: <u>20173.0</u> DATE: <u>12/14/2020</u> RIG: <u>7822DT</u>
Vista Field Engineers: <u>TS, MB</u>	Utility Locate Ticket Number:	
Client: <u>Waste Management</u>	Site Manager:	
Client Project Name:	Client Project Number:	
Site Description:	Site Address:	

DAILY TIME REPORT		(use 24-hour clock)	Time Exceeded 4 Hr Min: ☒ YES / NO
Day Number: <u>3</u>	Total Hours on Site: <u>9</u>	Mobilization Mileage:	
Time Requested on Location: <u>730</u>	Client's Standby Hours:	To Site: <u>20</u>	
Time on Location: <u>1530</u> <u>730</u>	- Vista's Standby Hours:	Return: <u>20</u>	
Time off Location: <u>1630</u>	- Lunch / Break Hours:	Total: <u>40</u>	
Lunch Break - From: <u>-</u> To: <u>-</u>	= Total Bill Hours @ Level: <u>[0]</u> <u>9</u>	Drive Hours: <u>1</u>	
Standby Sessions (describe):			

EXPENDABLES USED AND DAMAGED TOOLS		(circle or fill in bracketed items)	
QTY	ITEM	QTY	ITEM
LINERS/TUBING		ABANDONMENT MATERIALS	
<u>/</u>	<u>[]</u> Soil Core Liners (ea) Type:	<u>4</u>	Bentonite <u>[Granular]</u> [Chip], [Powder] (50# bag)
<u>/</u>	<u>[]</u> Soil Core Liners (ea) Type:	<u>/</u>	Silica Sand (50# bag)
<u>/</u>	Other Liners: <u>[]</u>	<u>/</u>	Portland Cement (94# bag)
<u>/</u>	<u>[1/4"]</u> , <u>[3/8"]</u> or <u>[1/2"]</u> Polyethylene Tubing (ft)	<u>/</u>	[Asphalt Patch], [Concrete] (<u> </u> lb. bag)
<u>/</u>	<u>3/8"</u> Silicone Tubing (ft)	<u>/</u>	
<u>/</u>	Other Tubing: <u>[]</u>	<u>/</u>	
EXPENDABLES/PVC		RENTAL EQUIPMENT/CONTRACT:	
<u>14</u>	<u>[]</u> Expendable Points (ea):	<u>/</u>	Pump: <u>[]</u>
<u>/</u>	<u>[]</u> [Grip Anchor Point] or [Expendable Cutting Shoe] (circle)	<u>1</u>	[PID/OVM] or <u>[LandTec]</u> <u>SDO +</u>
<u>/</u>	<u>[]</u> x 5' PVC Riser (section) Sch <u>[]</u>	<u>/</u>	Exhaust Fan / Ductwork / CO Monitor
<u>/</u>	<u>[]</u> x 10' PVC Riser (section) Sch <u>[]</u>	<u>/</u>	Subcontracted Concrete Coring / Barricading
<u>/</u>	<u>[]</u> x 5' PVC Screen (section) Sch <u>[]</u>	<u>/</u>	3.25" Casing and Auger Add-On
<u>/</u>	<u>[]</u> x 10' PVC Screen (section) Sch <u>[]</u>	<u>/</u>	[Decon] or [Support] Trailer / Truck
<u>/</u>	<u>[]</u> TFJ PVC Plug/Cap (ea)	<u>/</u>	Gamma Logger
<u>/</u>	<u>[]</u> PVC Slip Cap (ea)	<u>/</u>	Core Drill: <u>[]</u> x <u>[]</u> x <u>[]</u>
<u>/</u>		<u>/</u>	Generator
SUPPLIES		Additional Items Used / Damaged Tools / PPE:	
<u>/</u>	<u>[]</u> J-Plug and Lock (set)	<u>1</u>	<u>Tier II Tree</u>
<u>/</u>	<u>[]</u> x <u>[]</u> Prepacked Screen (ea)	<u>/</u>	
<u>/</u>	Flush-Mount Traffic Cover <u>[]</u> Diameter	<u>/</u>	
<u>/</u>	4" x 4" x 5' Sq. Steel Protective Well Cover/Riser	<u>/</u>	
<u>/</u>	Concrete Anchor Bolts	<u>/</u>	
<u>/</u>	[30] or [55] gallon Drum, each	<u>/</u>	

APPROVALS & SIGNATURES	
Vista Field Engineer: <u>[Signature]</u>	Client's Supervisor:

NOTES: <u>Last 12 points completed</u>	Samples Returned to Vista Lab ☐
--	--

OPS DPT footage: <u>[]</u>	OPS 1" Well Material Footage: <u>[]</u>	OPS Auger Footage: <u>[]</u>	OPS 2" Well Material Footage: <u>[]</u>
#Total Test Holes: <u>[]</u>	#Cores: <u>[]</u>	H2O Samples: <u>[]</u>	Gamma Log Ft: <u>[]</u>
Total Drilled Ft: <u>[]</u>	Well Ft: <u>[]</u>	#Wells: <u>[]</u>	

Landtec GEM 2000 (+) Calibration Log						
Date/Time		12/15/2000				
Technician		MS				
VGS Project Number						
Ambient Air Readings						
CH4	CO2	O2	Balance			
Pre-Calibration Gas Reading (Tank 1)						
CH4	CO2					
49.9	53.8	54.5				
Post-Calibration Gas Reading (Tank 1)						
CH4	CO2					
2.1	55.0					
Pre-Calibration Gas Reading (Tank 2)						
CH4	O2	H2S	CO			
2.2	17.4	0	5			
Pre-Calibration Gas Reading (Tank 2)						
CH4	O2	H2S	CO			
2.5	18.0	1	50			
Pre-Calibration Gas Reading (Tank 3)						
O2						
4.2		9.0				
Pre-Calibration Gas Reading (Tank 3)						
O2						
Calibration Gas % Used						
	CH4	CO2	O2	Nitrogen Balance	H2S	CO
Tank 1	50.0	35.0	N/A	BAL	N/A	N/A
Tank 2	2.5	N/A	18.0	BAL	10ppm	50ppm
Tank 3	N/A	N/A	4	BAL	N/A	N/A
Comments						

*Note: For a complete calibration, zero Oxygen using Tank 1 and zero Methane using Tank 2. Carbon Dioxide cannot be zeroed using a GEM model 2000 or 2000 plus.

Landtec GEM 2000 (+) Calibration Log						
Date/Time		12/14 800				
Technician		MB				
VGS Project Number						
Ambient Air Readings						
CH4	CO2	O2	Balance			
Pre-Calibration Gas Reading (Tank 1)						
CH4	CO2					
62.5	34.7					
Post-Calibration Gas Reading (Tank 1)						
CH4	CO2					
50.0	35.0					
Pre-Calibration Gas Reading (Tank 2)						
CH4	O2	H2S	CO			
2.5	17.9	36	55			
Pre-Calibration Gas Reading (Tank 2)						
CH4	O2	H2S	CO			
2.5	18.0	11	50			
Pre-Calibration Gas Reading (Tank 3)						
O2						
24.0						
Pre-Calibration Gas Reading (Tank 3)						
O2						
9.0						
Calibration Gas % Used						
	CH4	CO2	O2	Nitrogen Balance	H2S	CO
Tank 1	50.0	35.0	N/A	BAL	N/A	N/A
Tank 2	2.5	N/A	18.0	BAL	10ppm	50ppm
Tank 3	N/A	N/A	4	BAL	N/A	N/A
Comments						

*Note: For a complete calibration, zero Oxygen using Tank 1 and zero Methane using Tank 2. Carbon Dioxide cannot be zeroed using a GEM model 2000 or 2000 plus.

APPENDIX B

LABORATORY RESULTS AND INFORMATION



January 11, 2021

Vista GeoScience
ATTN: Ted Stockwell
130 Capital Dr., Suite A
Golden, CO 80401



LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C,
RSK-175

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
EPA Methods TO3, TO14A, TO15, RSK-175

LABORATORY TEST RESULTS

Project Reference: Valencia County Landfill Tier II
Project Number: 20173
Lab Number: L121804-01/10

Enclosed are results for sample(s) received 12/18/20 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the TNI Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Ted Stockwell on 1/08/21.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark Johnson", is written over a light blue horizontal line.

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Note: The cover letter is an integral part of this analytical report.


AIR TECHNOLOGY
 Laboratories, Inc.

 18501 E. Gale Ave., Suite 130
 City of Industry, CA 91748
 Ph: 626-964-4032
 Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

Project No.: 20173
 Project Name: Valencia County Landfill Tier II
 Report To: Ted Stockwell
 Company: Vista GeoScience
 Street: 150 Capital Dr., Suite A
 City/State/Zip: Golden CO 80401
 Phone& Fax: 303-277-1694
 e-mail: tstockwell@vistageoscience.com

TURNAROUND TIME		DELIVERABLES	PAGE:	OF
Standard	☒ 48 hours ☐	EDD ☐	Condition upon receipt:	
Same Day	☐ 72 hours ☐	EDF ☐	Sealed Yes ☐ No ☐	
24 hours	☐ 96 hours ☐	LEVEL 3 ☐	Intact Yes ☐ No ☐	
Other:		LEVEL 4 ☐	Chilled _____ deg C	

BILLING
ANALYSIS REQUEST

P.O. No.:

Bill to:

LAB USE ONLY	SAMPLE IDENTIFICATION		SAMPLE DATE	SAMPLE TIME	MATRIX	CONTAINER TYPE				
L121804-01	15, 22, 23	N4134	12/13/20	0745	Gas	Summa	X			
-02	24, 21, 16	1408	12/13/20	1110	Gas	Summa	X			
-03	17, 20, 25	1366	12/13/20	1305	Gas	Summa	X			
-04	26, 19, 18	1429	12/13/20	1419	Gas	Summa	X			
-05	11, 10, 6	1392	12/13/20, 12/14/20	1611, 0840	Gas	Summa	X			
-06	4, 2, 1	5410	12/14/20	0705	Gas	Summa	X			
-07	3, 5, 9	5849	12/14/20	1013	Gas	Summa	X			
-08	3, 5, 9	1465	12/14/20	1025	Gas	Summa		X		
-09	12, 7, 8	1370	12/14/20	1229	Gas	Summa	X			
-10	13, 14	1381	12/14/20	1321	Gas	Summa	X			

SAMPLED BY	COMPANY	DATE/TIME	COMMENTS
Matthew Berkes	Vista GeoScience	12/13/20, 12/14/20	
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Matthew Berkes	12/15/20		
Vista GeoScience	12/15		
UPS	12/18/20	D.J. - 12/18/20	1125

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Client: Vista Geoscience
Attn: Ted Stockwell
Project Name: Valencia County Landfill Tier II
Project No.: 20173
Date Received: 12/18/2020
Matrix: Air

**TNMOC by EPA METHOD 25C
Fixed Gases by EPA METHOD 3C**

Lab No.:*	L121804-01		L121804-02		L121804-03		L121804-04	
Client Sample I.D.:	15, 22, 23		24, 21, 16		17, 20, 25		26, 19, 18	
Date/Time Sampled:	12/13/20 9:43		12/13/20 11:10		12/13/20 13:05		12/13/20 14:19	
Date/Time Analyzed:	1/4/21 21:35		1/4/21 22:18		1/4/21 23:01		1/4/21 23:45	
QC Batch No.:	210104GC8A1		210104GC8A1		210104GC8A1		210104GC8A1	
Analyst Initials:	CM		CM		CM		CM	
Dilution Factor:	3.2		3.3		3.5		3.4	
ANALYTE (Units)	Result	RL	Result	RL	Result	RL	Result	RL
TNMOC N2 corrected (ppmv-C)	3,000	32	3,300	33	6,200	35	9,600	34
TNMOC O2 corrected (ppmv-C)	2,900	32	3,100	33	4,500	35	3,700	34
TNMOC uncorrected (ppmv-C)	2,700	32	2,800	33	4,200	35	3,400	34
Nitrogen (% v/v)	5.1	3.2	9.4	3.3	23	3.5	49	3.4
Oxygen/Argon (% v/v)	ND	1.6	ND	1.6	ND	1.7	ND	1.7
Carbon Dioxide (% v/v)	38	0.032	35	0.033	35	0.035	28	0.034
Methane (% v/v)	53	0.0032	53	0.0033	40	0.0035	19	0.0034

RL = Reporting Limit

ND = Not detected at or above the RL.

TNMOC = Total Non-Methane Organic Compounds

ppmv-C = parts per million by volume as carbon

TNMOC N2 corrected (applicable if N2 < 20%)

TNMOC O2 corrected (applicable if N2 > 20% and O2 < 5%)

TNMOC uncorrected = not corrected for N2, O2 or moisture

Reviewed/Approved By:


Mark Johnson
Operations Manager

Date

1/8/21

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: Vista Geoscience
Attn: Ted Stockwell
Project Name: Valencia County Landfill Tier II
Project No.: 20173
Date Received: 12/18/2020
Matrix: Air

**TNMOC by EPA METHOD 25C
Fixed Gases by EPA METHOD 3C**

Lab No.:	L121804-05		L121804-06		L121804-07		L121804-09		
Client Sample I.D.:	11, 10, 6		4, 2, 1		3, 5, 9		12, 7, 8		
Date/Time Sampled:	12/13/20 16:17		12/14/20 9:03		12/14/20 10:13		12/14/20 12:29		
Date/Time Analyzed:	1/5/21 0:28		1/5/21 1:11		1/5/21 1:55		1/5/21 3:21		
QC Batch No.:	210104GC8A1		210104GC8A1		210104GC8A1		210104GC8A1		
Analyst Initials:	CM		CM		CM		CM		
Dilution Factor:	3.3		3.4		3.3		3.4		
ANALYTE	(Units)	Result	RL	Result	RL	Result	RL	Result	RL
TNMOC N2 corrected	(ppmv-C)	5,100	33	5,300	34	5,300	33	4,400	34
TNMOC O2 corrected	(ppmv-C)	4,800	33	5,200	34	5,200	33	4,300	34
TNMOC uncorrected	(ppmv-C)	4,500	33	4,900	34	4,900	33	4,100	34
Nitrogen	(% v/v)	7.4	3.3	ND	3.4	ND	3.3	ND	3.4
Oxygen/Argon	(% v/v)	ND	1.6	ND	1.7	ND	1.6	ND	1.7
Carbon Dioxide	(% v/v)	48	0.033	52	0.034	50	0.033	39	0.034
Methane	(% v/v)	42	0.0033	43	0.0034	43	0.0033	57	0.0034

RI = Reporting Limit

ND = Not detected at or above the RL.

TNMOC = Total Non-Methane Organic Compounds

ppmv-C = parts per million by volume as carbon

TNMOC N2 corrected (applicable if N2 < 20%)

TNMOC O2 corrected (applicable if N2 > 20% and O2 < 5%)

TNMOC uncorrected = not corrected for N2, O2 or moisture

Reviewed/Approved By: 

Mark Johnson
Operations Manager

Date

1/8/21

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18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: Vista Geoscience
Attn: Ted Stockwell
Project Name: Valencia County Landfill Tier II
Project No.: 20173
Date Received: 12/18/2020
Matrix: Air

**TNMOC by EPA METHOD 25C
Fixed Gases by EPA METHOD 3C**

Lab No.:	L121804-10								
Client Sample I.D.:	13, 14								
Date/Time Sampled:	12/14/20 13:21								
Date/Time Analyzed:	1/5/21 11:44								
QC Batch No.:	210105GC8A1								
Analyst Initials:	CM								
Dilution Factor:	4.8								
ANALYTE	(Units)	Result	RL						
TNMOC N2 corrected	(ppmv-C)	4,100	48						
TNMOC O2 corrected	(ppmv-C)	4,100	48						
TNMOC uncorrected	(ppmv-C)	3,800	48						
Nitrogen	(% v/v)	ND	4.8						
Oxygen/Argon	(% v/v)	ND	2.4						
Carbon Dioxide	(% v/v)	39	0.048						
Methane	(% v/v)	54	0.0048						

RL = Reporting Limit

ND = Not detected at or above the RL.

TNMOC = Total Non-Methane Organic Compounds

ppmv-C = parts per million by volume as carbon

TNMOC N2 corrected (applicable if N2 < 20%)

TNMOC O2 corrected (applicable if N2 > 20% and O2 < 5%)

TNMOC uncorrected = not corrected for N2, O2 or moisture

Reviewed/Approved By: Mark Johnson

Mark Johnson
Operations Manager

Date: 1/8/21

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

ATTACHMENT 6.4
EMISSION UNIT 4 – FUGITIVE EMISSIONS FROM PETROLEUM
CONTAMINATED SOILS

2024 PERMIT RENEWAL APPLICATION

SUMMARY OF POTENTIAL EMISSIONS THROUGH 2030

FUGITIVE EMISSIONS FROM PETROLEUM CONTAMINATED SOILS

Emission Source: Emission Unit 4 - Petroleum Contaminated Soils

SAMPLE HAP EMISSION CALCULATION SHEET

TOTAL CALCULATED HAP EMISSIONS ² (tons/yr)	
Total HAP Emissions from Landfill Gas ¹ =	0.833
Total HAP Emissions from Surface Coating =	0.000
total HAP Emissions from Petroleum Contaminated Soil =	0.013
Total Site-Wide HAP Emissions =	0.846

¹ From LandGEM Annual LFG calculations

² Limit -Total Site Wide HAP Emissions = 24.5 tons/yr

Reporting Period: to

INDIVIDUAL BTEX HAP EMISSIONS ¹ (tons/yr)	
Calculated Benzene from LFG ¹ =	0.023
Calculated Benzene from PCS =	0.0001
Total Calculated Benzene =	0.023
Calculated Toluene from LFG ¹ =	0.544
Calculated Toluene from PCS =	0.000
Total Calculated Toluene =	0.544
Calculated Xylene from LFG ¹ =	0.193
Calculated Xylene from PCS =	0.011
Total Calculated Xylene =	0.204

¹ Limit - Total Per HAP = 10 tons/yr.

Date	Profile #	Description	Constituent Concentration (from Analytical)					Soil Tons	Emissions						
			TPH ppm	Benzene (ppm)	Toluene (ppm)	Ethyl benzene (ppm)	Xylene (ppm)		Total BTEX (ppm)	Total Benzene (tons)	Total Toluene (tons)	Total Ethyl benzene (tons)	Total Xylene (tons)	Total BTEX Emissions (tons)	
1/6/2023	100406NM(31722A)	Used Oily Dirt	19,211	0.01	0.01	0.01	0.01	0.04	17.7	1.8E-07	1.8E-07	1.8E-07	1.8E-07	7.1E-07	
1/16/2023	100406NM(31722A)	Used Oily Dirt	19,211	0.01		0.01	0.01	0.04	11.9	1.2E-07	1.2E-07	1.2E-07	1.2E-07	4.8E-07	
1/31/2023	105340NM	PCS - diesel	7,081	0.12	0.25	0.25	1.30	1.92	30.2	3.6E-06	7.5E-06	7.5E-06	3.9E-05	5.8E-05	
2/1/2023	105197NM(9341)	PCS - diesel	6,971	0.12	0.65	3.16	19.96	23.89	97.8	1.2E-05	6.4E-05	3.1E-04	2.0E-03	2.3E-03	
2/2/2023	105197NM(9341)	PCS - diesel	6,972	0.12	0.65	3.16	19.96	23.89	117.4	1.4E-05	7.6E-05	3.7E-04	2.3E-03	2.8E-03	
2/8/2023	105356NM	Diesel cont'd	10,612	0.02	0.78	1.92	9.02	11.72	55.4	1.1E-06	4.2E-05	1.1E-04	5.0E-04	6.5E-04	
2/28/2023	105371NM	Diesel cont'd	1,148	0.00	0.01	0.01	0.03	0.05	51.2	0.0E+00	5.1E-07	5.1E-07	1.5E-06	2.6E-06	
3/24/2023	105391NM	Hydraulic Oil Cont'd	8,144	0.00	0.01	0.00	0.01	0.02	9.0	0.0E+00	9.0E-08	0.0E+00	9.0E-08	1.8E-07	
5/2/2023	105197NM(9341)	PCS - diesel	6,972	0.12	0.65	3.16	19.96	23.89	87.3	1.0E-05	5.7E-05	2.8E-04	1.7E-03	2.1E-03	
5/11/2023	105197NM(9341)	PCS - diesel	6,973	0.12	0.65	3.16	19.96	23.89	207.4	2.5E-05	1.3E-04	6.6E-04	4.1E-03	5.0E-03	
5/24/2023	105401NM	PCS - motor oil	129,350	0.61	7.99	7.03	23.11	38.74	6.5	4.0E-06	5.2E-05	4.6E-05	1.5E-04	2.5E-04	
6/16/2023	105469NM	Diesel cont'd	13,397	0.02	0.05	0.18	1.10	1.35	7.4	1.5E-07	3.5E-07	3.7E-05	8.1E-06	1.0E-05	
8/22/2023	105499NM	PCS-Diesel	6,378	0.01	0.01	0.01	0.01	0.04	5.3	3.2E-06	4.2E-05	3.7E-05	1.2E-04	2.1E-07	
9/27/202	105520NM	Cont'd Innovalt SL70	167,110	0.01	0.03	0.02	0.02	0.08	16.7	3.3E-07	8.0E-07	3.0E-06	1.8E-05	1.3E-06	
9/28/2023	105864NM	PCS	153,100	0.05	0.25	0.05	0.10	0.45	7.5	7.5E-08	7.5E-08	7.5E-08	7.5E-08	3.4E-06	
10/25/2023	105556NM	Motor oil- cont'd	1,625	0.00	0.00	0.00	0.00	0.00	7.0	7.0E-08	2.1E-07	1.4E-07	1.4E-07	0.0E+00	
Totals									150.0	735.6	0.0001	0.0005	0.0018	0.0110	0.0132

HISTORICAL DATA - 10 YEARS

	Tonnage	Benzene	Ethylbenzene	Toluene	Xylene	TOTAL
2014	4,842	3.5E-04	8.1E-02	1.3E-02	2.1E-01	0.31
2015	30,473	1.7E-01	5.7E-01	6.3E-01	1.9E+00	3.25
2016	1,374	1.2E-05	1.1E-02	2.6E-03	5.0E-02	0.06
2017	6,529	1.8E-03	1.7E-02	2.2E-02	9.9E-02	0.14
2018	468	5.7E-05	1.4E-03	1.0E-03	6.8E-03	0.01
2019	26,838	3.4E-02	8.3E-01	2.2E+00	4.4E+00	7.45
2020	16,637	3.1E-02	4.8E-01	3.4E+00	2.2E+00	6.09
2021	1,074	3.5E-03	2.1E-02	2.2E-02	6.1E-02	0.11
2022	1,312	2.9E-04	2.2E-03	1.5E-03	9.9E-03	0.01
2023	2,199	2.8E-04	6.0E-03	1.7E-03	3.7E-02	0.04
* Ten year maximum						
Average	9,175	0.024	0.202	0.625	0.896	1.75
Maximum	30,473	0.166	0.835	3.390	4.412	7.45
Total Maximum BTEX						8.80

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)

VRLRF does not meet the criteria for GHG reporting for existing Title V sources applying for operating permit renewal per 20.2.70.7 NMAC. Calculations of GHG emissions for VRLRF have been estimated by Waste Management of New Mexico, Inc. (WMNM), and those values have been determined to be below the reporting threshold for landfills. Landfill GHG emissions (accounting for oxidation) were calculated to be approximately 48,470 tons/year (43,971 Mg/year) CO₂e for emissions year 2030. The greenhouse emissions are directly from the LandGEM model and are presented on **Table 2-P**.

Additionally, VRLRF is not subject to the requirements of 20.2.74 NMAC (Prevention of Significant Deterioration, PSD), as the facility is not an existing major PSD source, or a modification of a minor source. Determination of PSD applicability for existing minor Title V sources will be determined upon recalculation of annual GHG generation by WMNM annually.

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.
-

7.0 Introduction

Multiple sources of equipment and activity-specific data, equations, and emissions factors were used in determining potential emissions produced by activities at VRLRF. Information used to determine emissions is outlined in the following sections and attachments. As necessary, engineering calculations were used to supplement and/or support the data used to determine emissions estimates.

7.1 Manufacturer Data

When necessary, available manufacturer data were used in determining emissions rates from heavy equipment operations at the facility. Equipment weight and soil density data from the Caterpillar Performance Handbook (Edition 42, January 2012) were used to determine particulate emissions from water wagon, scraper, and motor grader operations. **Attachment 7.1** provides copies of manufacturer specifications.

7.2 EPA Emissions Factors and AP-42

The most recent version of the Environmental Protection Agency's Emissions Factors and AP-42 (5th Edition and associated updates) were used in determining particulate emissions for this Application. Pages containing relevant equations, emissions factors, and tables are included in **Attachment 7.2**.

7.3 Other Modeling and Emissions Determination

No computer models were used to determine particulate emissions. VOC/HAP emissions that could potentially occur from the remediation of petroleum contaminated soils (PCS) have been estimated as demonstrated in **Section 6** using the previous AQB-approved mass-balance method. This approach is demonstrated in **Section 6.4**, and an example PCS shipment/HAP tracking sheet, which continually calculates HAP emissions potentially produced during landfarming of PCS, is provided in **Attachment 6.4, Section 6**.

The EPA Landfill Gas Emissions Model (LandGEM) Version 3.02 (USEPA, May, 2005) was used to calculate total landfill gas production, as well as the uncontrolled NMOC, VOC, and HAP emission rates from landfill gas. The Model estimates emissions resulting from the biodegradation of refuse in landfills, and is recommended by EPA for use in developing estimates for state inventories. The Model uses a first-order decay rate equation, and estimates annual emissions over a time period specified by the user. The time period specified for waste acceptance at VRLRF was 1988 (the first year of waste acceptance) through 2030. This conservative timeframe was selected to project emissions estimates through the 5-year Operating Permit term, as well as the anticipated 18-month Permit review/issuance period; and is conservative for arid landfills.

Air Dispersion Modeling was not performed in support of this Application for Renewal.

7.4 Insignificant Activities and Equipment

Several activities conducted at VRLRF are considered "insignificant" or "trivial". Consistent with 20.2.70.300.D(6) NMAC, this Section evaluates the insignificance of each activity utilizing guidance furnished by NMED Air Quality Bureau (AQB). Specifically, AQB has developed a List of Insignificant Activities (dated March 24, 2005) and a List of Trivial Activities (dated September 15, 2008), which enumerate activities and equipment that are considered insignificant or trivial on the basis of size, emissions, or production rate. **Table 2-B in Section 2** provides a list of these activities.

- **Diesel Fuel Storage Tank and Generator** – VRLRF maintains an above-ground, 8,000-gallon diesel fuel (distillate fuel oil #2) storage tank that is used exclusively for on-site consumptive use in landfill operations. Tanks used solely for fueling company-owned equipment which have a capacity of less than 25,000 gallons are considered insignificant, as stated in Item 8 of the List of Insignificant Activities. Fuel is pumped from the storage tank into on-site equipment by a pump powered by a 13 hp Generac Diesel generator. Item 6 of the List of Insignificant Activities states that portable diesel engines that have a design capacity of less than 200 hp, and gasoline engines that have a design capacity of less than 500 hp, are considered insignificant.

- **Scalehouse and Water Well Generators** – VRLRF utilizes two Cummins generators for the production of electricity. One generator is located at the Scalehouse, and the second is located at the facility's water well. Each generator is powered by a 90 hp diesel engine. Item 6 of the List of Insignificant Activities states that portable diesel engines that have a design capacity of less than 200 hp, and gasoline engines that have a design capacity of less than 500 hp are considered insignificant.

As defined per 20.2.72 NMAC, the Scalehouse and water well generator engines are stationary sources. Under NMAC 20.2.72.202(B)(3), the Scalehouse generator (Unit 5a) qualifies for an exemption as an emergency standby generator operated less than 500 hours per year only during the unavoidable loss of commercial utility power. The water well generator (Unit 5b) does not qualify for an exemption under 20.2.70.202 NMAC. As requested by the NMED AQB, emissions calculations for Unit 5b have been provided as **Table 2-D-1** for NSR applicability purposes, but emission rates are not provided within Tables **2-D** and **2-E**.

- **Shop Equipment** – The Shop Area utilizes various air compressors, parts washers, generators, and pumps for daily maintenance activities and support to landfill operations. These pieces of equipment are considered insignificant due to the small size of their power plants (i.e., less than 200 hp). Item 6 of the List of Insignificant Activities states that portable diesel engines that have a design capacity of less than 200 hp, and gasoline engines that have a design capacity of less than 500 hp are considered insignificant. These pieces of equipment are listed below, and in **Section 2, Table 2-B**.
 - **ALKOTA High Pressure Power Washer** – Powered by a 20 hp gas engine
 - **Ingersoll Rand Air Compressor** – Powered by a 69 hp diesel engine
 - **Generac Diesel Fuel Storage Tank Generator** – Powered by 13 hp gas engine
 - **SiteLite Portable Light Tower** – Powered by a 29 hp diesel engine
 - **Multiquip Trash Pump** – Powered by a 8 hp gas engine
 - **Generac Portable Generator** – Powered by a 18 hp gas engine
 - **Tarpomatic Portable Tarping Machine** – Powered by a 24 hp diesel engine
 - **Generac Small Generator** – Powered by a 7 hp gas engine
- **Vehicle Maintenance Fluids Use and Storage** – Motor oil, antifreeze, hydraulic oil, and automatic transmission fluid are stored and used at VRLRF. These materials exhibit vapor

pressures considerably less than the 0.2 psi threshold value specified in Item 5 of the List of Insignificant Activities. Therefore, storage of these materials is also considered an insignificant activity.

7.5 Dust Control

As described in **Section 6.1.3**, a dust control efficiency of 80% is allowed on the unpaved portions of the Disposal Route at VRLRF treated with recycled basecourse (cold millings) and daily application of water. Unpaved portions of the Disposal Route and access roads which are only watered are allowed a 60% control efficiency. Additionally, the posted speed limit on facility roads is 15 mph, and Soil Borrow Area 2 and the Disposal Area are watered periodically to limit the production of fugitive dust during daily cover soil excavation, spreading, and waste disposal/compaction operations.

7.6 References

Caterpillar® Performance Handbook, Edition 42, Caterpillar®, Inc., Peoria, Illinois, 2012.

LandGEM (Landfill Gas Emissions Model), Version 3.02, Control Technology Center, US Environmental Protection Agency, Research Triangle Park, NC, 27711, and Office of Research and Development, Washington, DC 20460, May 2005.

AP-42: Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition, Office of Air Quality Planning and Standards/Office of Air and Radiation, US Environmental Protection Agency, Research Triangle Park, NC 27711, October 2008 (Draft), November 2006; September, October, and November 1998; January 1995; and September 1991.

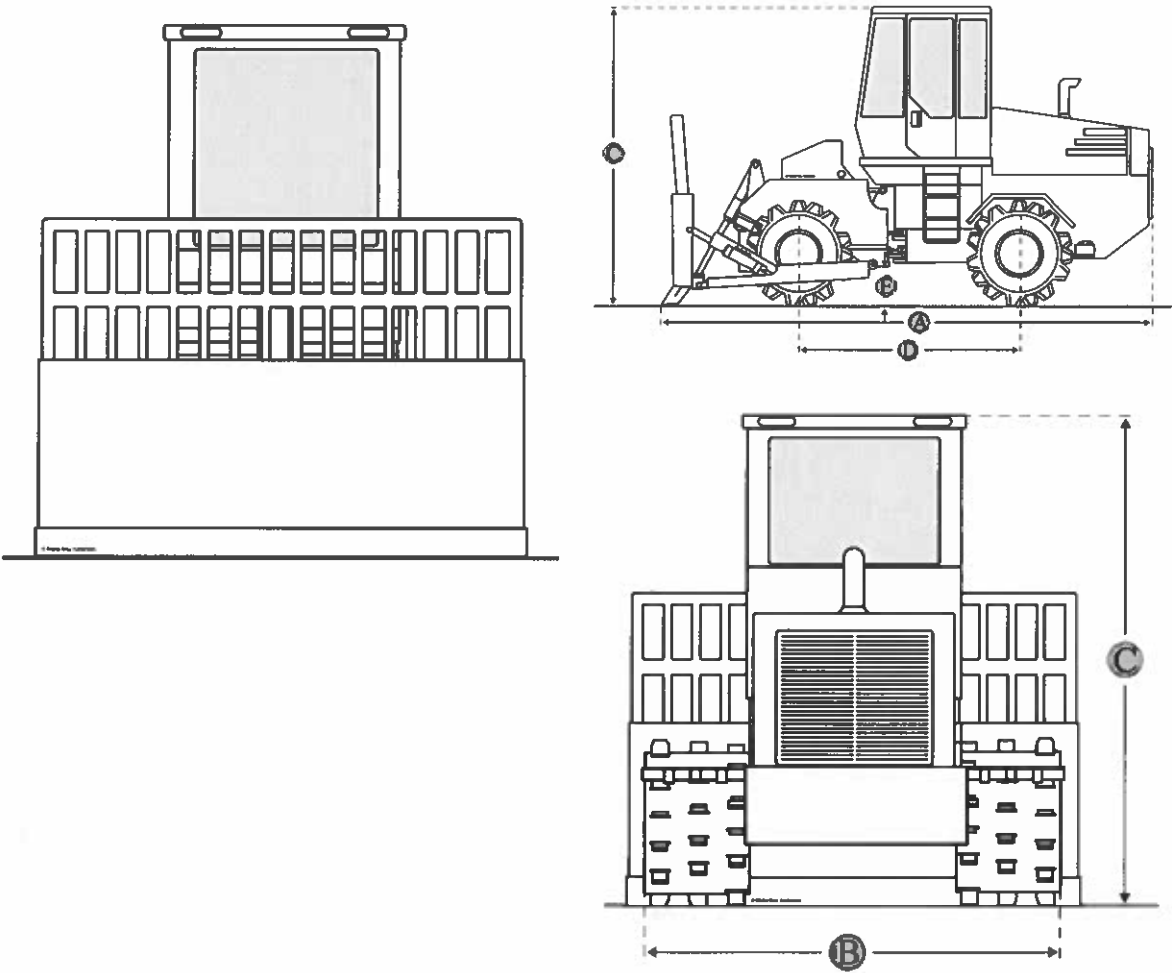
ATTACHMENT 7.1

EQUIPMENT MANUFACTURER'S SPECIFICATION SHEETS



[Home](#) [Compactor](#) [Caterpillar](#) 826G Series II

Caterpillar 826G Series II Compactor



Units

Dimensions

Dimensions (Approximate)

Centerline Of Rear Axle To Edge Of Counterweight	8.61 ft in
Centerline Of Rear Axle To Hitch	6.07 ft in
Height - Bottom Of Ladder	2.33 ft in
Ground Clearance - Counterweight	3.38 ft in

Height - Top Of Cab With A/C	13.75 ft in
Height - Top Of Exhaust Pipe	12.57 ft in
Height - Top Of Hood	8.86 ft in
Length - With Blade On Ground	27.13 ft in
Turning Radius - Inside	10.58 ft in
Turning Radius - Outside	24.06 ft in
Wheel Base	145.67 ft in
Width - Over End Bits - Blade	14.77 ft in
Width - Over Wheels	12.47 ft in

Specifications

Engine

Gross Power	380 hp
Displacement	893 cu in
Torque Rise	28 %
Bore	5.4 in
Stroke	6.5 in
Net Power - Iso 9249	340 hp
Engine Model	Cat 3406E ATAAC Diesel
Flywheel Power	340 hp
Eec 80/1269	340 hp
Peak Torque - 1,200 Rpm - Net	1232.5 lb ft
Sae J1349	340 hp
Net Power Iso 3046-2	340 hp
Din 70020	327 PS
Operational	
Operating Weight	81498 lb

Transmission

Forward - 1 3.6 mph

Forward - 2 6 mph

Reverse - 1 4.1 mph

Reverse - 2 6.6 mph

Hydraulic System

Relief Valve Setting 3500 psi

Axles

Front Planetary - Fixed

Hydraulic System

Lift Cylinder Bore X Stroke 114.3 mm x 576 mm 4.49 in x 22.68 in

Axles

Oscillating Rear Planetary - Oscillating 5 degrees

Hydraulic System

Vane Pump Output At 2,000 Rpm And 6900 Kpa (1,000 Psi) 26.5 gal/min

Brakes

Standards Meet OSHA, SAE J1473 Dec 84, ISO 3450-1985 standards.

Service Refill Capacities

Cooling System 21.9 gal

Fuel Tank 166.5 gal

Crankcase 9 gal

Hydraulic Tank 23.2 gal

Transmission 16.4 gal

Differential - Final Drives - Front 23.8 gal

Differential - Final Drives - Rear 23.8 gal

Cab

Rops/Fops Meets SAE and ISO standards.

Sound Performance

Standards	Meets ANSI/SAE and ISO standards.
------------------	-----------------------------------

Straight Blade

Height	6.3 ft in
Width - Over End Bits	14.8 ft in
Moldboard - Length	14.1 ft in
Lift Speed At Rated Rpm	1.42 ft/s
End Bits (2), Self-Sharpening, Length - Each	19 in
Cutting Edges (2), Reversible, End Section Length (Each)	5.9 ft in
End Bits (2), Self-Sharpening, Width X Thickness	254 mm x 25 mm 10 in x 1 in
Cutting Edges (2), Reversible, Width X Thickness	254 mm x 25 mm 10 in x 1 in
Wheels - Chevron-Pattern, Chopper Blades	
Drum Width	4 ft in
Drum Diameter	5.1 ft in
Blades Per Wheel	25
Diameter - With Blades	6.1 ft in
Wheels - Plus Tip Teeth With Abrasion Resistant Material (Arm)	
Drum Width	4 ft in
Drum Diameter	5.1 ft in
Tips Per Wheel	25
Diameter - With Tips	6.1 ft in
Wheels - Traction Tip Wheel With Abrasion Resistant Material (Arm)	
Drum Width	4 ft in
Drum Diameter	5.1 ft in
Diameter - With Tips	5.7 ft in
Tips Per Wheel	45

Compare similar models

☐ Caterpillar 826H

Operating Weight

81498 lb

☐ Bomag BC772RB

Operating Weight

81205 lb

☐ Komatsu WF600T-1

Operating Weight

81571.1 lb

Compare

Find Caterpillar 826G Series II Compactor for Sale



1987 Cat 826G Landfill Compactor



 AUSTRALIA

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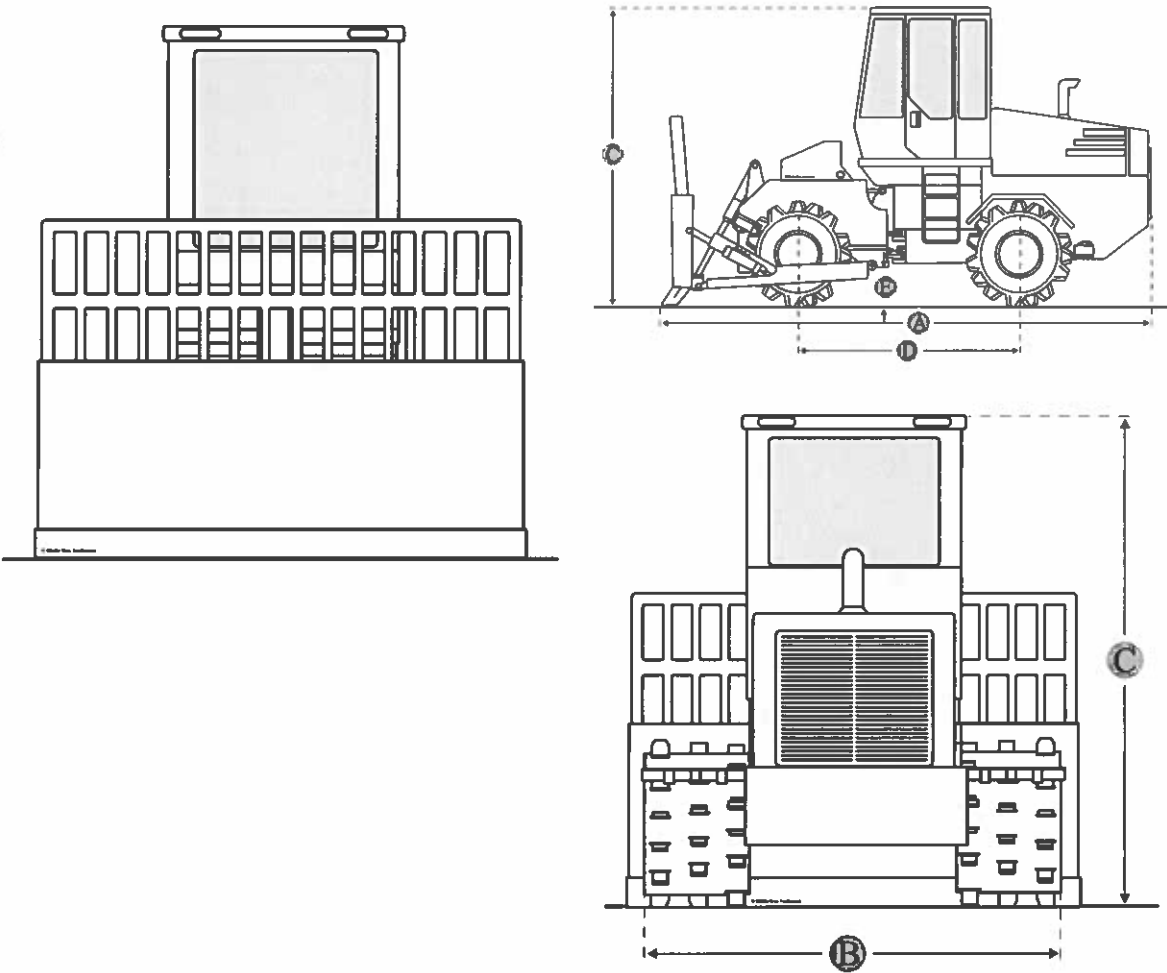
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Caterpillar 826H Compactor



Units

Imperial

Metric

Dimensions

Dimensions

A	Length With Blade On Ground	27.34 ft in
E	Ground Clearance	1.61 ft in
C	Height To Top Of Cab	13.76 ft in
D	Wheelbase	12.14 ft in

Dimensions (Approximate)

Centerline Of Rear Axle To Hitch	7.46 ft in
Width - Over Wheels	12.5 ft in
Turning Radius - Inside	10.57 ft in
Turning Radius - Outside	24.06 ft in
Width - Over End Bits - Blade	14.77 ft in

Specifications

Engine

Engine Make	2236
Engine Model	C15 diesel with ACERT Technology
Gross Power	401 hp
Net Power	354 hp
Displacement	927.6 cu in
Torque Rise	19 %
Bore	5.4 in
Stroke	6.7 in
Engine Model	Cat C15 ACERT
Flywheel Power	354 hp
Peak Torque - Gross	1387 lb ft

Operational

Operating Weight	81498 lb
Fuel Capacity	177.6 gal
Hydraulic System Fluid Capacity	23.3 gal
Engine Oil Capacity	9 gal
Cooling System Fluid Capacity	21.7 gal
Transmission Fluid Capacity	16.4 gal

Transmission

Number Of Forward Gears 2

Number Of Reverse Gears 2

Max Speed 6.6 mph

Forward - 1 3.6 mph

Forward - 2 6.1 mph

Reverse - 1 4.1 mph

Reverse - 2 6.6 mph

Wheels

Front Wheels Drum Width 47.3 in

Weights

Operating Weight 81498 lb

Wheels

Front Wheels Drum Diameter 60.4 in

Rear Wheels Drum Width 47.3 in

Rear Wheels Drum Diameter 60.4 in

Blade

Blade Capacity 17.1 yd³

Hydraulic System

Relief Valve Setting 3506.29 psi

Blade

Height 74.8 in

Width 14.8 ft in

Axles

Front Planetary - Fixed

Hydraulic System

Lift Cylinder Bore X Stroke 120.65 mm 915 mm (4.74 in 36.02 in)

Axles

Oscillating Rear	5 degrees
-------------------------	-----------

Hydraulic System

Vane Pump Output At 2,000 Rpm And 6900 Kpa (1,000 Psi)	93 gal/min
---	------------

Brakes

Standards	Meet OSHA, SAE J1473 DEC84, ISO 3450:1985 standards
------------------	---

Service Refill Capacities

Cooling System	21.7 gal
-----------------------	----------

Fuel Tank	177.6 gal
------------------	-----------

Crankcase	9 gal
------------------	-------

Hydraulic Tank	23.3 gal
-----------------------	----------

Transmission	16.4 gal
---------------------	----------

Differential - Final Drives - Front	23.8 gal
--	----------

Differential - Final Drives - Rear	23.8 gal
---	----------

Cab

Rops/Fops	Meets SAE and ISO standards
------------------	-----------------------------

Sound Performance

Standards	Meet ANSI/SAE and ISO standards
------------------	---------------------------------

Straight Blade

Height	6.3 ft in
---------------	-----------

Width - Over End Bits	14.8 ft in
------------------------------	------------

Moldboard - Length	14.2 ft in
---------------------------	------------

Capacity	17 yd ³
-----------------	--------------------

Wheels - Chevron-Pattern, Chopper Blades

Drum Width	4 ft in
-------------------	---------

Drum Diameter	5.1 ft in
----------------------	-----------

Blades Per Wheel	24
-------------------------	----

Diameter - With Blades	6.1 ft in
-------------------------------	-----------

Hydraulic Steering System

Piston Pump Output At 2,000 Rpm And 7000 Kpa (1,015 Psi)	49 gal/min
Relief Valve Setting	3499 psi
Steering Cylinder, Bore And Stroke	114.3 mm 576 mm (4.49 in 22.68 in)
Steering Angle	42 degrees
Step Tips	
Diameter - With Tips	6.2 ft in
Tips Per Wheel	30
Semi U-Blade	
Capacity	19 yd3
Height	6.5 ft in
Width - Over End Bits	14.8 ft in
Moldboard - Straight Length	12 ft in
Moldboard - Semi U-Length	1.6 ft in
Semi U-Angle	25 degrees
U-Blade	
Capacity	21.9 yd3
Height	6.9 ft in
Width - Over End Bits	14.5 ft in
Moldboard - Straight Length	6.9 ft in
Moldboard - U-Length	4.1 ft in
U-Angle	25 degrees

Compare similar models

☐ Caterpillar 825H

Front Wheels Drum Diameter	51.2 in
Net Power	354 hp

72166.2 lb

Operating Weight

☐ **Caterpillar 826C**

Front Wheels Drum Diameter

60.1 in

Net Power

315 hp

Operating Weight

69732.3 lb

[Compare](#)

Find Caterpillar 826H Compactor for Sale



2004 Cat 815F Soil Compactor

 9218

 FORT WORTH, TX

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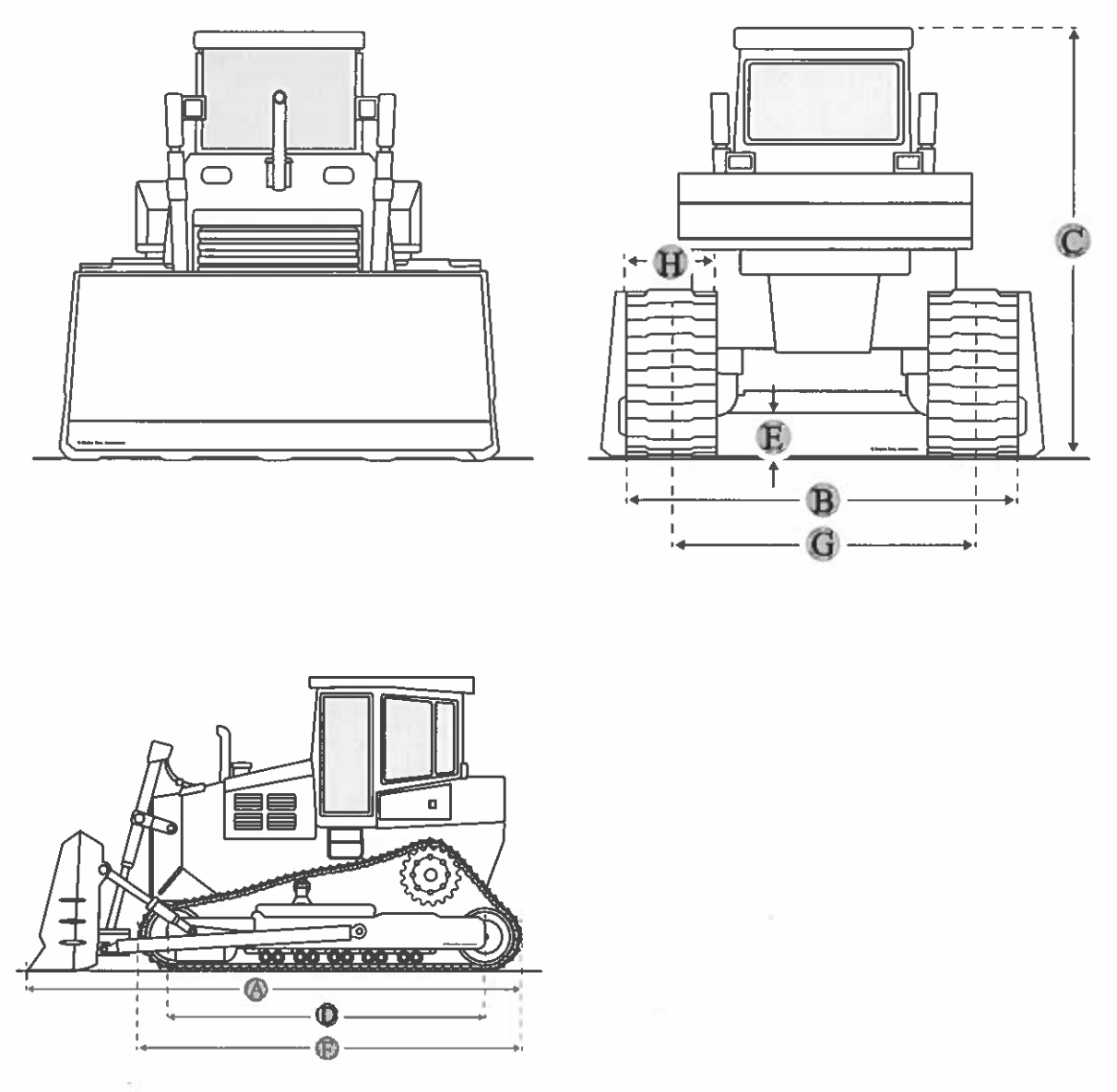
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Caterpillar D6R Crawler Tractor



Units

Imperial

Metric

Dimensions

Dimensions
A Length W/ Blade

16.09 ft in

B	Width Over Tracks	8.01 ft in
C	Height To Top Of Cab	10.49 ft in
D	Length Of Track On Ground	8.57 ft in
E	Ground Clearance	1.26 ft in
F	Length W/O Blade	12.67 ft in

Undercarriage

G	Track Gauge	6.17 ft in
H	Standard Shoe Size	22.05 in
	Number Of Shoes Per Side	39
	Ground Pressure	8.94 psi
	Ground Contact Area	4518 in ²
	Number Of Track Rollers Per Side	6
	Track Pitch	8 in

Specifications

Engine

Number Of Cylinders	6
Engine Make	2236
Engine Model	3306
Gross Power	179 hp
Net Power	165 hp
Power Measured @	1900 rpm
Displacement	638 cu in
Aspiration	Turbocharged

Operational

Operating Weight	40000 lb
Fuel Capacity	101.2 gal
Cooling System Fluid Capacity	19.6 gal

Engine Oil Capacity	7.3 gal
Hydraulic Fluid Capacity	20.1 gal
Powertrain Fluid Capacity	41 gal
Final Drives Fluid Capacity	3.6 gal
Operating Voltage	24 V
Alternator Supplied Amperage	70 amps
Transmission	
Transmission Type	Power Shift
Number Of Forward Gears	3
Number Of Reverse Gears	3
Max Speed - Forward	7.4 mph
Max Speed - Reverse	9.5 mph
Hydraulic System	
Pump Type	Piston Style
Relief Valve Pressure	2800 psi
Pump Flow Capacity	50.2 gal/min
Standard Blade	
Width	11.1 ft in
Height	49.5 in
Capacity	5.1 yd3
Cutting Depth	18.7 in

Compare similar models

☐	<u>Caterpillar D6N WH XL</u>	
Ground Pressure		—
Net Power		150 hp
Operating Weight		38224 lb

☐ Caterpillar D6T

Ground Pressure	9.4 psi
-----------------	---------

Net Power	-
-----------	---

Operating Weight	44418 lb
------------------	----------

☐ John Deere 750K

Ground Pressure	-
-----------------	---

Net Power	165 hp
-----------	--------

Operating Weight	34566.3 lb
------------------	------------

Compare

Find Caterpillar D6R Crawler Tractor for Sale



2015 Cat D6R Tractor sobre Orugas / Crawler Dozer

6211

POLOTITLAN, MEX

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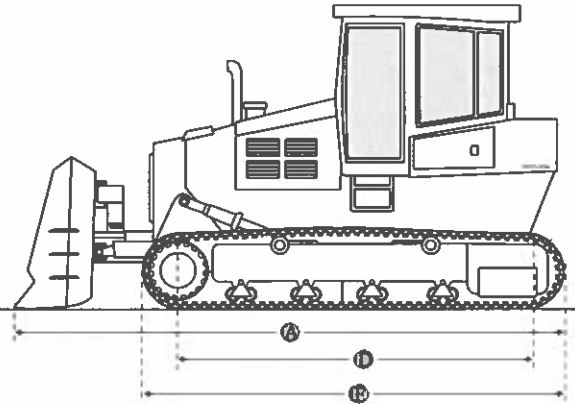
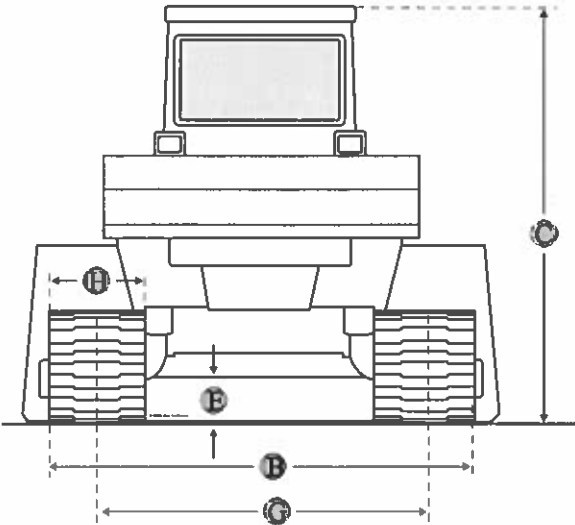
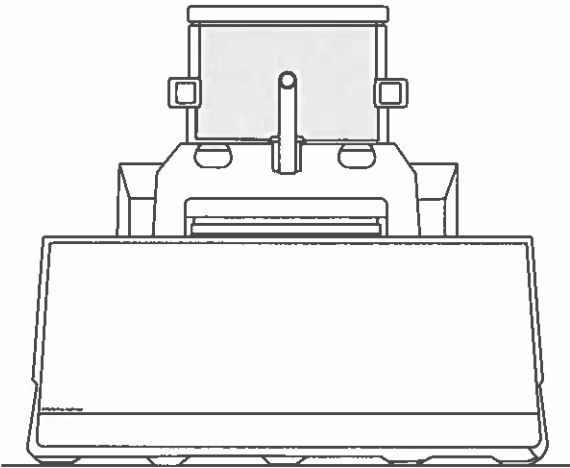
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John Deere 850J Crawler Tractor



Units

Imperial

Metric

Dimensions

Dimensions

A	Length W/ Blade	17.68 ft in
B	Width Over Tracks	8.17 ft in
C	Height To Top Of Cab	10.42 ft in
D	Length Of Track On Ground	9.09 ft in

E	Ground Clearance	1.35 ft in
Undercarriage		
G	Track Gauge	6.17 ft in
H	Standard Shoe Size	24 in
	Number Of Track Rollers Per Side	7
	Ground Pressure	7.61 psi
	Number Of Shoes Per Side	40
	Ground Contact Area	5232 in2
	Track Pitch	8 in

Specifications

Engine

Number Of Cylinders	6
Engine Make	2240
Engine Model	6090HT
Gross Power	192 hp
Net Power	185 hp
Power Measured @	1800 rpm
Max Torque	611 lb ft
Displacement	550 cu in
Torque Measured @	1500 rpm
Aspiration	Turbocharger w/ aftercooler

Operational

Operating Weight	39857.4 lb
Fuel Capacity	98 gal
Cooling System Fluid Capacity	9.2 gal
Engine Oil Capacity	7.1 gal
Hydraulic Fluid Capacity	27.9 gal

Powertrain Fluid Capacity	27.9 gal
Final Drives Fluid Capacity	4.4 gal
Operating Voltage	24 V
Alternator Supplied Amperage	80 amps
Transmission	
Transmission Type	Hydrostatic
Max Speed - Forward	6.3 mph
Max Speed - Reverse	6.3 mph
Hydraulic System	
Pump Type	Piston
Relief Valve Pressure	3625 psi
Pump Flow Capacity	46 gal/min
Standard Blade	
Width	10.7 ft in
Height	56 in
Capacity	7.3 yd3
Cutting Depth	26.6 in

Compare similar models

☐	<u>Caterpillar D6T (Tier 4 Final)</u>	
Net Power		-
Operating Weight		46263 lb
☐	<u>John Deere 450K</u>	
Net Power		205 hp
Operating Weight		19304 lb
☐	<u>John Deere 750K</u>	
Net Power		165 hp
		34566.3 lb

Operating Weight

Compare

Find John Deere 850J Crawler Tractor for Sale



2006 John Deere 850J with 2015 ROB Winch Assist Crawler Dozer

🕒 8769

📍 CHILLIWACK, BC

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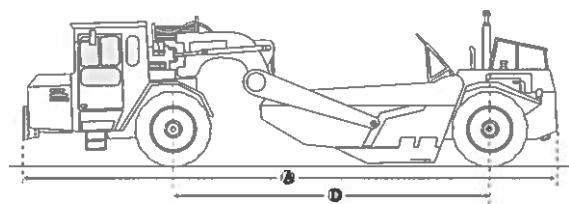
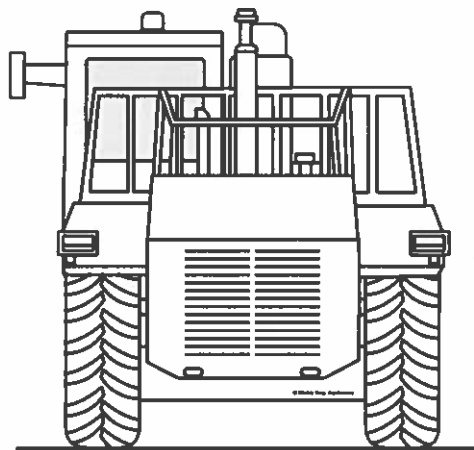
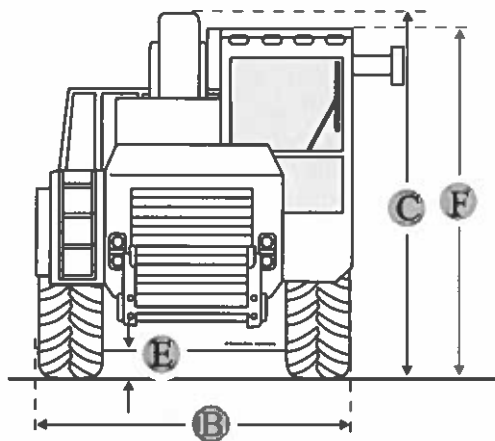
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Caterpillar 627G Motor Scraper



Units

Imperial

Metric

Dimensions

Dimensions

A	Overall Length	42.38 ft in
B	Overall Width	11.38 ft in
C	Overall Height	12.16 ft in
D	Wheelbase	25.33 ft in
E	Tractor Ground Clearance	1.81 ft in
F	Height To Top Of Cab	11.23 ft in

Height - Scraper Blade Maximum	20.6 in
Height - Top Of Cab	11.23 ft in
Length - Overall Machine	508.5 in
Rear Axle - Rear Of Machine	84.3 in
Rim Radius	17 in
Wheel Base	25.34 ft in
Width - Inside Of Bowl	116 in
Width - Outside Rear Tires	120 in
Width - Overall Machine	136.5 in
Width - Rear Tire Center Lines	85.8 in
Axle To Vertical Hitch Pin	17 in
Width - Tractor	123.25 in
Bail Length - Maximum (Push-Pull)	63.5 in
Extended Push Block (Push-Pull)	109.7 in
Front Of Tractor To Front Axle	120.4 in
Ground Clearance - Tractor	21.75 in
Height - Overall Shipping	145.9 in

Specifications

Tractor Engine

Make	Caterpillar
Model	C15 ACERT
Gross Power	394 hp
Net Power	365 hp
Displacement	928 cu in
Engine	
Tractor Engine	Cat C15 ACERT

Tractor Engine

Net Power - Gears 1-2	330 hp
Gross Power - Gears 1-2	359 hp
Bore	5.5 in
Stroke	6.5 in
Net Power - Gears 3-8	365 hp
Gross Power - Gears 3-8	394 hp
Net Power - Tractor/Scraper	246 kW (330 hp) / 178 kW (239 hp)

Engine

Scraper Engine	Cat C9 ACERT
-----------------------	--------------

Scraper Engine

Make	Caterpillar
Model	C9 ACERT
Gross Power	286 hp
Net Power	266 hp
Displacement	538 cu in
Bore	4.5 in
Stroke	5.9 in
Net Power - Gear 1	239 hp
Net Power - Gears 2-4	266 hp
Gross Power - Gear 1	258 hp
Gross Power - Gears 2-4	286 hp
Operational	
Fuel Capacity	292 gal
Cooling System Fluid Capacity	48.3 gal
Engine Oil Fluid Capacity	16.5 gal
Transmission Fluid Capacity	34.6 gal
Differential Fluid Capacity	42 gal

Hydraulic System Fluid Capacity	37 gal
Wheel Coolant Fluid Capacity - Each	24 gal
Operating Voltage	24 V
Alternator Supplied Amperage	75 amps
Tire Size	33.25-R29
Transmission	
Transmission Type	powershift
Number Of Forward Gears	8
Number Of Reverse Gears	1
Max Speed Forward	32 mph
Max Speed Reverse	5.7 mph
Reverse	5.7 mile/h
Steering	
Width - 180 Degrees Turn	35.9 ft in
Steering Angle - Right	90 degrees
Steering Angle - Left	85 degrees
Hydraulic Output	55 gal/min
Transmission	
1 Forward	3.1 mph
2 Forward	4.7 mph
3 Forward	6.8 mph
4 Forward	9.2 mph
5 Forward	12.4 mph
6 Forward	16.7 mph
7 Forward	22.6 mph
8 Forward	32 mph
Travel Speed - Maximum	32 mph

Weights

Total Operating - Empty	86800 lb
Operating Weight	136905 lb
Front Axle - Empty	52080 %
Rear Axle - Empty	34720 %
Total Operating - Loaded	139601 lb
Front Axle - Loaded	68405 lb
Rear Axle - Loaded	71197 %

Bowl

Rated Payload	52800 lb
Heaped Capacity	22 yd3
Struck Capacity	15.7 yd3
Max Depth Of Cut	13.1 in
Width Of Cut	10 ft in

Hydraulics

Bowl Cylinder Bore	6 in
Bowl Cylinder Stroke	32 in
Steering Circuit	55 gal/min
Scraper Circuit	65.5 gal/min
Cushion Hitch Circuit	9.8 gal/min
Relief Valve - Steering Circuit	2250 psi
Relief Valve - Implement Circuit	2175 psi
Ejector Cylinder Bore	6.5 in
Ejector Cylinder Stroke	61 in
Secondary Steering Circuit	39.9 gal/min
Apron Cylinder Bore	7.3 in
Apron Cylinder Stroke	23.5 in

Scraper Bowl

Capacity Heaped	22 yd3
Width - Cut - To Router Bits	119 in
Rated Load	52800 lb
Capacity - Struck	15.7 yd3
Depth Of Cut - Maximum	13.1 in
Ground Clearance - Maximum	20.6 in
Cutting Edge Thickness	0.9 in
Depth Of Spread - Maximum	20.6 in
Apron Closure Force	24075 lb
Apron Opening	70 in
Hyd. Penetration Force - 627g	48375 lb

Service Refill Capacities - Scraper

Transmission	15.6 gal
Differential	4 gal
Final Drive - Each	5 gal
Cooling System	20.3 gal
Fuel Tank - 627g	292 gal
Crankcase	7 gal
Wheel Coolant - Each	12 gal

Service Refill Capacities - Tractor

Transmission	19 gal
Differential	38 gal
Final Drive - Each	5 gal
Cooling System	28 gal
Hydraulic Reservoir	37 gal
Crankcase	9.5 gal
Wheel Coolant - Each	12 gal

Windshield Washer	1.5 gal
Weights - Standard, Tandem	
Total Shipping	82113 lb
Tractor Shipping	48447 lb
Scraper Shipping	33666 lb
Total Operating - Empty	83441 lb
Front Axle	49230 lb
Rear Axle	34211 lb
Total Operating - Loaded	136241 lb
Front Axle Weight - Loaded	65396 lb
Rear Axle - Weight - Loaded	70845 lb
Weights - Push-Pull	
Total Shipping	85473 lb
Tractor Shipping	52139 lb
Scraper Shipping	33335 lb
Total Operating - Empty	86800 lb
Front Axle	52080 lb
Rear Axle	34720 lb
Total Operating - Loaded	139601 lb
Front Axle - Loaded	68405 lb
Rear Axle - Loaded	71197 lb

Compare similar models

☐ [Caterpillar 623F](#)

Heaped Capacity 23.1 yd³

Net Power -

Rated Payload 55201.6 lb

☐ [Caterpillar 621G](#)

Heaped Capacity	22 yd3
-----------------	--------

Net Power	365 hp
-----------	--------

Rated Payload	52800 lb
---------------	----------

☐ **Caterpillar 621E**

Heaped Capacity	20.1 yd3
-----------------	----------

Net Power	-
-----------	---

Rated Payload	47994.7 lb
---------------	------------

[Compare](#)

Find Caterpillar 627G Motor Scraper for Sale



2015 Cat 623K Motor Scraper

 7803

 FORT WORTH, TX

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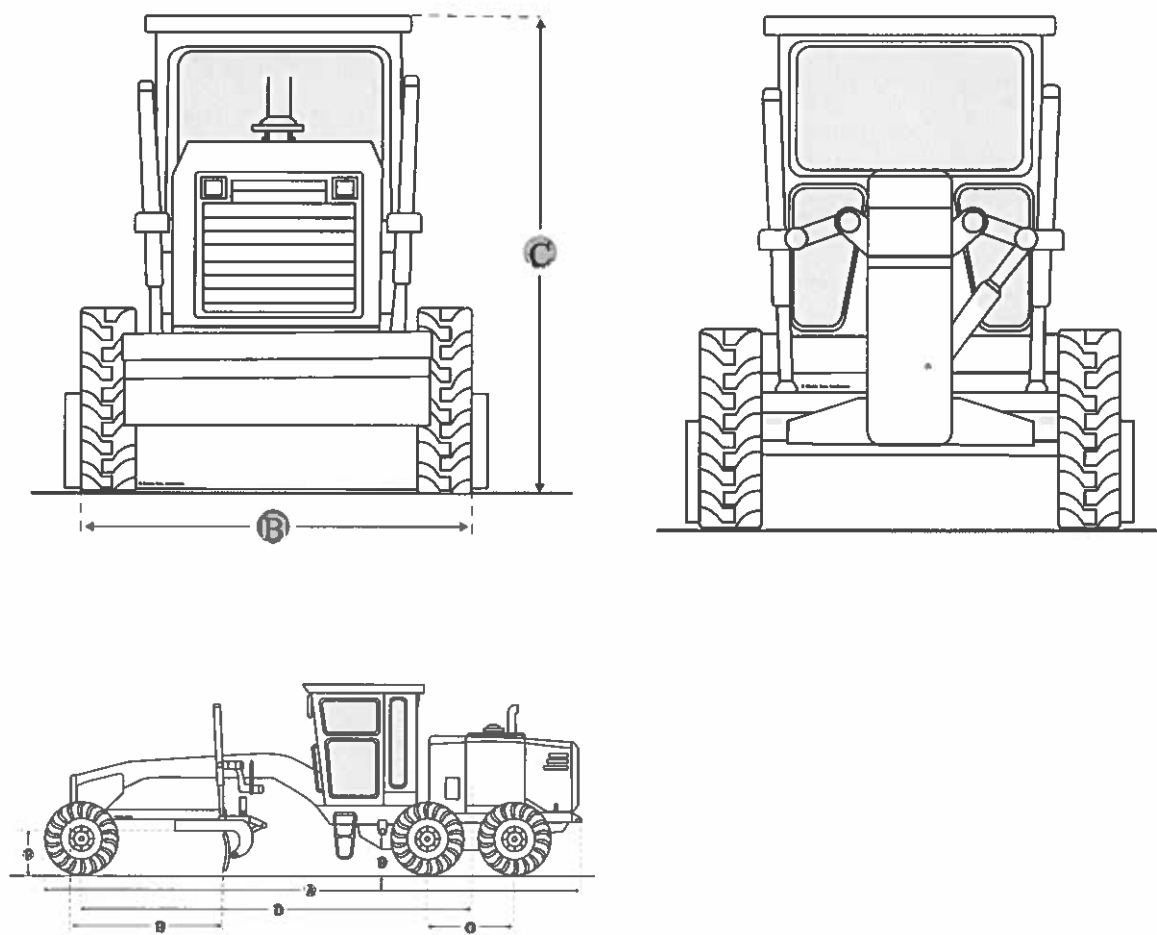
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Caterpillar 140G Motor Grader



Units

Imperial

Metric

Dimensions

Dimensions

A	Overall Length	27.27 ft in
B	Width Over Tires	8.01 ft in
D	Wheelbase	19.43 ft in
G	Tandem Axle Wheelbase	4.99 ft in
H	Blade Base	8.44 ft in

Height To Top Of Isomount Cab

11.03 ft in

Specifications

Engine

Number Of Cylinders	6
Engine Make	2236
Engine Model	3306
Net Power Gear 5-6	150 hp
Max Power	150 hp
Displacement	638 cu in

Operational

Hydraulic System Fluid Capacity	18 gal
Std Operation Weight - Total	27822.4 lb
Oil System Fluid Capacity	7.8 gal
Fuel Capacity	75.1 gal
Cooling System Fluid Capacity	12.5 gal
Tire Size	14x24 10PR
Operating Voltage	24 V
Alternator Supplied Amperage	40 amps

Steering

Articulation Angle	50 degrees
Turning Radius	24 ft in

Transmission

Transmission Type	direct drive power shift
Number Of Gears - Forward	6
Number Of Gears - Reverse	6
Max Speed - Forward	25.5 mph
Max Speed - Reverse	25.5 mph

Front Axle	
Wheel Lean	18 degrees
Oscillation - Total	32 degrees
Ground Clearance	2.1 ft in
Moldboard	
Moldboard Width	12.1 ft in
Moldboard Height	24.1 in
Moldboard Thickness	0.9 in
Max Depth Of Cut	17.3 in
Side Shift Left	26 in
Side Shift Right	26 in
Hydraulic System	
Pump Type	closed-centre, constant-presure system w/ variable displacement piston pump
Pump Flow	51 gal/min
Relief Valve Pressure	2150 psi
Circle	
Diameter	60.3 in
Rotation	360 degrees
Shift Left	25.6 in
Shift Right	20.5 in
Max Reach Outside Tires - Left	77.2 in
Max Reach Outside Tires - Right	72.1 in
Max Lift Above Ground	18.3 in

Compare similar models



Komatsu GD600R-2



Max Power

145 hp

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Moldboard Width	12.2 ft in
-----------------	------------

Std Operation Weight - Total	27227.1 lb
------------------------------	------------

☐ [Komatsu GD621R-1](#)

Max Power	155.6 hp
-----------	----------

Moldboard Width	12.2 ft in
-----------------	------------

Std Operation Weight - Total	27998.8 lb
------------------------------	------------

☐ [Komatsu GD623A-1](#)

Max Power	155.6 hp
-----------	----------

Moldboard Width	12.2 ft in
-----------------	------------

Std Operation Weight - Total	27998.8 lb
------------------------------	------------

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Find Caterpillar 140G Motor Grader for Sale



1976 Cat 140G Motor Grader

0

SASKATOON, SK

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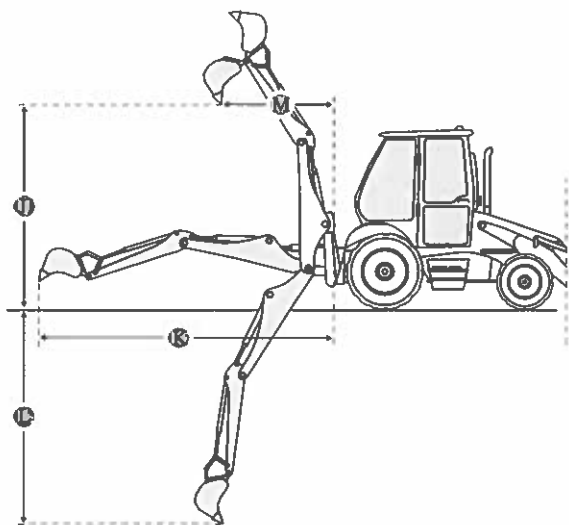
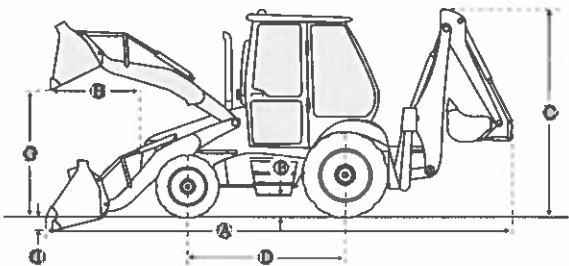
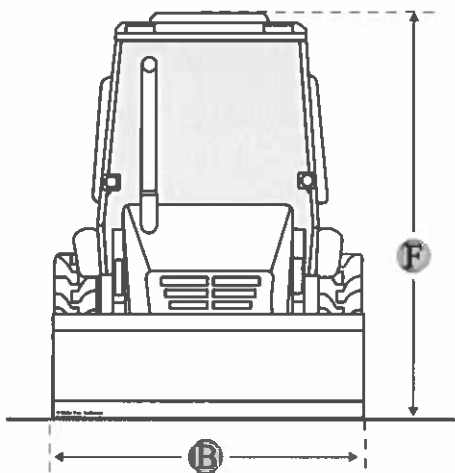
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John Deere 410J Loader Backhoe



Units

Dimensions

Backhoe

J	Load Height - Std	12.5 ft in
K	Reach From Swivel - Std	19.68 ft in
L	Dig Depth - Std	15.83 ft in
	Load Height - Ext	15.5 ft in
	Reach From Swivel - Ext	23.67 ft in
	Dig Depth - Ext	20 ft in

Bucket Dig Force - Std	14801 lb
-------------------------------	----------

Dimensions

A Transport Length	23.92 ft in
B Transport Width	7.58 ft in
C Transport Height	12.93 ft in
D Wheelbase	7 ft in
E Ground Clearance	1.17 ft in
Height To Top Of Suspended Cab	9.25 ft in

Loader

G Clearance At Max Dump Height	8.33 ft in
H Reach At Max Dump Height	2.96 ft in
I Dig Depth	4.22 in
Lift Capacity At Full Height	7340 lb
Bucket Capacity	1.25 yd3
Bucket Width	85.99 in
Bucket Breakout Force	10210 lb

Specifications

Engine

Engine Make	2240
Engine Model	4045T
Net Power	96 hp
Power Measured @	2100 rpm
Torque Measured @	1500 rpm
Net Torque Rise	26 %
Net Max Torque	278 lb ft
Aspiration	Turbocharged
Displacement	276 cu in

Operational

Operating Weight 2wd	15000 lb
Fuel Capacity	41 gal
Operating Weight 4wd	18500 lb
Hydraulic System Fluid Capacity	25 gal
Oil System Fluid Capacity	3.5 gal
Cooling System Fluid Capacity	5.6 gal
Transmission Fluid Capacity	4 gal
Front Axle Fluid Capacity	1.8 gal
Rear Axle Fluid Capacity	4.8 gal
Tire Size Front - 2wd / 4wd	11L-16 12PR/12.5/80-18 10PR
Rear Tires Size 2wd/4wd	19.5L-24 10PR
Operating Voltage	12 V
Alternator Supplied Amperage	90 amps
Transmission	
Transmission Type	Powershift
Number Of Forward Gears	4
Number Of Reverse Gears	3
Max Speed - Forward	23.2 mph
Max Speed Reverse	13.4 mph
Hydraulic	
Pump Type	Axial-piston
Pump Flow Capacity	42 gal/min
Relief Valve Pressure	3625 psi

Compare similar models



New Holland B95C LR

Net Power

95 hp

☐ [John Deere 6108](#)

Net Power

80 hp

☐ [John Deere 510](#)

Net Power

80 hp

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[2007 John Deere 410J 4x4 Backhoe Loader](#)



WISCONSIN, USA

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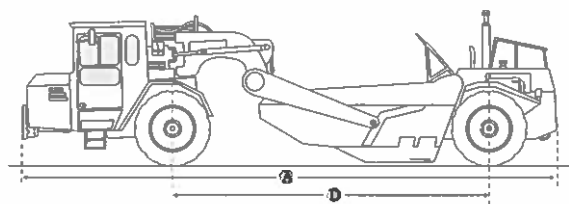
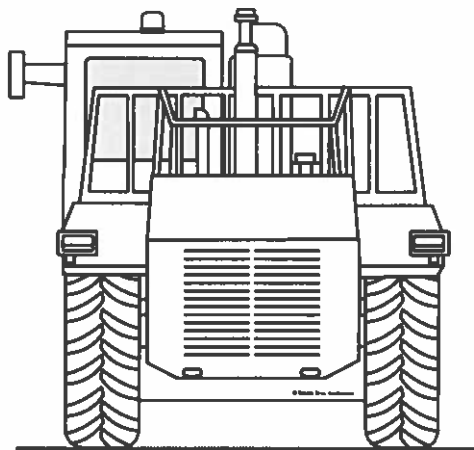
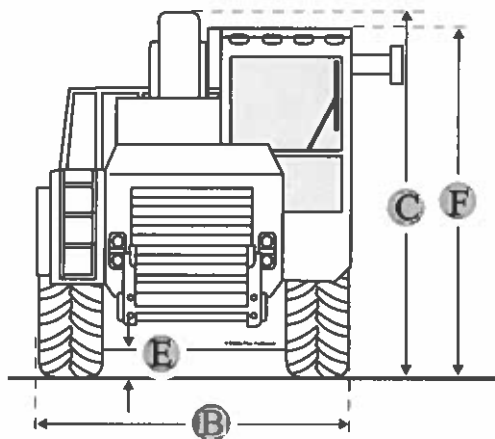
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Caterpillar 613C Series II Motor Scraper



Units

Imperial

Metric

Dimensions

Dimensions

A Overall Length	32.81 ft in
B Overall Width	8.01 ft in
C Overall Height	10.18 ft in
D Wheelbase	20.54 ft in
F Height To Top Of Cab	9.59 ft in
Rear Axle - Rear Of Machine	48.4 in

Wheel Base	20.55 ft in
Width - Outside Rear Tires	96 in
Width - Overall Machine	96 in
Front Of Tractor To Front Axle	98.4 in
Width - Rear Tire Center Lines	70.91 in
Height - Overall Shipping	122 in
Height - Scraper Blade Maximum	22.5 in
Height - Top Of Cab	10.17 ft in
Length - Overall Machine	399 in

Specifications

Tractor Engine

Make Caterpillar

Model CAT 3116

Gross Power 187 hp

Engine

Net Power 175 hp

Tractor Engine

Net Power 175 hp

Displacement 403 cu in

Engine

Displacement 403 cu in

Bore 4.2 in

Stroke 5 in

Tractor Engine Cat 3116

Gross Power - Gears 1-2 187 hp

Net Power - Gears 1-2 175 hp

Net Power - Gears 3-8 175 hp

Flywheel Power - Tractor/Scraper	131 kW (175 hp)
Scraper Engine	
Displacement	402.8 cu in
Operational	
Fuel Capacity	66.1 gal
Cooling System Fluid Capacity	10.2 gal
Engine Oil Fluid Capacity	5.3 gal
Transmission Fluid Capacity	9.3 gal
Differential Fluid Capacity	5.1 gal
Hydraulic System Fluid Capacity	26.5 gal
Wheel Coolant Fluid Capacity - Each	1.6 gal
Tire Size	23.5R25
Transmission	
Number Of Forward Gears	6
Number Of Reverse Gears	1
Max Speed Forward	21.9 mph
Max Speed Reverse	2.2 mph
Reverse	2.17 mile/h
1 Forward	2.2 mph
2 Forward	3.6 mph
3 Forward	5.7 mph
4 Forward	8.9 mph
5 Forward	15.1 mph
6 Forward	21.8 mph
Top Speed - Loaded	21.8 mph
Weights	
Total Operating - Empty	33651.4 lb
Front Axle - Empty	21100.5 %

Rear Axle - Empty	12551 %
Total Operating - Loaded	60050 lb
Front Axle - Loaded	29438.4 lb
Rear Axle - Loaded	30613.4 %
Front Axle	21100 lb
Rear Axle	12550 lb
Front Axle Weight - Loaded	29438 lb
Rear Axle - Weight - Loaded	30612 lb
Bowl	
Rated Payload	26400.4 lb
Struck Capacity	8.9 yd3
Max Depth Of Cut	14.6 in
Width Of Cut	7.8 ft in
Elevator	
Number Of Flights	15
Width - Flight Face	6.9 in
Length - Flights	66.1 in
Spacing Of Flights	16 in
Length - Overall	96 in
Service Refill Capacities	
Cooling System	10.2 gal
Fuel Tank	66 gal
Crankcase	5.3 gal
Final Drive - Each	1.5 gal
Transmission	9.2 gal
Differential	5 gal
Hydraulic Reservoir	26.4 gal

Hydraulics

Bowl Cylinder Bore	4 in
Bowl Cylinder Stroke	16.5 in
Steering Circuit	21.93 gal/min
Scraper Circuit	26.95 gal/min
Ejector Cylinder Bore	3.5 in
Ejector Cylinder Stroke	36 in
Scraper Bowl	
Width - Cut - To Router Bits	7.8 in
Rated Load	26400 lb
Capacity - Struck	8.9 yd3
Depth Of Cut - Maximum	6.3 in
Ground Clearance - Maximum	17.7 in
Depth Of Spread - Maximum	14.6 in
Scraper Capacity - Heaped	11 yd3

Compare similar models

☐ International 412B

Net Power	168 hp
Rated Payload	26199.8 lb

☐ John Deere 762B

Net Power	180 hp
Rated Payload	27500.5 lb

☐ John Deere 760A

Net Power	152 hp
Rated Payload	23750.4 lb

Compare

Find Caterpillar 613C Series II Motor Scraper for Sale



1995 Cat 615C Series II Motor Scraper



📍 GEORGIA, USA

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Freightliner FL80 Specifications and Pricing Information



[View Freightliner FL80 near me](#)

Specifications

HP	430 hp
Gearbox type	Manual Enums
Axle configuration	6x4 Enums
Gross weight	23,600 kg
Gearbox type	Automatic Enums

The above specifications are based on the 2012 model year.

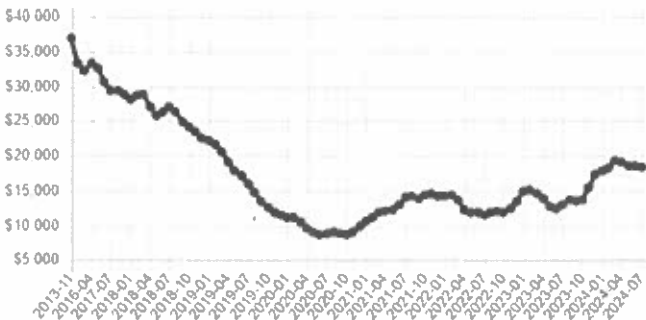
What is the price of a Freightliner FL80?

In the United States a used Freightliner FL80 cab chassis truck is typically priced between **\$29,900 USD** and **\$49,000 USD**. Variation in price can be due to a number of factors including age, condition, location, and specifications.

Prices By Model Year

1993 - 1995	\$11,000 USD to \$12,500 USD
1996 - 1998	\$10,101 USD to \$14,497 USD
1999 - 2001	\$10,500 USD to \$14,500 USD
2002 - 2005	\$12,500 USD to \$27,500 USD

Price Change



Currently For Sale



Trusted Seller

1998 FREIGHTLINER FL80

USED

Manufacturer: Freightliner
Model: FL80
Mileage: 105,278 mi

1998 Freightliner Water Truck for sale Set up with 2 front spray 2 rear spray side spray adjustable on the go and a electric hose reel.

\$54,900 USD

[Tucson, AZ, USA](#)

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★★★★★



1996 Freightliner FL80 #5455

USED

Manufacturer: Freightliner
Model: FL80

Specifications 1996 Freightliner FL80 Cummins ISC 8.3L @ 300HP Allison Automatic 4x4 Air Brake Built By 3D Manufactures 1000 CDA Water

\$49,900 USD

[Fontana, CA, USA](#)

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2002 Freightliner FL80 TANDEM, 8.3L L6 DIESEL Starts, runs, and drives. Automatic transmission 2 Wheel cracked glass. Exterior has dents, scratches, and dings. Tires in good condition. Gray vinyl interior. Dirty dash/...

★★★★★

Auction

2003 Freightliner FL80

USED

Manufacturer: Freightliner
Model: FL80

Springfield, MO, USA

★★★★★

2003 Freightliner FL80 TANDEM, 7.2L L6 DIESEL VIN# 1FVHBXAK83HK46259 ODOMETER: 182,440 ENGINE: 7.2 702 L CAT TRANSMISSION: MD 3560P ALLISON TIRES: 315/80R22.5 11R22.5GVW: 56000 CONDITION: FAIR. OPERATIONAL. REAR TIR...



Trusted Seller

2002 FREIGHTLINER FL80

USED

Manufacturer: Freightliner
Model: FL80
Mileage: 323,318 mi

\$15,000 USD

Covington, TN, USA

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★★★★★

nice truck, runs great, southern ran, air brakes, air seat, 25 yard HEIL packer, dual cart tipper, differential lock, *TITLE DELAY



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Freightliner FL112



Freightliner FL70



Freightliner

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Peterbilt 348 Specifications and Pricing Information



[View Peterbilt 348 near me](#)

Specifications

HP	350 hp
Gearbox type	Manual Enums
Axle configuration	6x4 Enums
Gross weight	29,937.096 kg
Gearbox type	Automatic Enums

The above specifications are based on the 2020 model year.

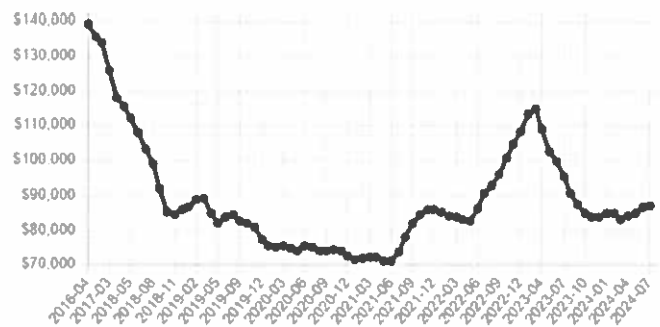
What is the price of a Peterbilt 348?

In the United States a used Peterbilt 348 cab chassis truck is typically priced between **\$105,000 USD** and **\$155,000 USD**. Variation in price can be due to a number of factors including age, condition, location, and specifications.

Prices By Model Year

2011 - 2013	\$55,900 USD to \$64,900 USD
2014 - 2016	\$70,000 USD to \$114,900 USD
2017 - 2019	\$114,500 USD to \$134,500 USD
2020 - 2021	\$154,000 USD to \$185,000 USD

Price Change



Currently For Sale



Trusted Seller

2015 Peterbilt 348 #800050422

USED

Manufacturer: Peterbilt
Model: 348

Anaheim, CA, USA

[Click to Request Price](#)

★★★★☆



Trusted Seller

2020 Peterbilt 348 Dump Truck

USED

Manufacturer: Peterbilt
Model: 348
Mileage: 147,957

Lake Elsinore, CA, USA

[Click to Request Price](#)

★★★★★

2022 Peterbilt 348 Hydra Excavator Truck

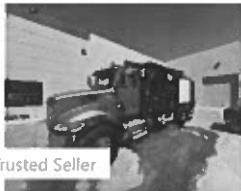
USED

Manufacturer: Peterbilt
Model: 348

Lake Elsinore, CA, USA

[Click to Request Price](#)

★★★★★



Mud Dog 700 Hydra Excavator w/Vacuum System, 600 Gallon Water Tank, Cold Weather Recirculating System, 370HP Paccar PX-9 Diesel, Allison Automatic.



2016 Peterbilt 348 Flatbed 24ft 52K gvw

USED

Manufacturer: Peterbilt
Model: 348
Mileage: 301,000

\$59,999 USD

Los Angeles, CA, USA

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★★★★★

Vehicle Description 90 DAYS/20,000 MILES- ENGINE WARRNTY nationwide- & 500 MILES DELIVERY- SUBJECT TO TERMS/CONDITIONS/LIMITATIONS- CHECK WITH DEALER FOR DETAILS- Hot Stuff rare and hard to get a clean PEtes wit...



Trusted Seller

2017 Peterbilt 348

USED

Manufacturer: Peterbilt
Model: 348

\$112,350 USD

Texas, USA

★★★★★

Chassis miles: 223 miles | Engine miles: 223 miles | Engine make: Paccar | Engine model / size: paccar Px-9 | Horsepower: 375 | Transmission: Autoshift 10 speed | Seat material: Vinyl | Fifth wheel: Standard | S...

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ATTACHMENT 7.2

AP-42 SECTIONS

Table 2.4-2 (CONTINUED). DEFAULT CONCENTRATIONS FOR LFG CONSTITUENTS FOR LANDFILLS WITH WASTE IN PLACE PRIOR TO 1992

Compound	Molecular Weight	Default Concentration (ppmv)	Emission Factor Rating
Ethanol	46.08	27.2	E
Ethyl mercaptan (ethanethiol)	62.13	2.28	D
Ethylbenzene ^a	106.16	4.61	B
Ethylene dibromide	187.88	0.001	E
Fluorotrichloromethane	137.38	0.76	B
Hexane ^a	86.18	6.57	B
Hydrogen sulfide	34.08	35.5	B
Mercury (total) ^{a,d}	200.61	2.92x10 ⁻⁴	E
Methyl ethyl ketone ^a	72.11	7.09	A
Methyl isobutyl ketone ^a	100.16	1.87	B
Methyl mercaptan	48.11	2.49	C
Pentane	72.15	3.29	C
Perchloroethylene (tetrachloroethylene) ^a	165.83	3.73	B
Propane	44.09	11.1	B
t-1,2-dichloroethene	96.94	2.84	B
Toluene ^a	92.13		
Co-disposal (SCC 50300603)		165	D
No or Unknown co-disposal (SCC 50100402)		39.3	A
Trichloroethylene (trichloroethene) ^a	131.38	2.82	B
Vinyl chloride ^a	62.50	7.34	B
Xylenes ^a	106.16	12.1	B

NOTE: This is not an all-inclusive list of potential LFG constituents, only those for which test data were available at multiple sites. References 16-82. Source Classification Codes in parentheses.

^a Hazardous Air Pollutants listed in Title III of the 1990 Clean Air Act Amendments.

^b Carbon monoxide is not a typical constituent of LFG, but does exist in instances involving landfill (underground) combustion. Therefore, this default value should be used with caution. Of 18 sites where CO was measured, only 2 showed detectable levels of CO.

^c Source tests did not indicate whether this compound was the para- or ortho- isomer. The para isomer is a Title III-listed HAP.

^d No data were available to speciate total Hg into the elemental and organic forms.

^e For NSPS/Emission Guideline compliance purposes, the default concentration for NMOC as specified in the final rule must be used. For purposes not associated with NSPS/Emission Guideline compliance, the default VOC content at co-disposal sites can be estimated by 85 percent by weight (2,060 ppmv as hexane); at No or Unknown sites can be estimated by 39 percent by weight 235 ppmv as hexane).

Table 11.9-1 (English Units). EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES
AT WESTERN SURFACE COAL MINES^a

Operation	Material	Emissions By Particle Size Range (Aerodynamic Diameter) ^{b,c}				Units	EMISSION FACTOR RATING
		Emission Factor Equations		Scaling Factors			
		TSP ≤30 μm	≤15 μm	≤10 μm ^d	≤2.5 μm/TSP ^e		
Blasting ^f	Coal or overburden	0.000014(A) ^{1.5}	ND	0.52 ^e	0.03	lb/blast	C_DD
Truck loading	Coal	$\frac{1.16}{(M)^{1.2}}$	$\frac{0.119}{(M)^{0.9}}$	0.75	0.019	lb/ton	BBCC
Bulldozing	Coal	$\frac{78.4 (s)^{1.2}}{(M)^{1.3}}$	$\frac{18.6 (s)^{1.5}}{(M)^{1.4}}$	0.75	0.022	lb/hr	CCDD
Dragline	Overburden	$\frac{5.7 (s)^{1.2}}{(M)^{1.3}}$	$\frac{1.0 (s)^{1.5}}{(M)^{1.4}}$	0.75	0.105	lb/hr	BCDD
	Overburden	$\frac{0.0021 (d)^{1.1}}{(M)^{0.3}}$	$\frac{0.0021 (d)^{0.7}}{(M)^{0.3}}$	0.75	0.017	lb/yd ³	BCDD
	Vehicle traffic ^g						
Grading		0.040 (S) ^{1.5}	0.051 (S) ^{2.0}	0.60	0.031	lb/VMT	CCDD
Active storage pile ^h (wind erosion and maintenance)	Coal	0.72 u	ND	ND	ND	lb (acre)/(hr)	C'---

^a Reference 1, except as noted. VMT = vehicle miles traveled. ND = no data. Quality ratings coded where "Q, X, Y, Z" are ratings for ≤30 μm, ≤15 μm, ≤10 μm, and ≤2.5 μm, respectively. See also note below.

^b Particulate matter less than or equal to 30 μm in aerodynamic diameter is sometimes termed "suspensible particulate" and is often used as a surrogate for TSP (total suspended particulate). TSP denotes what is measured by a standard high volume sampler (see Section 13.2).

^cSymbols for equations:

A = horizontal area (ft²), with blasting depth ≤ 70 ft. Not for vertical face of a bench.

M = material moisture content (%)

s = material silt content (%)

u = wind speed (mph)

d = drop height (ft)

W = mean vehicle weight (tons)

S = mean vehicle speed (mph)

w = mean number of wheels

Table 13.2.2-1. TYPICAL SILT CONTENT VALUES OF SURFACE MATERIAL
ON INDUSTRIAL UNPAVED ROADS*

Industry	Road Use Or Surface Material	Plant Sites	No. Of Samples	Silt Content (%)	
				Range	Mean
Copper smelting	Plant road	1	3	16 - 19	17
Iron and steel production	Plant road	19	135	0.2 - 19	6.0
Sand and gravel processing	Plant road	1	3	4.1 - 6.0	4.8
	Material storage area	1	1	-	7.1
Stone quarrying and processing	Plant road	2	10	2.4 - 16	10
	Haul road to/from pit	4	20	5.0-15	8.3
Taconite mining and processing	Service road	1	8	2.4 - 7.1	4.3
	Haul road to/from pit	1	12	3.9 - 9.7	5.8
Western surface coal mining	Haul road to/from pit	3	21	2.8 - 18	8.4
	Plant road	2	2	4.9 - 5.3	5.1
	Scraper route	3	10	7.2 - 25	17
	Haul road (freshly graded)	2	5	18 - 29	24
Construction sites	Scraper routes	7	20	0.56-23	8.5
Lumber sawmills	Log yards	2	2	4.8-12	8.4
Municipal solid waste landfills	Disposal routes	4	20	2.2 - 21	6.4

*References 1,5-15.

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

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

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

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

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

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

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

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

$$1 \text{ lb/VMT} = 281.9 \text{ g/VKT}$$

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

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

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

*Assumed equivalent to total suspended particulate matter (TSP)

“-“ = not used in the emission factor equation

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

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

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

* See discussion in text.

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

The emission factors for the exhaust, brake wear and tire wear of a 1980's vehicle fleet (C) was obtained from EPA's MOBILE6.2 model²³. The emission factor also varies with aerodynamic size range

average uncontrolled conditions (but including natural mitigation) under the simplifying assumption that annual average emissions are inversely proportional to the number of days with measurable (more than 0.254 mm [0.01 inch]) precipitation:

$$E_{\text{ext}} = E [(365 - P)/365] \quad (2)$$

where:

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation, lb/VMT

E = emission factor from Equation 1a or 1b

P = number of days in a year with at least 0.254 mm (0.01 in) of precipitation (see below)

Figure 13.2.2-1 gives the geographical distribution for the mean annual number of “wet” days for the United States.

Equation 2 provides an estimate that accounts for precipitation on an annual average basis for the purpose of inventorying emissions. It should be noted that Equation 2 does not account for differences in the temporal distributions of the rain events, the quantity of rain during any event, or the potential for the rain to evaporate from the road surface. In the event that a finer temporal and spatial resolution is desired for inventories of public unpaved roads, estimates can be based on a more complex set of assumptions. These assumptions include:

1. The moisture content of the road surface material is increased in proportion to the quantity of water added;
2. The moisture content of the road surface material is reduced in proportion to the Class A pan evaporation rate;
3. The moisture content of the road surface material is reduced in proportion to the traffic volume; and
4. The moisture content of the road surface material varies between the extremes observed in the area. The CHIEF Web site (<http://www.epa.gov/ttn/chief/ap42/ch13/related/c13s02-2.html>) has a file which contains a spreadsheet program for calculating emission factors which are temporally and spatially resolved. Information required for use of the spreadsheet program includes monthly Class A pan evaporation values, hourly meteorological data for precipitation, humidity and snow cover, vehicle traffic information, and road surface material information.

It is emphasized that the simple assumption underlying Equation 2 and the more complex set of assumptions underlying the use of the procedure which produces a finer temporal and spatial resolution have not been verified in any rigorous manner. For this reason, the quality ratings for either approach should be downgraded one letter from the rating that would be applied to Equation 1.

13.2.2.3 Controls¹⁸⁻²²

A wide variety of options exist to control emissions from unpaved roads. Options fall into the following three groupings:

1. Vehicle restrictions that limit the speed, weight or number of vehicles on the road;

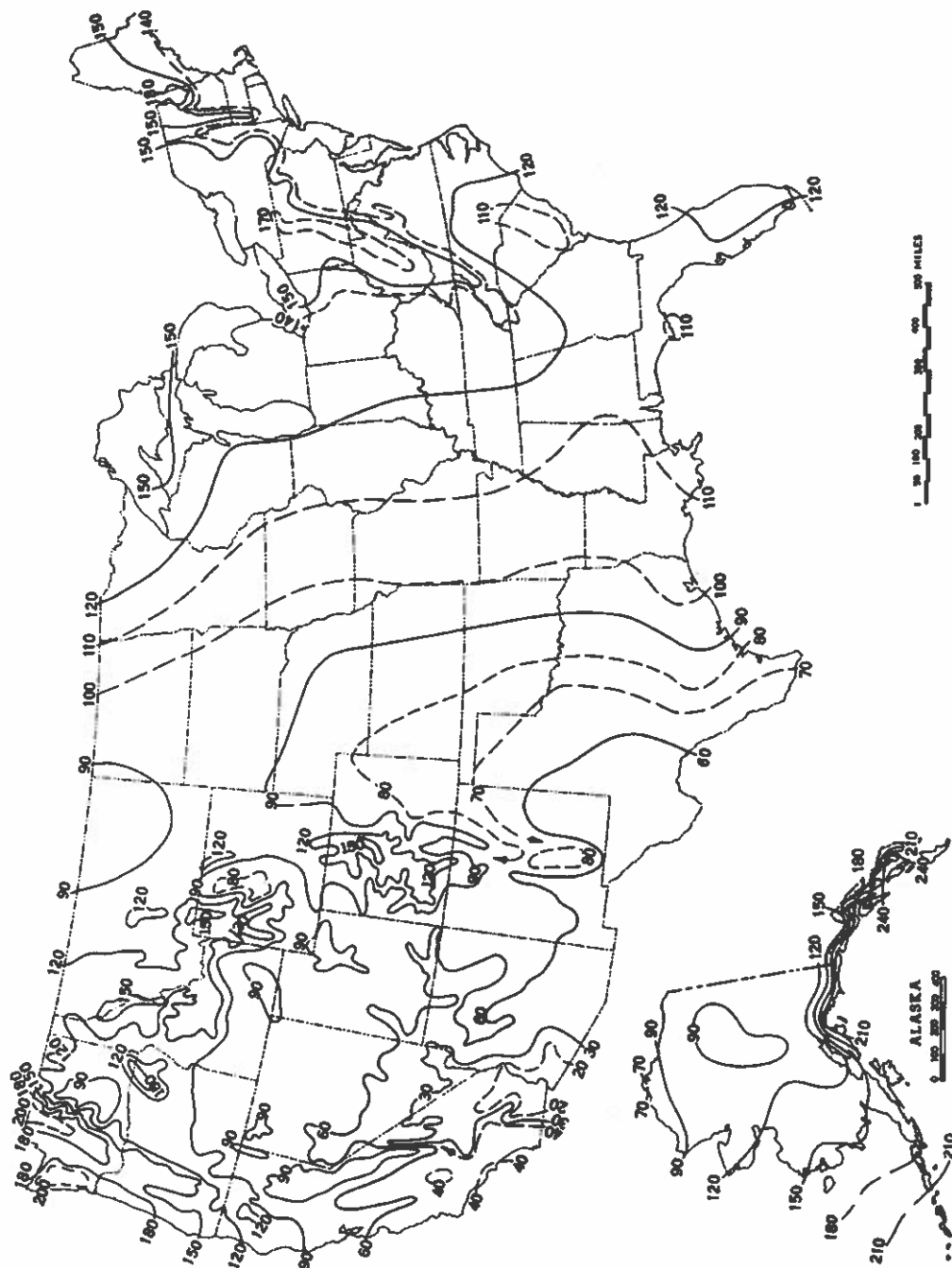


Figure 13.2.2-1. Mean number of days with 0.01 inch or more of precipitation in United States.

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	

Two maps (Figures) of the Valencia Regional Landfill and Recycling Facility are included in this Section. Depending on the specific figure, these figures address the items denoted above; and include the following:

Figure 8.1 Site Location Map

Figure 8.2 Site Plan

Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)

(This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

☒ **I have read the AQB "Guidelines for Public Notification for Air Quality Permit Applications"**

This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

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

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

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

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

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

Public notification is not required by the Applicant for Title V Permit Applications/Renewals.

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.

10.0 Operational Plan

10.1 Solid Waste Permit Operational Plans

The April 2004 Application for Solid Waste Permit (Updated April 2005) for the Valencia Regional Landfill and Recycling Facility (VRLRF) includes detailed operating and construction plans for the Landfill. For example, the following Plans are included in Volume II of the Permit Application:

Volume II, Section 1: Engineering Drawings

Volume II, Section 2: Plan of Operations

Volume II, Section 3: Contingency Plan

Volume II, Section 4: Construction Quality Assurance (CQA) Plan

Volume II, Section 5: Closure/Post-Closure Plan

Volume II, Section 6: Landfill Gas Management Plan

Volume II, Section 7: Leachate Management Plan

Volume II, Section 8: Special Waste Disposal Management Plan

Volume II, Section 9: Petroleum Contaminated Soils Disposal Management Plan

Volume II, Section 10: Oil Conservation Division Waste Management Plan

Volume II, Section 11: Transportation Plan

These Plans have been approved by NMED Solid Waste Bureau (SWB), and are incorporated by reference in the facility's Permit (Solid Waste Facility ID No. SWM-013229, dated November 20, 2006; with subsequent updates). Copies of the Plans are available at SWB, and will be made available by VRLRF upon request. **Section 14** contains a description of measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies for landfill operations that have the potential to emit pollutants of concern (e.g., particulates, NMOCs, VOCs, HAPs). There are no known major bottlenecks that limit production at VRLRF.

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):

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, **OR** surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

☒ Yes ☐ No

Common Ownership or Control: Surrounding or associated sources are under common ownership or control as this source.

☒ Yes ☐ No

Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source.

☒ Yes ☐ No

C. Make a determination:

☒ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "YES" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "NO" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A

PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☐ a minor PSD source before and after this modification (if so, delete C and D below).
- ☐ a major PSD source before this modification. This modification will make this a PSD minor source.
- ☐ an existing PSD Major Source that has never had a major modification requiring a BACT analysis.
- ☐ an existing PSD Major Source that has had a major modification requiring a BACT analysis
- ☐ a new PSD Major Source after this modification.

B. This facility is not one of the listed 20.2.74.501 Table 1 – PSD Source Categories. The “project” emissions for this modification are [significant or not significant]. [Discuss why.] The “project” emissions listed below [do or do not] only result from changes described in this permit application, thus no emissions from other [revisions or modifications, past or future] to this facility. Also, specifically discuss whether this project results in “de-bottlenecking”, or other associated emissions resulting in higher emissions. The project emissions (before netting) for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:

- a. NOx: XX.X TPY
- b. CO: XX.X TPY
- c. VOC: XX.X TPY
- d. SOx: XX.X TPY
- e. PM: XX.X TPY
- f. PM10: XX.X TPY
- g. PM2.5: XX.X TPY
- h. Fluorides: XX.X TPY
- i. Lead: XX.X TPY
- j. Sulfur compounds (listed in Table 2): XX.X TPY
- k. GHG: XX.X TPY

C. Netting [is required, and analysis is attached to this document.] OR [is not required (project is not significant)] OR [Applicant is submitting a PSD Major Modification and chooses not to net.]

D. BACT is [not required for this modification, as this application is a minor modification.] OR [required, as this application is a major modification. List pollutants subject to BACT review and provide a full top down BACT determination.]

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.

This document represents an Application for Permit Renewal, and is not an application for a significant permit revision. The Valencia Regional Landfill and Recycling Facility is not subject to the requirements of either 20.2.72 NMAC or 20.2.74 NMAC.

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/>

<u>STATE REGU- LATIONS 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	All Units	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes for NSR, No for TV	All Units	Compliance with NMAAQS is demonstrated in the Air Dispersion Modeling Analysis Report (Submitted to NMED AQB as part of this application). The requirements of this part are not applicable requirements under 20.2.70 NMAC, as defined by that part.
20.2.7 NMAC	Excess Emissions	Yes	All Units	Records kept of any excess emission periods and notifications provided to NMED. Verbal (< 24 hrs) and written (< 10 days) notice of excess emissions.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	No affected facilities
20.2.34 NMAC	Oil Burning Equipment: NO ₂	No	N/A	No affected facilities
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	No affected facilities
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	No	N/A	No affected facilities
<u>20.2.38</u> NMAC	Hydrocarbon Storage Facility	No	N/A	No significant hydrocarbon storage tanks at this facility
<u>20.2.39</u> NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	No affected facilities
20.2.60 NMAC	Open Burning	No	N/A	No affected facilities. Open burning not prohibited at the facility by NMED Solid Waste Regulations.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	Unit 5b	Unit 5b is a certified Stationary Combustion Equipment.
20.2.64 NMAC	Municipal Solid Waste Landfills	Yes	Facility	The Facility is subject to the provisions of 20.2.64 NMAC. The Permit Renewal satisfies applicable requirements.
20.2.70 NMAC	Operating Permits	Yes	Facility	This Application for Permit Renewal satisfies applicable requirements,
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	Will submit required fees when assessed by NMED.
20.2.72 NMAC	Construction Permits	No	N/A	Not an affected facility as defined under 20.2.72 NMAC.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	The facility will submit emissions inventory as requested by NMED.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	The facility is not a new major source or major modification to an existing source. This facility is not a PSD major source as defined by 20.2.74 NMAC.

<u>STATE REGU- LATIONS 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.)
20.2.75 NMAC	Construction Permit Fees	No	N/A	No affected facilities.
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. See discussion of NSPS below (40 CFR 60)
20.2.78 NMAC	Emission Standards for HAPS	No	Units Subject to 40 CFR 61	See discussion of NESHAPS below (40 CFR 61 & 63)
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	No affected facilities.
20.2.80 NMAC	Stack Heights	No	N/A	No affected facilities.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	All Units Subject to 40 CFR 63	The facility is not a major source for HAPs (NMOC emissions are < 34 Mg/yr, facility-wide HAP emissions <10tpy individually and < 25tpy in the aggregate).
40 CFR 50	NAAQS	Yes	All Units	Compliance with NAAQS is demonstrated in the Air Dispersion Modeling Analysis Report previously submitted to NMED AQB.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	All Units	Facility will comply with applicable sections.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for Electric Utility Steam Generating Units	No	N/A	The facility does not own or operate Electric Utility Steam Generating Units
NSPS 40 CFR60.40b Subpart Db	Electric Utility Steam Generating Units	No	N/A	The facility does not own or operate Electric Utility Steam Generating Units

<u>STATE REGU- LATIONS 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.)
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No	N/A	The facility does not own or operate Small Industrial-Commercial-Institutional Steam Generating Units
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	No	N/A	The facility does not own any storage vessels with capacities > 40,000 gallons.
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	N/A	The facility does not own any storage vessels with capacities > 75 m ³ .
NSPS 40 CFR 60.330 Subpart GG	Stationary Gas Turbines	No	N/A	No affected facilities
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from Onshore Gas Plants	No	N/A	No affected facilities
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO ₂ Emissions	No	N/A	No affected facilities
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or	No	N/A	No affected facilities

<u>STATE REGU- LATIONS 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.)
	reconstruction commenced after August 23, 2011 and before September 18, 2015			
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	No	N/A	No affected facilities
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	Yes	Units 5b	Stationary compression ignition internal combustion engine Unit 5b is subject to this subpart.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	No	N/A	Engines located at this facility are considered portable, non-road internal combustion engines or stationary compression ignition internal combustion engines and are not subject to this subpart.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	No affected facilities
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	No affected facilities
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	Yes	All Units	Operating Permit will satisfy NSPS Subpart WWW, XXX, Cc, and Cf requirements.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	No affected facilities
NESHAP 40 CFR 61 Subpart E	National Emission Standards for Mercury	No	N/A	No affected facilities

<u>STATE REGU- LATIONS 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.)
NESHAP 40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	No	N/A	No affected facilities
MACT 40 CFR 63, Subpart A	General Provisions	Yes	All Units	This facility is not a major source for HAPs as facility-wide HAP emissions are <10 tpy individually and < 25 tpy in the aggregate.
MACT 40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities	N/A	No affecte d facilitie s	No
MACT 40 CFR 63 Subpart HHH	Standards of Performance for Synthetic Fiber Production Facilities	N/A	No affecte d facilitie s	No
MACT 40 CFR 63 Subpart AAAA	National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills	Yes	Units 3 & 4	The facility is subject to the requirements of NESHAP, however, because the NMOC modeled emissions is below the 50 Mg/year threshold, the VRLRF is not subject to the control provisions or the recordkeeping and reporting that corresponds to a collection and control system.
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No	N/A	No affected facilities
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	No	N/A	No affected facilities
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	Yes	Units 5b	Stationary compression ignition internal combustion engine Unit 5b is subject to this subpart. Unit 5b meets Subpart ZZZZ requirements by meeting 40 CFR 60 Subpart IIII requirements.

<u>STATE REGU- LATIONS 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.)
40 CFR 64	Compliance Assurance Monitoring	No	N/A	This facility does not have an emissions source subject to the provisions of 40 CFR 64.
40 CFR 68	Chemical Accident Prevention	Yes	All Units (68.10)	Facility-wide Risk Management Plan in Place.
40 CFR 70	Operating Permit	No	N/A	Not applicable. Administered under 20.2.70 NMAC.
Title IV – Acid Rain 40 CFR 72	Acid Rain	No	N/A	Not an affected source under 40 CFR 72.
Title IV – Acid Rain 40 CFR 73	Sulfur Dioxide Allowance Emissions	No	N/A	Not an affected source under 40 CFR 73.
Title IV-Acid Rain 40 CFR 75	Continuous Emissions Monitoring	No	N/A	Not an affected source under 40 CFR 75.
Title IV – Acid Rain 40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	No	N/A	Not an affected source under 40 CFR 76.
Title VI – 40 CFR 82	Protection of Stratospheric Ozone	No	N/A	Facility does not produce, transfer, destroy, import, or export substances controlled under this regulation.

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/>

<u>STATE REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.1 NMAC	General Provisions	Yes	All Units	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes for NSR, No for TV	All Units	Compliance with NMAAQS is demonstrated in the Air Dispersion Modeling Analysis Report (Submitted to NMED AQB as part of this application). The requirements of this part are not applicable requirements under 20.2.70 NMAC, as defined by that part.
20.2.7 NMAC	Excess Emissions	Yes	All Units	Records kept of any excess emission periods and notifications provided to NMED. Verbal (< 24 hrs) and written (< 10 days) notice of excess emissions.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	No affected facilities
20.2.34 NMAC	Oil Burning Equipment: NO ₂	No	N/A	No affected facilities
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	No affected facilities
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	No	N/A	No affected facilities
<u>20.2.38</u> NMAC	Hydrocarbon Storage Facility	No	N/A	No significant hydrocarbon storage tanks at this facility
<u>20.2.39</u> NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	No affected facilities
20.2.60 NMAC	Open Burning	No	N/A	No affected facilities. Open burning not prohibited at the facility by NMED Solid Waste Regulations.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	Unit 5b	Unit 5b is a certified Stationary Combustion Equipment.
20.2.64 NMAC	Municipal Solid Waste Landfills	Yes	Facility	The Facility is subject to the provisions of 20.2.64 NMAC. The Permit Renewal satisfies applicable requirements.
20.2.70 NMAC	Operating Permits	Yes	Facility	This Application for Permit Renewal satisfies applicable requirements,
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	Will submit required fees when assessed by NMED.
20.2.72 NMAC	Construction Permits	No	N/A	Not an affected facility as defined under 20.2.72 NMAC.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	The facility will submit emissions inventory as requested by NMED.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	The facility is not a new major source or major modification to an existing source. This facility is not a PSD major source as defined by 20.2.74 NMAC.

<u>STATE REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.75 NMAC	Construction Permit Fees	No	N/A	No affected facilities.
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. See discussion of NSPS below (40 CFR 60)
20.2.78 NMAC	Emission Standards for HAPS	No	Units Subject to 40 CFR 61	See discussion of NESHAPS below (40 CFR 61 & 63)
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	No affected facilities.
20.2.80 NMAC	Stack Heights	No	N/A	No affected facilities.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	All Units Subject to 40 CFR 63	The facility is not a major source for HAPs (NMOC emissions are < 34 Mg/yr, facility-wide HAP emissions <10tpy individually and < 25tpy in the aggregate).
40 CFR 50	NAAQS	Yes	All Units	Compliance with NAAQS is demonstrated in the Air Dispersion Modeling Analysis Report previously submitted to NMED AQB.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	All Units	Facility will comply with applicable sections.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for Electric Utility Steam Generating Units	No	N/A	The facility does not own or operate Electric Utility Steam Generating Units
NSPS 40 CFR60.40b Subpart Db	Electric Utility Steam Generating Units	No	N/A	The facility does not own or operate Electric Utility Steam Generating Units

<u>STATE REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial- Commercial- Institutional Steam Generating Units	No	N/A	The facility does not own or operate Small Industrial-Commercial-Institutional Steam Generating Units
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	No	N/A	The facility does not own any storage vessels with capacities > 40,000 gallons.
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	N/A	The facility does not own any storage vessels with capacities > 75 m ³ .
NSPS 40 CFR 60.330 Subpart GG	Stationary Gas Turbines	No	N/A	No affected facilities
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from Onshore Gas Plants	No	N/A	No affected facilities
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO ₂ Emissions	No	N/A	No affected facilities
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or	No	N/A	No affected facilities

<u>STATE REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
	reconstruction commenced after August 23, 2011 and before September 18, 2015			
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	No	N/A	No affected facilities
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	Yes	Units 5a, 5b	§60.4200 specifies the applicability for engines that are manufactured after April 1, 2006. Stationary compression ignition internal combustion engine Unit 5b is non-emergency and engine Unit 5a is for emergency use. §60.4205 specifies the use of Table 1 of Subpart IIII for the emission standards for emergency use engines manufactured pre-2007. Unit 5a is pre-2007 and is subject to the requirements of Table 1. §60.4204 specifies the standards for pre-2007 non-emergency engines; Unit 5b is pre-2007 and is subject to this provision.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	No	N/A	§60.4230 defines the applicability for Subpart JJJJ to include stationary spark ignition engines. Both stationary engines units 5a and 5b are compression ignition engines; therefore Subpart JJJJ does not apply.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	No affected facilities
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	No affected facilities
NSPS 40 CFR 60, Subparts WWW, Cc	Standards of performance for Municipal Solid Waste (MSW) Landfills	No	N/A	NSPS and EG Regulations were replaced by 40 CFR 60 Subpart XXX (New Source SPS) and 40 CFR 60 Subpart Cf (Emission Guidelines).
NSPS 40 CFR Subpart 60, XXX	Standards of performance for Municipal Solid Waste (MSW) Landfills	No	All Units	Per 40 CFR 60.760(a) affected facilities commenced construction, reconstruction or modification after 7/17/2014. VRL has not commenced construction, reconstruction or modifications after 7/17/2014.
NSPS 40 CFR 60,	Standards of performance for	Yes	All	VRL meets the applicability of 40 CFR 60.31f(a); the facility commenced

<u>STATE REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
Subpart Cf	Municipal Solid Waste (MSW) Landfills		Units	construction, reconstruction or modification on or before July 17, 2014.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	No affected facilities
NESHAP 40 CFR 61 Subpart E	National Emission Standards for Mercury	No	N/A	No affected facilities
NESHAP 40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	No	N/A	No affected facilities
MACT 40 CFR 63, Subpart A	General Provisions	Yes	All Units	This facility is not a major source for HAPs as facility-wide HAP emissions are <10 tpy individually and < 25 tpy in the aggregate.
MACT 40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities	N/A	No affecte d facilitie s	No
MACT 40 CFR 63 Subpart HHH	Standards of Performance for Synthetic Fiber Production Facilities	N/A	No affecte d facilitie s	No
MACT 40 CFR 63 Subpart AAAA	National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills	Yes	Units 3 & 4	The facility is subject to this citation per 40 CFR 63.1935(b), as the facility has accepted waste after 11/8/1987 and has the design capacity equal to or greater than 2.5 million Mg and 2.5 million cubic meters. However, the facility does not meet the NMOC generation threshold of 50 Mg/year specified in 40 CFR 63.1959(a)(2)(ii) to require the control, recordkeeping and reporting requirements of this subpart.
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No	N/A	No affected facilities
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	No	N/A	No affected facilities

<u>STATE REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	Yes	Units 5b	Stationary compression ignition internal combustion engine Unit 5b is subject to this subpart per §63.6590(c)(1). Unit 5a is an emergency stationary RICE and is not subject to this Subpart per §63.6585. Per §63.6590(c), an affected source that meets the requirements in §63.6590(c)(1-7), must meet the requirements of 40 CFR 60 Subpart IIII or Subparts JJJJ and no further requirements apply. Unit 5b meets Subpart ZZZZ requirements by meeting 40 CFR 60 Subpart IIII requirements.
40 CFR 64	Compliance Assurance Monitoring	No	N/A	This facility does not have an emissions source subject to the provisions of 40 CFR 64.
40 CFR 68	Chemical Accident Prevention	Yes	All Units (68.10)	Facility-wide Risk Management Plan in Place.
40 CFR 70	Operating Permit	No	N/A	Not applicable. Administered under 20.2.70 NMAC.
Title IV – Acid Rain 40 CFR 72	Acid Rain	No	N/A	Not an affected source under 40 CFR 72.
Title IV – Acid Rain 40 CFR 73	Sulfur Dioxide Allowance Emissions	No	N/A	Not an affected source under 40 CFR 73.
Title IV-Acid Rain 40 CFR 75	Continuous Emissions Monitoring	No	N/A	Not an affected source under 40 CFR 75.
Title IV – Acid Rain 40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	No	N/A	Not an affected source under 40 CFR 76.
Title VI – 40 CFR 82	Protection of Stratospheric Ozone	No	N/A	Facility does not produce, transfer, destroy, import, or export substances controlled under this regulation.

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.

This facility does not have a NSR permit. This facility also does not have any emission units requiring compliance testing.

Compliance Test History Table

Unit No.	Test Description	Test Date
Not Applicable	Not Applicable	Not Applicable

Section 21

Addendum for Landfill Applications

Do not print this section unless this is a landfill application.

Landfill Applications are not required to complete Sections 1-C Input Capacity and Production Rate, 1-E Operating Schedule, 17 Compliance Test History, and 18 Streamline Applications. Section 12 – PSD Applicability is required only for Landfills with Gas Collection and Control Systems and/or landfills with other non-fugitive stationary sources of air emissions such as engines, turbines, boilers, heaters. All other Sections of the Universal Application Form are required.

EPA Background Information for MSW Landfill Air Quality Regulations: www.epa.gov/stationary-sources-air-pollution/clean-air-act-guidelines-and-standards-waste-management

NM Solid Waste Bureau Website: www.env.nm.gov/solid-waste/

21-A: Municipal Solid Waste Landfill Information

1	How long will the landfill be operated? Expected longevity is over 100 years		
2	Maximum operational hours per year: 3,926 hrs		
3	Landfill Operating hours (open to the public) M-F: 7am-5pm	Sat. 7am-4pm	Sun. Closed
4	To determine to what NSPS and emissions guidelines the landfill is subject, what is the date that the landfill was constructed, modified, or reconstructed as defined at 40 CFR 60, Subparts A, WWW, XXX, Cc, and Cf. 1988		
5	Landfill Design Capacity. Enter all 3	Tons: 58,242,200	Megagrams (Mg): 52,851,400
6	Landfill NMOC Emission Rate (NSPS Cf)	☒ Less than 34 Mg/year using Tiers 1 to 3	☐ Equal to or Greater than 34 Mg/year using Tiers 1 to 3
	Landfill NMOC Emission Rate (NSPS XXX)	☐ Less than 500 ppm using Tier 4	☐ Equal to or Greater than 500 ppm using Tier 4
	Landfill NMOC Emission Rate (NESHAP Subpart AAAA)	☒ Less than 50 Mg/yr	☐ Equal to or Greater than 50 Mg/yr
7	Annual Waste Acceptance Rate: 99,514 tons/year for 20230, based on 10 year maximum and 3% growth rate		
8	Is Petroleum Contaminated Soil Accepted? Yes	If so, what is the annual acceptance rate? Annual acceptance rate of PCS is limited by BTEX concentration and calculated HAP emissions (Section 6.4).	
9	NM Solid Waste Bureau (SWB) Permit No.: SWM-013229/SWM-013230(SP)		SWB Permit Date: November 20, 2006
10	Describe the NM Solid Waste Bureau Permit, Status, and Type of waste deposited at the landfill. The Valencia Regional Landfill and Recycling Facility (VRLRF) has been in operation and permitted since 1988. VRLRF disposes of municipal solid waste (MSW), construction and demolition (C&D) debris, chemical spill residue, petroleum contaminated soils (PCS), sludge, packing house and killing plant offal, industrial solid waste (ISW), treated formerly characteristic hazardous (TFCH) waste, and oil conservation division (OCD) waste.		
11	Describe briefly any process(es) or any other operations conducted at the landfill. VRLRF is authorized to dispose of municipal solid wastes and specific NMED-defined special wastes. Waste types approved for acceptance at the VRLRF are detailed in the April 2004 Application For Permit to NMED SWB (and subsequent updates). Special wastes accepted for treatment or disposal include chemical spill residue, petroleum contaminated soil, sludge, offal, industrial solid wastes, treated		

	formerly characteristic hazardous waste, and oil conservation division (OCD) waste. The Landfill maintains one 8,000 gallon diesel tank, whose fuel is used exclusively for on-site equipment. VRLRF does not engage in the following processes/activities nor does it operate the following equipment: • Transfer stations • Composting facility • Paint booths • Chipper or shredder • Boilers
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21-B: NMOC Emissions Determined Pursuant to 40 CFR 60, Subparts WWW or XXX or Cf

	Enter the regulatory citation of all Tier 1, 2, 3, and/or 4 procedures used to determine NMOC emission rates and the date(s) that each Tier procedure was conducted. In Section 7 of the application, include the input data and results.
1	Tier 1 equations (e.g. LandGEM): N/A
2	Tier 2 Sampling: 12.0 Mg/year (LandGEM estimate of 2030 NMOC generation from waste receipts through 2023 and projection through 2030)
3	Tier 3 Rate Constant: N/A
4	Tier 4 Surface Emissions Monitoring: N/A
5	Attach all Tier Procedure calculations, procedures, and results used to determine the Gas Collection and Control System (GCCS) requirements. Tier 2 procedures and results included as part of Attachment 6.3 .

Facilities that have a landfill GCCS must complete Section 21-C.

21-C: Landfill Gas Collection and Control System (GCCS) Design Plan

1	Was the GCCS design certified by a Professional Engineer? Not Applicable
2	Attach a copy of the GCCS Design Plan and enter the submittal date of the Plan pursuant to the deadlines in either NSPS WWW or NSPS XXX. The NMOC applicability threshold requiring a GCCS plan is 50Mg/yr for NSPS WWW and 34 Mg/yr or 500 ppm for NSPS XXX. Not Applicable
3	Is/Was the GCCS planned to be operational within 30 months of reporting NMOC emission rates equal to or greater than 50 Mg/yr, 34 Mg/yr, or 500 ppm pursuant to the deadlines specified in NSPS WWW or NSPS XXX or NSPS Cf? Not Applicable
4	Does the GCCS comply with the design and operational requirements found at 60.752, 60.753, and 69.759 (NSPS WWW) or at 60.762, 60.763, and 60.769 (NSPS XXX)? Not Applicable
5	Enter the control device(s) to which the landfill gas will be/is routed such as an open flare, enclosed combustion device, boiler, process heater, or other. Not Applicable
6	Do the control device(s) meet the operational requirements at 60.752 and 60.756 (NSPS WWW) or 60.762, 60.763, 60.766 (NSPS XXX)? Not Applicable

Conservative projected annual waste receipt values for 2024 and actual waste receipts during the current permit period produces projected NMOC emissions from the landfill of 8.8 Mg/yr (9.7 tons/yr) in 2025.

NMOC emissions (as determined through application of the LandGEM model) for 2030 (from waste deposits projected through 2030) are calculated to be approximately 12.0 Mg/yr (13.2 tons/yr) (see **Attachment 6.3**). In the event that future NMOC emissions rate calculations and subsequent LandGEM simulations indicate NMOC emissions to be greater than the NSPS regulatory threshold of 34 Mg/yr, a landfill gas collection and control system (GCCS) will be designed and installed in accordance with the requirements of 40 CFR 60 Subpart Cf.

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.
-

Landfill operations associated with the potential emission of particulate matter (e.g., TSP, PM₁₀, and PM_{2.5}) consist of vehicle travel on treated and unpaved landfill roads, and general landfill operations (e.g., heavy equipment operations, wind erosion). The measures taken to mitigate excessive fugitive particulate emissions during startups, shutdowns, and emergencies consist of a water wagon (typically 5,000-gallon capacity) which serves as the site's primary dust suppression and is used on a daily basis when the landfill is operational. The source of the water for the wagon is the VRLRF water well located at the western boundary of the facility (**Figure 5.1**). In addition, the site's Disposal Route may be treated with recycled asphalt basecourse (cold millings) from the facility entrance throughout most of the Disposal Route. There are currently 1.3 miles of roads with millings; portions of the roads with cold millings may vary from that shown on **Figure 5.1**. Control efficiencies relating to water application and types of road material (e.g., recycled basecourse, unpaved) are presented in **Sections 6.1**. Additional equipment can be leased from local suppliers, or another WMNM facility in the region (i.e., Rio Rancho Landfill). VRLRF may also utilize processed green waste as a soil amendment to promote vegetative growth and minimize soil erosion on areas requiring intermediate/final cover.

In addition to the above procedures, VRLRF currently implements dust control measures outlined in the Plan of Operations Dust Control section (**Volume II, Section 7.2**), which is maintained as part of the Landfill's NMED-approved April 2004 (Updates August 2005) Application for Permit at the Scalehouse.

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).

Alternative Operating Scenarios

The Valencia Regional Landfill and Recycling Facility (VRLRF) is a municipal solid waste (MSW) landfill operating pursuant to NMED Solid Waste Facility Permit Nos. SWM-013229 and SWM-013230(SP). The facility is currently authorized to dispose of MSW and the following approved special wastes:

- Chemical Spill Residue
- Petroleum Contaminated Soils (PCS)
- Sludge
- Packing House & Killing Plant Offal
- Industrial Solid Waste
- Treated, Formerly Characteristic Hazardous Waste
- Oil Conservation Division Waste

With the expanding population of the Landfill's service area, it is reasonable to expect an increase in the acceptance rates of MSW, sludge, and PCS at the Landfill over the lifetime of the facility. Beyond the

various waste types described above, VRLRF does not anticipate changes in processes, materials, operations or products during the 5-year Permit term.

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.	
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.	X
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 **wavier for all** pollutants from the facility.
- ☐ See attached, approved modeling **wavier 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.

Modeling was not required for this application as the particulate matter emissions have not increased beyond the existing permit limits. This was confirmed with the NMEQ on a February 6, 2024 phone call. Modeling was previously conducted for the renewal of the application in 2018.

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.

The Valencia Regional Landfill and Recycling Facility (VRLRF) affirms that it is in compliance with applicable Title V regulatory requirements at the time this Application is submitted. If, however, it is determined that VRLRF needs to attain compliance with additional regulatory requirements, WMNM commits to working with the AQB to develop a schedule and plan for achieving compliance.

Section 19

Requirements for Title V Program

Do not print this section unless this is a Title V application.

Who Must Use this Attachment:

- * Any major source as defined in 20.2.70 NMAC.
 - * Any source, including an area source, subject to a standard or other requirement promulgated under Section 111 - Standards of Performance for New Stationary Sources, or Section 112 Hazardous Air Pollutants, of the 1990 federal Clean Air Act ("federal Act"). Non-major sources subject to Sections 111 or 112 of the federal Act are exempt from the obligation to obtain a 20.2.70 NMAC operating permit until such time that the EPA Administrator completes rulemakings that require such sources to obtain operating permits. In addition, sources that would be required to obtain an operating permit solely because they are subject to regulations or requirements under Section 112(r) of the federal Act are exempt from the requirement to obtain an Operating Permit.
 - * Any Acid Rain source as defined under title IV of the federal Act. The Acid Rain program has additional forms. See <http://www.env.nm.gov/aqb/index.html>. Sources that are subject to both the Title V and Acid Rain regulations are encouraged to submit both applications simultaneously.
 - * Any source in a source category designated by the EPA Administrator ("Administrator"), in whole or in part, by regulation, after notice and comment.
-

19.1 - 40 CFR 64, Compliance Assurance Monitoring (CAM) (20.2.70.300.D.10.e NMAC)

Any source subject to 40CFR, Part 64 (Compliance Assurance Monitoring) must submit all the information required by section 64.7 with the operating permit application. The applicant must prepare a separate section of the application package for this purpose; if the information is already listed elsewhere in the application package, make reference to that location. Facilities not subject to Part 64 are invited to submit periodic monitoring protocols with the application to help the AQB to comply with 20.2.70 NMAC. Sources subject to 40 CFR Part 64, must submit a statement indicating your source's compliance status with any enhanced monitoring and compliance certification requirements of the federal Act.

Compliance assurance monitoring (CAM) is not applicable to fugitive dust emission sources where water (or surfactant) is used to control fugitive dust. These types of control measures are considered passive in that they act to prevent pollutants from forming. Passive control measures are not considered control devices under CAM.

19.2 - Compliance Status (20.2.70.300.D.10.a & 10.b NMAC)

Describe the facility's compliance status with each applicable requirement at the time this permit application is submitted. This statement should include descriptions of or references to all methods used for determining compliance. This statement should include descriptions of monitoring, recordkeeping and reporting requirements and test methods used to determine compliance with all applicable requirements. Refer to Section 2, Tables 2-N and 2-O of the Application Form as necessary. (20.2.70.300.D.11 NMAC) For facilities with existing Title V permits, refer to most recent Compliance Certification for existing requirements. Address new requirements such as CAM, here, including steps being taken to achieve compliance.

The Valencia Regional Landfill and Recycling Facility (VRLRF) is committed to complying with applicable regulatory requirements. To achieve that objective, relevant regulatory citations have

been compiled, and the Landfill's compliance status has been summarized for known applicable regulations (**Section 13**) at the time of this Application for Permit Renewal. Updates to the regulatory requirements cited in **Section 13**, or future regulatory requirements, will be addressed in a timely manner consistent with the schedules specified by the applicable regulatory requirement.

Consistent with Condition A109 of Title V Operating Permit No. P247L-R2 (issued on July 17, 2020), VRLRF has submitted Semi-Annual Monitoring Reports (SAMRs) to AQB since March 27, 2009. On an annual basis, VRLRF continues to submit Annual Compliance Certifications (ACCs) to AQB and EPA Region 6.

19.3 - Continued Compliance (20.2.70.300.D.10.c NMAC)

Provide a statement that your facility will continue to be in compliance with requirements for which it is in compliance at the time of permit application. This statement must also include a commitment to comply with other applicable requirements as they come into effect during the permit term. This compliance must occur in a timely manner or be consistent with such schedule expressly required by the applicable requirement.

Consistent with historical monitoring and reporting practices, VRLRF hereby commits to remain in compliance with applicable local, state, and federal regulations at the time of this Application for Permit Renewal. Compliance will be maintained for those regulatory elements where compliance is required, and will, in a timely manner or at such schedule expressly required by the applicable requirement, meet additional applicable requirements that become effective during the Permit term.

19.4 - Schedule for Submission of Compliance (20.2.70.300.D.10.d NMAC)

You must provide a proposed schedule for submission to the department of compliance certifications during the permit term. This certification must be submitted annually unless the applicable requirement or the department specifies a more frequent period. A sample form for these certifications will be attached to the permit.

Consistent with Condition A109 of Title V Operating Permit No. P247L-R2, VRLRF has submitted Semi-Annual Monitoring Reports (SAMRs) and Annual Compliance Certifications (ACCs) to AQB and EPA Region 6 since the Permit was issued. VRLRF will continue to submit SAMRs and ACCs to AQB and EPA consistent with the existing schedule, as well as any new schedule that may arise from this permitting action.

19.5 - Stratospheric Ozone and Climate Protection

In addition to completing the four (4) questions below, you must submit a statement indicating your source's compliance status with requirements of Title VI, Section 608 (National Recycling and Emissions Reduction Program) and Section 609 (Servicing of Motor Vehicle Air Conditioners).

1. Does your facility have any air conditioners or refrigeration equipment that uses CFCs, HCFCs or other ozone-depleting substances? ☒ Yes ☐ No

The Valencia Landfill has air conditioning units in the site buildings and heavy equipment are also equipped with on-board air conditions, for employee comfort. Additionally, there are several refrigeration units for keeping ice and chilling of employee meals. These units are outlined below but may vary over the term of the permit.

Site Buildings:

- Scalehouse:
 - Air conditioner unit
 - Standard size refrigerator
 - Small chest freezer
- Employee Breakroom:
 - Window-mounted air conditioner
- Heavy Equipment:
 - All heavy equipment have air conditioner units designed for mobile equipment utilizing R134a refrigerant.

2. Does any air conditioner(s) or any piece(s) of refrigeration equipment contain a refrigeration charge greater than 50 lbs? ☐ Yes ☒ No

(If the answer is yes, describe the type of equipment and how many units are at the facility.)

3. Do your facility personnel maintain, service, repair, or dispose of any motor vehicle air conditioners (MVACs) or appliances ("appliance" and "MVAC" as defined at 82. 152)? ☐ Yes ☒ No

The Valencia Regional Landfill and Recycling Facility (VRLRF) does not service, repair, or dispose of motor vehicle air conditioners (MVACs). MVACs for equipment and company-owned pick-up trucks used at the Landfill are serviced on-site by a third-party contractor. VRLRF does not accept for disposal items that were designed to harbor refrigerant, regardless of whether the refrigerant has been removed.

4. Cite and describe which Title VI requirements are applicable to your facility (i.e. 40 CFR Part 82, Subpart A through G.)

VRLRF is not subject to the requirements of 40 CFR Part 82, Subparts A through G.

19.6 - Compliance Plan and Schedule

Applications for sources, which are not in compliance with all applicable requirements at the time the permit application is submitted to the department, must include a proposed compliance plan as part of the permit application package. This plan shall include the information requested below:

A. Description of Compliance Status: (20.2.70.300.D.11.a NMAC)

A narrative description of your facility's compliance status with respect to all applicable requirements (as defined in 20.2.70 NMAC) at the time this permit application is submitted to the department.

B. Compliance plan: (20.2.70.300.D.11.B NMAC)

A narrative description of the means by which your facility will achieve compliance with applicable requirements with which it is not in compliance at the time you submit your permit application package.

C. Compliance schedule: (20.2.70.300D.11.c NMAC)

A schedule of remedial measures that you plan to take, including an enforceable sequence of actions with milestones, which will lead to compliance with all applicable requirements for your source. This schedule of compliance must be at least as stringent as that contained in any consent decree or administrative order to which your source is subject. The obligations of any consent decree or administrative order are not in any way diminished by the schedule of compliance.

D. Schedule of Certified Progress Reports: (20.2.70.300.D.11.d NMAC)

A proposed schedule for submission to the department of certified progress reports must also be included in the compliance schedule. The proposed schedule must call for these reports to be submitted at least every six (6) months.

E. Acid Rain Sources: (20.2.70.300.D.11.e NMAC)

If your source is an acid rain source as defined by EPA, the following applies to you. For the portion of your acid rain source subject to the acid rain provisions of title IV of the federal Act, the compliance plan must also include any additional requirements under the acid rain provisions of title IV of the federal Act. Some requirements of title IV regarding the schedule and methods the source will use to achieve compliance with the acid rain emissions limitations may supersede the requirements of title V and 20.2.70 NMAC. You will need to consult with the Air Quality Bureau permitting staff concerning how to properly meet this requirement.

NOTE: The Acid Rain program has additional forms. See www.env.nm.gov/air-quality/air-quality-title-v-operating-permits-guidance-page/. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

The Valencia Regional Landfill and Recycling Facility is in compliance with applicable regulatory requirements at the time this Application for Permit Renewal is submitted to the Bureau. Additional compliance requirements, if any, which may be imposed by virtue of new regulations, will be addressed in accordance with applicable regulatory schedules.

19.7 - 112(r) Risk Management Plan (RMP)

Any major sources subject to section 112(r) of the Clean Air Act must list all substances that cause the source to be subject to section 112(r) in the application. The permittee must state when the RMP was submitted to and approved by EPA.

The Valencia Regional Landfill and Recycling Facility does not store or use any of the chemicals listed in Section 112(r) in or exceeding the threshold quantities specified in this Section.

19.8 - Distance to Other States, Bernalillo, Indian Tribes and Pueblos

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 NMAC)?

(If the answer is yes, state which apply and provide the distances.)

VRLRF is not located fewer than 50 miles from other states. The Landfill is located 16.3 km (10 miles) south of Bernalillo County. Eight Indian reservations and/or pueblos are located within 80 km (50 miles) of VRLRF:

- Alamo - 45 km (28 miles) southwest
- Acoma Pueblo - 52 km (32 miles) west
- To'hajilee (Cañoncito) Pueblo - 40 km (25 miles) north
- Sandia Pueblo - 72.4 km (45 miles) north
- Santa Ana Pueblo - 78.9 km (49 miles) north
- Zia Pueblo - 77.2 km (48 miles) north
- Laguna Pueblo - 25.8 km (16 miles) north
- Isleta Pueblo - 11.3 km (7 miles) east

The nearest Class I area, Bosque Del Apache National Wildlife Refuge, is situated 97.10 km (60.3 miles) south of the facility.

19.9 - Responsible Official

Provide the Responsible Official as defined in 20.2.70.7.AD NMAC:

Pursuant to 20.2.70.7.AE NMAC, the responsible official at VRLRF is Mr. Damon De Frates, Director, Post Collections Operations (Waste Management of New Mexico, Inc.). Mr. David Bearden, AZ/NM Area Senior Environmental Protection Manager (Waste Management of New Mexico, Inc.), is the alternate responsible official for VRLRF.

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 necessary for this Application for Renewal.

Section 21

Addendum for Landfill Applications

Do not print this section unless this is a landfill application.

Landfill Applications are not required to complete Sections 1-C Input Capacity and Production Rate, 1-E Operating Schedule, 17 Compliance Test History, and 18 Streamline Applications. Section 12 – PSD Applicability is required only for Landfills with Gas Collection and Control Systems and/or landfills with other non-fugitive stationary sources of air emissions such as engines, turbines, boilers, heaters. All other Sections of the Universal Application Form are required.

EPA Background Information for MSW Landfill Air Quality Regulations: www.epa.gov/stationary-sources-air-pollution/clean-air-act-guidelines-and-standards-waste-management

NM Solid Waste Bureau Website: www.env.nm.gov/solid-waste/

21-A: Municipal Solid Waste Landfill Information

1	How long will the landfill be operated? Expected longevity is over 100 years		
2	Maximum operational hours per year: 3,926 hrs		
3	Landfill Operating hours (open to the public) M-F: 7am-5pm	Sat. 7am-4pm	Sun. Closed
4	To determine to what NSPS and emissions guidelines the landfill is subject, what is the date that the landfill was constructed, modified, or reconstructed as defined at 40 CFR 60, Subparts A, WWW, XXX, Cc, and Cf. 1988		
5	Landfill Design Capacity. Enter all 3	Tons: 58,242,200	Megagrams (Mg): 52,851,400 Cubic meters: 68,087,700
6	Landfill NMOC Emission Rate (NSPS XXX)	☒ Less than 34 Mg/year using Tiers 1 to 3	☐ Equal to or Greater than 34 Mg/year using Tiers 1 to 3
	Landfill NMOC Emission Rate (NSPS XXX)	☐ Less than 500 ppm using Tier 4	☐ Equal to or Greater than 500 ppm using Tier 4
	Landfill NMOC Emission Rate (NSPS WWW)	☒ Less than 50 Mg/yr	☐ Equal to or Greater than 50 Mg/yr
7	Annual Waste Acceptance Rate: 99,514 tons/year for 20230, based on 10 year maximum and 3% growth rate		
8	Is Petroleum Contaminated Soil Accepted? Yes	If so, what is the annual acceptance rate? Annual acceptance rate of PCS is limited by BTEX concentration and calculated HAP emissions (Section 6.4).	
9	NM Solid Waste Bureau (SWB) Permit No.: SWM-013229/SWM-013230(SP)		SWB Permit Date: November 20, 2006
10	Describe the NM Solid Waste Bureau Permit, Status, and Type of waste deposited at the landfill. The Valencia Regional Landfill and Recycling Facility (VRLRF) has been in operation and permitted since 1988. VRLRF disposes of municipal solid waste (MSW), construction and demolition (C&D) debris, chemical spill residue, petroleum contaminated soils (PCS), sludge, packing house and killing plant offal, industrial solid waste (ISW), treated formerly characteristic hazardous (TFCH) waste, and oil conservation division (OCD) waste.		
11	Describe briefly any process(es) or any other operations conducted at the landfill. VRLRF is authorized to dispose of municipal solid wastes and specific NMED-defined special wastes. Waste types approved for acceptance at the VRLRF are detailed in the April 2004 Application For Permit to NMED SWB (and subsequent updates). Special wastes accepted for treatment or disposal include chemical spill residue, petroleum contaminated soil, sludge, offal, industrial solid wastes, treated		

formerly characteristic hazardous waste, and oil conservation division (OCD) waste. The Landfill maintains one 8,000 gallon diesel tank, whose fuel is used exclusively for on-site equipment. VRLRF does not engage in the following processes/activities nor does it operate the following equipment:

- Transfer stations
- Composting facility
- Paint booths
- Chipper or shredder
- Boilers

21-B: NMOC Emissions Determined Pursuant to 40 CFR 60, Subparts WWW or XXX

	Enter the regulatory citation of all Tier 1, 2, 3, and/or 4 procedures used to determine NMOC emission rates and the date(s) that each Tier procedure was conducted. In Section 7 of the application, include the input data and results.
1	Tier 1 equations (e.g. LandGEM): N/A
2	Tier 2 Sampling: 12.0 Mg/year (LandGEM estimate of 2030 NMOC generation from waste receipts through 2023 and projection through 2030)
3	Tier 3 Rate Constant: N/A
4	Tier 4 Surface Emissions Monitoring: N/A
5	Attach all Tier Procedure calculations, procedures, and results used to determine the Gas Collection and Control System (GCCS) requirements. Tier 2 procedures and results included as part of Attachment 6.3.

Facilities that have a landfill GCCS must complete Section 21-C.

21-C: Landfill Gas Collection and Control System (GCCS) Design Plan

1	Was the GCCS design certified by a Professional Engineer? Not Applicable
2	Attach a copy of the GCCS Design Plan and enter the submittal date of the Plan pursuant to the deadlines in either NSPS WWW or NSPS XXX. The NMOC applicability threshold requiring a GCCS plan is 50Mg/yr for NSPS WWW and 34 Mg/yr or 500 ppm for NSPS XXX. Not Applicable
3	Is/Was the GCCS planned to be operational within 30 months of reporting NMOC emission rates equal to or greater than 50 Mg/yr, 34 Mg/yr, or 500 ppm pursuant to the deadlines specified in NSPS WWW or NSPS XXX? Not Applicable
4	Does the GCCS comply with the design and operational requirements found at 60.752, 60.753, and 69.759 (NSPS WWW) or at 60.762, 60.763, and 60.769 (NSPS XXX)? Not Applicable
5	Enter the control device(s) to which the landfill gas will be/is routed such as an open flare, enclosed combustion device, boiler, process heater, or other. Not Applicable
6	Do the control device(s) meet the operational requirements at 60.752 and 60.756 (NSPS WWW) or 60.762, 60.763, 60.766 (NSPS XXX)? Not Applicable

Conservative projected annual waste receipt values for 2024 and actual waste receipts during the current permit period produces projected NMOC emissions from the landfill of 8.8 Mg/yr (9.7 tons/yr) in 2025.

NMOC emissions (as determined through application of the LandGEM model) for 2030 (from waste deposits projected through 2030) are calculated to be approximately 12.0 Mg/yr (13.2 tons/yr) (see **Attachment 6.3**). In the event that future NMOC emissions rate calculations and subsequent LandGEM simulations indicate NMOC emissions to be greater than the NSPS regulatory threshold of 34 Mg/yr, a landfill gas collection and control system (GCCS) will be designed and installed in accordance with the requirements of 40 CFR 60 Subpart XXX.

Section 22: Certification

Company Name: Waste Management of New Mexico, Inc

I, David Bearden, 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 9 day of July, 2024, upon my oath or affirmation, before a notary of the State of

ARIZONA

David Bearden
*Signature

7/9/24
Date

David Bearden
Printed Name

Senior Environmental Protection Manager
Title

Scribed and sworn before me on this 9th day of July, 2024.

My authorization as a notary of the State of Arizona expires on the

25th day of February, 2025.

Jennifer L. Haggard
Notary's Signature

07/09/2024
Date

Jennifer L. Haggard
Notary's Printed Name



*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.