2024 Emissions Inventory Review / Data Tracking Form

Facility Name: Kersey Valley Landfill			Facility ID: 4101253
Facility Classification: Title V	Assigned to: Robert Barker	Data Entry: RB	Guilford County Confidential Copy Submitted? ☐ YES ☑ NO

Initial Review / Data Entry

☑ Enter date received into ED. Date Received: 6/25/2025

☑ Assigned to appropriate individual. Date Assigned: 6/26/2025 Date Due: 9/30/2025

☐ Paper copy submitted: One copy received with supporting documentation, certification form signed by responsible official, and appears generally complete; **OR**

☑ Electronic copy submitted: All supporting documentation and certification form (with time/date stamp) signed by responsible official has been received.

4101253

Comments: _____

Inventory Review

☑ All forms and supporting documentation appear to be complete if paper submission (check ED OS data if electronic).

☑ Contact, address, phone number changes entered into I-Beam/Facilities if necessary.

☑ All known operating scenarios, control devices, and emission release points have been entered for each emission source (permitted, insignificant, and unpermitted) or note that the emission source was not operated or not required to report.

☑ Check if SCC codes for each OS are accurate and update if needed.

☑ Evaluate "U" sources for significance and address according to policy. None

☑ Calculations / forms appear to add up correctly.

☑ All compliance issues are being addressed (e.g. Toxics limits, above TV thresholds, large emissions increase/decrease, installation without a permit).

☑ All volatile HAPs/TAPs were included in the VOC total.

☑ Calculations and control efficiencies appear correct. Emission factors are the best available and most current factors appropriate for the reporting facility (e.g. stack testing, AP-42, etc.).

☑ Review facility comments and address any issues.

☑ Update ED (Data Entry Main) if additional information is required (corrections due date and date received).

☑ Check all ED QA/QC reports.

☑ Comparison with previous emission inventory must be made and outliers (> 10%) must be investigated and explained.

☑ Put inventory review comments and summarize any changes in ED - Data Entry Main "DAQ internal comments".

Date Info Requested: – Date Info Received: – Total Days on Hold: –

Date Review Complete: 7/16/25 Signature: Robert Barker

Date Submitted to EI Coordinator: 7/16/25

Date Approved: 7/17/2025 Initials: AD

Inventory Certification Form(Title V)
Facility Name: Kersey Valley Landfill
3940 Kivett Drive
High Point, NC 27261

Facility ID : 4101253
Permit : 10517
County : Guilford
DAQ Region : WSRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2024

These forms must be completed and returned even if the facility did not operate or emissions were zero

The legally defined "Responsible Official" of record for your facility is Tasha Logan Ford
This person or one that meets the definition below must sign this certification form.

The official submitting the information must certify that he/she complies with the requirements as specified in Title 15A NCAC 2Q.0520(b) which references and follows the federal definition. 40 CFR Part 70.2 defines a responsible as meaning one of the following:

1. For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the overall operation of one or more manufacturing, production, or operating facilities applying for a or subject to a permit and either
   i. the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million(in second quarter 1980 dollars); or
   ii. the delegation of authority to such representatives is approved in advance by the permitting authority;
2. For partnership or sole proprietorship; a general partner or the proprietor, respectively;
3. For a municipality, state, federal, or other public agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA).

CERTIFICATION STATEMENT:
(Important: Legally Responsible Official, read and sign after all submissions are final.)

I certify that I am the responsible official for this facility, as described above, and hereby certify that the information contained in this air emissions report, including attached calculations and documentation, is true, accurate and complete. (Subject to legal penalties of up to $25,000 per occurrence and possible imprisonment as outlined in G.S. § 143-215.3(a)(2))

Responsible Official's Signature Below (**use blue ink**): Date Signed:

Printed Name: Tasha Logan Ford

Signature: Tasha Logan Ford

This form applies to Title V facilities. If this facility is not classified asTitle V, please telephone your regional office Emission Inventory Contact at once for proper forms.

Email address of Responsible Official: TLoganFord@highpointnc.gov

Information on this Form cannot be held confidential

Facility Total CY 2024 Emission Summary Recorded in ED

Facility ID #: 4101253

Facility Name: Kersey Valley Landfill

Permit #(s): 10517T02

Green House Gases Pollutants (GHG) Pollutant	CAS	Actual Emissions Tons/Yr		Demini-mus	% Change
		Not Reported	Not Reported		N/A
CO2 equivalent (sum of individual GHG pollutant emissior times their 1995 IPCC Global Warming Potential (GWP), converted to metric tons)		No GHGs Reported			

Criteria Pollutants Pollutant	CAS	Actual Emissions (Tons/Year) CY 2024 from ED	CY 2023 from Fees	Demini-mus	% Change
CO	CO	0.010000	0.010000	0.5	0.0%
NOx	NOx	0.030000	0.040000	0.5	-25.0%
VOC	VOC	10.00	10.00	0.5	0.0%

Hazardous Air Pollutants (HAPs) and/or Toxic Air Pollutants (TAPs) Pollutant	CAS	Actual Emissions (Pounds/Year) CY 2024 from ED	CY 2023 from Fees	Demini-mus	% Change
Mercury & Compounds - all total mass includes Hg Vapor		***0.076050***	***0.074050***	***0.001***	***2.7%***
Mercury, vapor (Component of HGC)	7439-97-6	0.076050	0.074050	0.001	2.7%
Total Reduced Sulfur (TRS as total mass)		***2,385.00***	***2,330.00***		***2.4%***
Dimethyl sulfide	75-18-3	631.00	616.00	1.0	2.4%
Hydrogen sulfide	7783-06-4	1,597.00	1,561.00	1.0	2.3%
Methyl mercaptan	74-93-1	157.00	153.00	1.0	2.6%
Acrylonitrile	107-13-1	435.00	425.00	10.0	2.4%
Benzene	71-43-2	194.01	189.02	1.0	2.6%
Carbon disulfide	75-15-0	58.00	56.00	10.0	3.6%
Carbonyl sulfide	463-58-1	38.00	37.00	1.0	2.7%
CFC-11 (Trichlorofluoromethane)	75-69-4	136.00	133.00	100.0	2.3%
CFC-12 (Dichlorodifluoromethane)	75-71-8	2,519.00	2,461.00	100.0	2.4%
Chlorobenzene	108-90-7	37.00	36.00	10.0	2.8%

Facility Total CY 2024 Emission Summary Recorded in ED **Facility ID #:** 4101253

Facility Name: Kersey Valley Landfill **Permit #(s):** 10517T02

Hazardous Air Pollutants (HAPs) and/or Toxic Air Pollutants (TAPs)		Actual Emissions (Pounds/Year)			
Pollutant	CAS	CY 2024 from ED	CY 2023 from Fees	Demini-mus	% Change
Dichlorobenzene(p), 1,4-	106-46-7	40.00	39.00	1.0	2.6%
Dichlorofluoromethane	75-43-4	348.00	340.00	100.0	2.4%
Dioxane, 1,4-	123-91-1	34.00	2.70	0.01	**1,159.3%**
Ethyl benzene	100-41-4	636.00	621.00	100.0	2.4%
Ethyl chloride (chloroethane)	75-00-3	109.00	107.00	10.0	1.9%
Ethyl mercaptan	75-08-1	186.00	182.00	10.0	2.2%
Ethylene dichloride (1,2-dichloroethane)	107-06-2	53.00	52.00	1.0	1.9%
Ethylidene dichloride (1,1-dichloroethane)	75-34-3	309.00	302.00	100.0	2.3%
Formaldehyde	50-00-0	0.018000	Not Reported	10.0	**N/A**
Hexane, n-	110-54-3	740.00	724.00	100.0	2.2%
MEK (methyl ethyl ketone, 2-butanone)	78-93-3	747.00	651.00	100.0	**14.7%**
Methyl chloride (chloromethane)	74-87-3	79.00	77.00	1.0	2.6%
Methylene chloride	75-09-2	1,548.00	1,513.00	1.0	2.3%
MIBK (methyl isobutyl ketone)	108-10-1	250.00	242.00	10.0	3.3%
Perchloroethylene (tetrachloroethylene)	127-18-4	799.00	781.00	100.0	2.3%
Propylene dichloride (1,2-dichloropropane)	78-87-5	26.00	26.00	10.0	0.0%
Tetrachloroethane, 1,1,2,2-	79-34-5	240.00	235.00	100.0	2.1%
Toluene	108-88-3	4,684.01	4,571.01	100.0	2.5%
Total Reduced Sulfur (TRS, as H2S)	TS	2,609.00	2,549.00		2.4%
Vinyl chloride	75-01-4	594.00	580.00	0.1	2.4%
Vinylidene chloride	75-35-4	25.00	25.00	0.1	0.0%
Xylene (mixed isomers)	1330-20-7	1,661.00	1,621.00	100.0	2.5%

Largest Individual HAP	**Toluene**	**4,684.01 lbs**
Total HAP Emissions		**12,589.12 lbs**
Largest Individual CAP	**VOC**	**10.00 tons**
Total CAP Emissions		**10.04 tons**
Total TAP Emissions		**14,079.12 lbs**
Total Aggregate Emissions		**12.04 tons**

DAQ's Comments Regarding Inventory

1,4-dioxane increased in 2024 due to the increase in leachate generated and the measured concentration of 1,4-dioxane. An email from the consultant is attached to the calculation sheet showing this. MEK increased in 2024 due to MEK being below the detection limit in 2023 in the leachate, so no MEK was reported in 2023 for leachate. NOx decreased in 2024 by one hundredth of a ton due to the emergency generator operating 4 hours less..

COPY of RECORD Date Submitted: 6/17/2025 12:29:53

As entered in AERO

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3940 Kivett Drive
High Point, NC 27261

Facility ID : 4101253
Permit : 10517
County : Guilford
DAQ Region : WSRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2024

Record Facility-Wide Totals From all Permitted and Non-Permitted AirPollutant Emission Sources

Green House Gases Pollutants(GHG)

		Actual Emissions (Tons/Year)		
Pollutant	**CAS**	**2024**	**2023**	**% Change**

Criteria Pollutants

		Actual Emissions (Tons/Year)		
Pollutant	**CAS**	**2024**	**2023**	**% Change**
CO	CO	0.01	0.01	0.0%
NOx	NOx	0.03	0.04	-25.0%
PM(TSP)	TSP	0.0	Not reported	N/A
PM10	PM10	0.0	Not reported	N/A
PM2.5	PM2.5	0.0	Not reported	N/A
SO2	SO2	0.0	Not reported	N/A
VOC	VOC	10.0	10	0.0%

Hazardous Air Pollutants(HAPS) and/or Toxic Air Pollutants(TAPs)

		Actual Emissions (Pounds/Year)		
Pollutant	**CAS**	**2024**	**2023**	**% Change**
Pollutant Group: Mercury & Compounds - all total mass, inc Hg Vapor **Group Sum:**0.07605				
Mercury, vapor (Component of HGC)	7439-97-6	0.07605	0.07405	2.7008731%
Pollutant Group: Total Reduced Sulfur (TRS as total mass) **Group Sum:**2385				
Dimethyl sulfide	75-18-3	631.0	616	2.435065%
Hydrogen sulfide	7783-06-4	1597.0	1561	2.3062139%
Methyl mercaptan	74-93-1	157.0	153	2.6143792%
Acrylonitrile	107-13-1	435.0	425	2.3529413%
Benzene	71-43-2	194.014	189.016	2.644221%
CFC-11(Trichlorofluoromethane)	75-69-4	136.0	133	2.255639%
CFC-12 (Dichlorodifluoromethane)	75-71-8	2519.0	2461	2.3567655%
Carbon disulfide	75-15-0	58.0	56	3.5714285%
Carbonyl sulfide	463-58-1	38.0	37	2.7027028%

Dichlorofluoromethane	75-43-4	348.0	340	2.3529413%
Dioxane, 1,4-	123-91-1	34.0	2.7	1159.2593%
Ethyl benzene	100-41-4	636.0	621	2.415459%
Ethyl chloride (chloroethane)	75-00-3	109.0	107	1.8691589%
Ethyl mercaptan	75-08-1	186.0	182	2.1978023%
Ethylene dichloride (1,2-dichloroethane)	107-06-2	53.0	52	1.9230769%
Ethylidene dichloride (1,1-dichloroethane)	75-34-3	309.0	302	2.3178809%
Hexane, n-	110-54-3	740.0	724	2.2099447%
Methyl chloride	74-87-3	79.0	77	2.5974026%
Methyl ethyl ketone	78-93-3	747.0	651	14.746544%
Methyl isobutyl ketone	108-10-1	250.0	242	3.3057852%
Methylene chloride	75-09-2	1548.0	1513	2.3132849%
Perchloroethylene (tetrachloroethylene)	127-18-4	799.0	781	2.3047376%
Propylene dichloride	78-87-5	26.0	26	0.0%
Tetrachloroethane, 1,1,2,2-	79-34-5	240.0	235	2.1276596%
Toluene	108-88-3	4684.0063	4571.0071	2.4720814%
Total Reduced Sulfur (TRS, as H2S)	TS	2609.0	2549	2.3538642%
Vinyl chloride	75-01-4	594.0	580	2.413793%
Vinylidene chloride	75-35-4	25.0	25	0.0%
Xylene	1330-20-7	1661.0044	1621.0049	2.467575%

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Facility ID : 4101253
Permit : 10517
County : Guilford
DAQ Region : WSRO

Comments From Facility:

CITY OF high point.

June 23, 2025

Davis Murphy, Regional Supervisor
North Carolina Department of Environmental Quality
Division of Air Quality, Winston-Salem Regional Office
450 West Hanes Mill Road, Suite 300
Winston-Salem, North Carolina 27105

RE: Air Emission Inventory – Reporting Year 2024
City of High Point Kersey Valley Municipal Solid Waste Landfill
High Point, North Carolina
Title V Air Permit No. 10517T02
Facility ID 4101253

Dear Mr. Murphy:

The City of High Point is pleased to submit two (2) hardcopies of the Air Emission Inventory for Reporting Year 2024 for the City's Kersey Valley municipal solid waste landfill as required by the facility's Title V air permit (Permit No. 10517T02) issued February 21, 2024. Smith Gardner, Inc. (S+G) prepared the inventory on behalf of the City and submitted electronically using DAQ's Air Emission Reporting Online (AERO) software.

If you have any questions regarding this submittal, please feel free to contact Mac Jones of Smith Gardner, Inc. at (910) 540-8836.

Sincerely,
City of High Point

Tasha Logan Ford
City Manager

Attachment

cc: Robby D. Stone, P.E, City of High Point
Melinda King, P.E., City of High Point
Mike Spencer, City of High Point
Mac Jones, P.E., S+G

Air Emissions Inventory
Reporting Year 2024

Kersey Valley MSW Landfill
High Point, North Carolina
Air Quality Permit No. 10517T02
Facility ID: 4101253

Prepared for:

City of High Point Department of Public Services
High Point, North Carolina

CITY OF high point.

June 2025

Prepared by:

NC LIC. NO. F-1370 (ENGINEERING)

SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

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Air Emissions Inventory
Reporting Year 2024

Kersey Valley MSW Landfill
High Point, North Carolina
Air Quality Permit No. 10517T02
Facility ID: 4101253

Prepared for:

City of High Point Department of Public Services
High Point, North Carolina

CITY OF high point.

S+G Project No. HPOINT-24-1

DocuSigned by:
Matthew M. Jones
C4990A659B9B4AD...

Matthew M. Jones, P.E.
Project Engineer

DocuSigned by:
Pieter K. Scheer
5B6B31996A674D7...

Pieter K. Scheer, P.E.
Senior Engineer

June 2025

NC LIC. NO. F-1370 (ENGINEERING)

SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

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Kersey Valley MSW Landfill
High Point, North Carolina

Air Emissions Inventory
Reporting Year 2024

Table of Contents

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1.0 INTRODUCTION

Smith Gardner, Inc. (S+G) has prepared this air emissions inventory on behalf of the City of High Point in accordance with **Section 3 Part X** of Title V Air Permit No. 10517T02 effective February 21, 2024, issued for the City's Kersey Valley Municipal Solid Waste (MSW) Landfill (landfill) (Facility ID 4101253). This inventory is due to be submitted June 30th of each calendar year to the North Carolina Department of Environmental Quality (NC DEQ) Division of Air Quality (DAQ). The inventory may be electronically submitted using DAQ's Air Emission Reporting Online (AERO) software. A signed certification form by the facility's responsible official, along with inventory calculations and any supporting documentation must be mailed to DAQ by June 30th.

This report provides an overview of the facility and inventory calculations. The signed certification form is included in **Attachment 1**. **Attachment 2** contains a printout of the inventory forms as submitted electronically to AERO. These forms report emissions as calculated in **Attachment 3**.

2.0 SITE OVERVIEW

The Kersey Valley MSW Landfill facility is owned by the City of High Point and is located at 3940 Kivett Drive in High Point, North Carolina. The facility includes a MSW landfill operated in two separate areas (Area 1 (Phases 1-3A) and Area 2 (Phases 4, 5A, 5B, and 6), landfill office; scale house; and a wood waste processing area. A 30-kilowatt (kW) diesel emergency generator to power a leachate pump station is also located at the facility. The landfill began accepting waste in 1993 and is currently active.

3.0 OVERVIEW OF CALCULATIONS

Air pollutant emissions from the Kersey Valley MSW Landfill consist of fugitive emissions from the MSW landfill units. **Attachment 3** contains the inventory calculations of these emissions along with supporting documentation. Fugitive emissions from the landfill are calculated based on the annual amount of landfill gas (LFG) generated by the landfill. Annual LFG generation is modeled using EPA's Landfill Gas Emission Model (LandGEM), Version 3.03 (**Attachment 3.1**). LandGEM inputs include annual waste acceptance as reported for calendar year 2024 on the Waste Analysis Report by Material, included in **Attachment 3.2**. It is noted that some of the material is not MSW and is determined to be nondegradable; therefore, is excluded from the reported total for calculation of total LFG generation for the site.

Facility pollutant emissions are quantified for individual pollutants as well as total hazardous air pollutants (HAP) and total volatile organic compounds (VOC). Individual HAP and VOC emissions are compared to de minimus limits set by DEQ. Pollutants that equal or exceed the de minimus limits are reported in the inventory.

Total leachate emissions are calculated and reported based on leachate pump data and semiannual leachate analyses for 2024 (**Attachment 3.3**). Emissions from the diesel-fired emergency generator are calculated and reported based on annual runtime hours reported by the landfill (**Attachment 3.4**). These emissions are calculated as discussed below.

3.1 Leachate Emissions

The annual pollutant emissions from leachate are based on constituent data from semi-annual groundwater monitoring reports, and the annual leachate generation. Summary tables showing leachate constituent data from both semi-annual monitoring events in 2024 are shown in **Attachment 3.3**. The concentration of each detected VOC (including delisted VOCs such as methylene chloride) is multiplied by the annual leachate generation (gallons pumped per year) to calculate the mass emissions of each pollutant in 2024. For the purpose of this emissions inventory, all leachate constituents are conservatively assumed to be emitted to the air, representing a "worst-case" scenario of leachate emissions from the landfill. The annual leachate generation for 2024 was provided by the City, and included in **Attachment 3.3**.

3.2 Diesel-fired Leachate Pump Generator Emissions

The facility has a diesel-fired emergency generator that is used to provide backup power to the on-site pump station. The generator has a nameplate rating of 69 horsepower, and it is located at the leachate pump station. The generator is listed as "Insignificant Emission Source No. 2" on the facility's Title V permit. NCDEQ has provided spreadsheets that estimate the emissions of small diesel generators based on either fuel use of engine runtime. These spreadsheets, as well as the annual runtimes reported for the generator, can be found in **Attachment 3.4**.

Attachment 1

AERO Certification Form

Air Emissions Inventory – Reporting Year 2024
Kersey Valley MSW Landfill
High Point, North Carolina

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Attachment 2

AERO Inventory Forms

Air Emissions Inventory – Reporting Year 2024
Kersey Valley MSW Landfill
High Point, North Carolina

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Listing of Emission Sources and Control Devices on Permit. See instructions

*ES ID on Air Permit	*ES Description	*CS ID	*CS Description	* CD ID's
ES-1	Municipal solid waste landfill [NSPS XXX, NESHAP M]			
ES-2	One Diesel fuel-fired emergency generator (30 kW) located at the leachate pump station [NSPS IIII, MACT ZZZZ]			
ES-3	Tub grinder (Model: Morbark 1300B)			
ES-3.1	Solar vent flare (approximately 90 standard cubic feet per minute flow rate)			
ES-3.2	Solar vent flare (approximately 90 standard cubic feet per minute flow rate)			
ES-3.3	Solar vent flare (approximately 90 standard cubic feet per minute flow rate)			
ES-3.4	Solar vent flare (approximately 90 standard cubic feet per minute flow rate)			
ES-3.5	Solar vent flare (approximately 90 standard cubic feet per minute flow rate)			

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Emission Source & Operating Scenario List - See Instructions

*ES Group ID	*ES ID	*OS ID	*OS Description
	ES-1	1	ES-1 Fugitive Emissions from LFG and Leachate
	IES-2	2	Emergency Generator (30 kW)
	IES-3	3	Temporary Use. Tub grinder, non-stationary
	IES-3.1	NONE	NONE
	IES-3.2	NONE	NONE
	IES-3.3	NONE	NONE
	IES-3.4	NONE	NONE
	IES-3.5	NONE	NONE

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Air Pollutant Point Source Emissions Inventory - Calendar Year 2024

1. **Emission Source ID (from permit) or Emission Source Group ID**: ES-1
2. **Emission Source Description :** One municipal solid waste landfill consisting of Areas 1 and 2 with a permitted design capacity of 3,325,030 Mg [NSPS XXX]
3. **Operating Scenario ID/ Description**: OS - 1/ES-1 Fugitive Emissions from LFG and Leachate
4. **SCC Number/Description**: 50300603/Landfill Dump ; Hazardous: Fugitive Emissions
5. **Throughput/units in 2024**: (e.g. production or fuel use): 509900158 FT3S/yr
6. **Fuel Information** (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. **Capture Efficiency** (% of Emissions from this Process Vented to Control Device or Stack):
8. **Control Device Information :None**

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. **Emission Release Point (ERP) Information**: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
ES-1	FUGITIVE (NO STACK)		1	72		Area = 1	Kersey Valley MSW Landfill

Operating Scenario: OS - 1 **Emission Source/Group ID:** ES-1

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2024)
Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2024	25%	March-May 2024	25%	June-Aug. 2024	25%	Sept.-Nov. 2024	25%

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2024				

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2024				
CO	CO		08			
NOx	NOx		08			
TSP	TSP		08			
PM10	PM10		08			
PM2.5	PM2.5		08			
SO2	SO2		08			
VOC	VOC	10	08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2024				
Acrylonitrile	107-13-1	435	08			
Benzene	71-43-2	194	08			
CFC-11(Trichlorofluoromethane)	75-69-4	136	08			
CFC-12 (Dichlorodifluoromethane)	75-71-8	2519	08			
Carbon disulfide	75-15-0	58	08			
Carbonyl sulfide	463-58-1	38	08			
Chlorobenzene	108-90-7	37	08			
Dichlorobenzene(p), 1,4-	106-46-7	40	08			
Dichlorofluoromethane	75-43-4	348	08			
Dimethyl sulfide	75-18-3	631	08			
Dioxane, 1,4-	123-91-1	34	08			
Ethyl benzene	100-41-4	636	08			
Ethyl chloride	75-00-3	109	08			

Ethylene dichloride (1,2-dichloroethane)	**107-06-2**	53	08			
Ethylidene dichloride (1,1-dichloroethane)	**75-34-3**	309	08			
Hexane, n-	**110-54-3**	740	08			
Hydrogen sulfide	**7783-06-4**	1597	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.076	08			
Methyl chloride	**74-87-3**	79	08			
Methyl ethyl ketone	**78-93-3**	747	08			
Methyl isobutyl ketone	**108-10-1**	250	08			
Methyl mercaptan	**74-93-1**	157	08			
Methylene chloride	**75-09-2**	1548	08			
Perchloroethylene (tetrachloroethylene)	**127-18-4**	799	08			
Propylene dichloride	**78-87-5**	26	08			
Tetrachloroethane, 1,1,2,2-	**79-34-5**	240	08			
Toluene	**108-88-3**	4684	08			
Total Reduced Sulfur (TRS, as H2S)	**TS**	2609	08			
Vinyl chloride	**75-01-4**	594	08			
Vinylidene chloride	**75-35-4**	25	08			
Xylene	**1330-20-7**	1661	08			

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As entered in AERO

Facility Name: Kersey Valley Landfill
3940 Kivett Drive
High Point, NC 27261

Facility ID : 4101253
Permit : 10517
County : Guilford
DAQ Region : WSRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2024

1. Emission Source ID (from permit) or Emission Source Group ID IES-2

2. Emission Source Description : One Diesel fuel-fired emergency generator (30 kW) located at the leachate pump station [NSPS IIII, GACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 2/Emergency Generator (30 kW)

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2024: (e.g. production or fuel use): 32 HR/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0011	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
IES-2	VERTICAL STACK	12	0.25	879	106.95	315	Emergency Generator

Operating Scenario: OS - 2 **Emission Source/Group ID:** IES-2

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2024)

Hours per Day (1) Days per Week (1) Weeks per Year (50)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2024	25%	March-May 2024	25%	June-Aug. 2024	25%	Sept.-Nov. 2024	25%

13. Actual Emissions per Pollutant Listed :

Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2024				

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2024				
CO	CO	0.01	08			
NOx	NOx	0.03	08			
TSP	TSP		08			
PM10	PM10		08			
PM2.5	PM2.5		08			
SO2	SO2		08			
VOC	VOC		08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2024				
Benzene	71-43-2	0.014	08			
Mercury, vapor (Component of HGC)	7439-97-6	0.00005	08			
Toluene	108-88-3	0.0063	08			
Xylene	1330-20-7	0.0044	08			

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As entered in AERO

Facility Name: Kersey Valley Landfill
3940 Kivett Drive
High Point, NC 27261

Facility ID : 4101253
Permit : 10517
County : Guilford
DAQ Region : WSRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2024

1. Emission Source ID (from permit) or Emission Source Group ID IES-3

2. Emission Source Description : Tub grinder (Model: Morbark 1300B)

3. Operating Scenario ID/ Description: OS - 3/Temporary Use. Tub grinder, non-stationary

4. SCC Number/Description: 31299999/Miscellaneous Machinery ; Other Not Classified

5. Throughput/units in 2024: (e.g. production or fuel use):

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
IES-3	VERTICAL STACK	10	10	72	5	23561.94	Tub Grinder

Operating Scenario: OS - 3 **Emission Source/Group ID:** IES-3

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2024)

Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2024	**25%**	**March-May 2024**	**25%**	**June-Aug. 2024**	**25%**	**Sept.-Nov. 2024**	**25%**

13. Actual Emissions per Pollutant Listed :

Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2024				

Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2024				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**		08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**		08			
VOC	**VOC**		08			

HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2024				

Facility Total CY 2024 Emissions Summary

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As entered in AERO

Facility Name: Kersey Valley Landfill
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High Point, NC 27261

Facility ID : 4101253
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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2024

Record Facility-Wide Totals From all Permitted and Non-Permitted AirPollutant Emission Sources

Green House Gases Pollutants(GHG)

		Actual Emissions (Tons/Year)		
Pollutant	**CAS**	**2024**	**2023**	**% Change**

Criteria Pollutants

		Actual Emissions (Tons/Year)		
Pollutant	**CAS**	**2024**	**2023**	**% Change**
CO	CO	0.01	0.01	0.0%
NOx	NOx	0.03	0.04	-25.0%
PM(TSP)	TSP	0.0	Not reported	N/A
PM10	PM10	0.0	Not reported	N/A
PM2.5	PM2.5	0.0	Not reported	N/A
SO2	SO2	0.0	Not reported	N/A
VOC	VOC	10.0	10	0.0%

Hazardous Air Pollutants(HAPS) and/or Toxic Air Pollutants(TAPs)

		Actual Emissions (Pounds/Year)		
Pollutant	**CAS**	**2024**	**2023**	**% Change**
Pollutant Group: Mercury & Compounds - all total mass, inc Hg Vapor **Group Sum:**0.07605				
Mercury, vapor (Component of HGC)	7439-97-6	0.07605	0.07405	2.7008731%
Pollutant Group: Total Reduced Sulfur (TRS as total mass) **Group Sum:**2385				
Dimethyl sulfide	75-18-3	631.0	616	2.435065%
Hydrogen sulfide	7783-06-4	1597.0	1561	2.3062139%
Methyl mercaptan	74-93-1	157.0	153	2.6143792%
Acrylonitrile	107-13-1	435.0	425	2.3529413%
Benzene	71-43-2	194.014	189.016	2.644221%
CFC-11(Trichlorofluoromethane)	75-69-4	136.0	133	2.255639%
CFC-12 (Dichlorodifluoromethane)	75-71-8	2519.0	2461	2.3567655%
Carbon disulfide	75-15-0	58.0	56	3.5714285%
Carbonyl sulfide	463-58-1	38.0	37	2.702702%

Attachment 3

Inventory Calculations

Air Emissions Inventory – Reporting Year 2024
Kersey Valley MSW Landfill
High Point, North Carolina

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PROJECT High Point - Kersey Valley MSW Landfill SHEET 1 OF 7 DATE 6/17/2025
SUBJECT 2024 Air Emission Inventory JOB # HPOINT-24-1 COMPUTED BY MMJ CHECKED BY MSL

OBJECTIVE:

Calculate total facility-wide emissions for the City of High Point Department of Public Services - Kersey Valley Landfilll in order to prepare the annual air emission inventory report as required in the facility's Title V Air Permit No.10517T02.

GIVEN:

1. Waste disposal rates, and maximum permitted design capacity of Areas 1 and 2 are entered into LandGEM (Att. 3.1) to estimate the LFG emission rates from Areas 1 and 2.

ASSUMPTIONS:

1. PTE emissions from the landfill are calculated based on the maximum LFG generation rate from Areas 1 and 2 of the landfill.
2. All of the LFG generated by the landfill is conservatively assumed to be emitted to the atmosphere as fugitive emissions.

REFERENCES:

1. Compilation of Air Pollutant Emission Factors, Document AP-42, Fifth Edition, Section 2.4, Municipal Solid Waste Landfills, revised November 1998, EPA.
2. De minimus reportable quantities listed in "Tables of Air Pollutants for North Carolina Emissions Inventory and Permit Purposes". Tables included in North Carolina Department of Environmental Quality's "Instructions for Air Pollutant Point Source Emissions Inventory" (Revised March 2022).

ATTACHMENT:

3.1. Landfill Gas Emission Model (LandGEM), Version 3.03, issued by U.S. EPA, June 2020.
3.2. Waste Acceptance Records
3.3. Leachate Flow and Analytical Data
3.4. Desiel-fired Leachate Pump Emissions

ANALYSIS:

Emissions are calculated in the following sections:

1. Landfill gas (LFG) generation rate is calculated from the landfill based on waste acceptance.
2. Uncontrolled emission rates are calculated from the landfill.
3. Mass emissions of pollutants from leachate and condensate are calculated for the landfill.
4. Diesel-fired leachate pump emissions are calculated based on information provided by the landfill and input into the calculation tool provided by NC DAQ titled "GAS & DIESEL INTERNAL COMBUSTION ENGINES with power rating of <= 600 HP for diesel engines and <= 250 HP for gasoline engines, EMISSIONS CALCULATOR REVISION S 6/22/2015"
5. Total facility-wide emissions are combined from previous calculations and compared to de minimus

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PROJECT High Point - Kersey Valley Landfill SHEET 2 OF 7 DATE 6/16/2025
SUBJECT 2024 Air Emission Inventory JOB # HPOINT-24-1 COMPUTED BY MMJ CHECKED BY MSL

CONVERSION FACTORS:

2.2046	pounds per kilogram
2000	pounds per ton
100	percent conversion factor
1012	higher heating value (HHV) of CH_4, Btu/cubic foot ft^3
1.00E+06	m^3 per 10^6 m^3
35.315	cubic feet (ft^3) per m^3
1.00E+06	Btu per MMBtu
525600	minutes per year
1.00E-09	kg per µg
1000	micrograms per milligram
1012	Btu per ft^3 CH_4
0.0283168	m^3 per ft^3
1000	kg per Mg
525600	minutes per year
0.0011023	tons per kilogram
453.592	g per lb
26.857	Btu/ft^3 per MJ/m^3
3.2808	ft per m
2,204.62	lbs per Mg
365	days per yr
8760	hr per yr
3.785	liters per gallon

PROJECT	High Point - Kersey Valley MSW Landfill	SHEET	3/7
SUBJECT	2024 Air Emission Inventory	JOB #	HPOINT-24-1
		DATE	6/16/2025
		COMPUTED BY	MMJ
		CHECKED BY	MSL

SECTION 1: LFG Generation (Q_{LFG})

NARRATIVE: Emission calculation inputs include the LFG generation rate for Area 1 and Area 2, which are modeled using LandGEM with inputs from **Ref. 1** and the maximum permitted design capacity of Areas 1 and 2 (**Att 3.1**).

Maximum LFG flow rate (Q_{LFG}) from LandGEM:

Total LFG Flow = 14,438,741 m^3/yr

509,900,158 SCF/yr

PROJECT	High Point - Kersey Valley MSW Landfill	SHEET	4/7
		JOB #	HPOINT-24-1
SUBJECT	2024 Air Emission Inventory	DATE	6/16/2025
		COMPUTED BY	MMJ
		CHECKED BY	MSL

SECTION 2: Uncontrolled mass emissions of HAPs and VOCs in LFG flow rate.

NARRATIVE: Uncontrolled emissions of HAPs and VOCs present in LFG are estimated using AP-42 Section 2.4 Equations 3 and 4, and information contained in Tables 2.4-1 and 2.4-2 (**Ref. 1**).

2.1 Equation 3 (**Ref. 1**) as modified (using LFG as input instead of CH_4) estimates the uncontrolled volumetric emission rates of pollutants present in LFG:

$$Q_P = Q_{LFG}\left(\frac{C_P}{1x10^6}\right) \qquad \text{Eq. 3 as modified}$$

Where:

Q_P = Uncontrolled volumetric emission rate of pollutant, m^3/yr

Q_{LFG} = 14,438,741 m^3/yr of LFG from the landfill

C_P = Pollutant concentration. The Cp's used in Equation 3 are from Tables 2.4-1 and 2.4-2 of AP-42 Section 2.4.

2.2 Equation 4 (**Ref. 1**) as modified (calculating lb/yr instead of kg/yr) estimates the uncontrolled mass emission rates of pollutants present in LFG, using the volumetric emission rates of pollutants determined in Equation 3:

$$UM_P = Q_P\left[\frac{MW_p * 1atm}{(8.205x10^{-5} m^3 - atm/gmol - {}^{\circ}K)(453.592 g/lb)(273 + T^{\circ}K)}\right] \qquad \text{Eq. 4 as modified}$$

Where:

UM_P = Uncontrolled mass emission rate of pollutant, lb/yr

MW_P = Molecular weight of pollutants, g/mol

Q_P = Uncontrolled volumetric emission rate of pollutant, m^3/yr

T = 25°C, assumed LFG temperature

PROJECT	High Point - Kersey Valley MSW Landfill	SHEET	5/7
		JOB #	HPOINT-24-1
SUBJECT	2024 Air Emission Inventory	DATE	6/16/2025
		COMPUTED BY	MMJ
		CHECKED BY	MSL

Uncontrolled Emission Rates of HAPs and VOCs in LFG

Landfill Gas Constituents from AP-42, Table 2.4-1[a]	C_P, ppmv	MW_P	Uncontrolled Emission Rates		
			Q_P, m^3/yr	UM_P, lb/yr	UM_P, tons/yr
1,1,1-Trichloroethane (methyl chloroform) - HAP	0.48	133.4	6.9	83	0.042
1,1,2,2-Tetrachloroethane - HAP/VOC	1.11	167.9	16	240	0.12
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.35	98.97	35	309	0.15
1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	0.20	96.94	2.9	25	0.013
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	0.41	98.96	5.9	53	0.026
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.18	113.0	2.6	26	0.013
2-Propanol (isopropyl alcohol) - VOC	50.1	60.11	722	3,913	2.0
Acetone	7.0	58.08	101	529	0.26
Acrylonitrile - HAP/VOC	6.33	53.06	91	435	0.22
Benzene - No or Unknown Co-disposal - HAP/VOC	1.91	78.11	27	193	0.097
Bromodichloromethane - VOC	3.13	163.8	45	661	0.33
Butane - VOC	5.03	58.12	72	378	0.19
Carbon disulfide - HAP/VOC	0.58	76.13	8.4	57	0.029
Carbon tetrachloride - HAP/VOC	0.004	153.8	0.058	0.80	4.01E-04
Carbonyl sulfide - HAP/VOC	0.49	60.07	7.1	38	0.019
Chlorobenzene - HAP/VOC	0.25	112.6	3.6	37	0.018
Chlorodifluoromethane	1.30	86.47	19	146	0.073
Chloroethane (ethyl chloride) - HAP/VOC	1.25	64.5	19	109	0.055
Chloroform - HAP/VOC	0.03	119.4	0.43	4.7	2.33E-03
Chloromethane - VOC	1.21	50.5	17	79	0.039
Dichlorobenzene - (HAP for para isomer/VOC)	0.21	147.0	3.0	40	0.020
Dichlorodifluoromethane	15.7	120.9	231	2,519	1.3
Dichlorofluoromethane - VOC	2.62	102.9	38	348	0.17
Dichloromethane (methylene chloride) - HAP	14.3	84.9	202	1,548	0.77
Dimethyl sulfide (methyl sulfide) - VOC	7.82	62.1	113	631	0.32
Ethane	889.0	30.1	12,850	34,841	17
Ethanol - VOC	27.2	46.1	390	1,620	0.81
Ethyl mercaptan (ethanethiol) - VOC	2.28	62.1	33	186	0.093
Ethylbenzene - HAP/VOC	4.61	106.2	66	636	0.32
Ethylene dibromide - HAP/VOC	1.0E-03	187.9	0.014	0.24	1.2E-04
Fluorotrichloromethane - VOC	0.76	137.4	11	136	0.068
Hexane - HAP/VOC	6.57	86.2	95	740	0.37
Hydrogen sulfide	35.50	34.1	520	1,597	0.80
Mercury (total) - HAP	2.9E-04	200.6	4.2E-03	0.076	3.8E-05
Methyl ethyl ketone - HAP/VOC	7.09	72.1	103	667	0.33
Methyl isobutyl ketone - HAP/VOC	1.87	100.2	27	248	0.12
Methyl mercaptan - VOC	2.49	48.1	36	157	0.078
Pentane - VOC	3.29	72.2	48	310	0.15
Perchloroethylene (tetrachloroethylene) - HAP	3.73	165.8	53	799	0.40
Propane - VOC	11.1	44.1	159	631	0.32
t-1,2-Dichloroethene - VOC	2.84	96.9	40	353	0.18
Toluene - No or Unknown Co-disposal - HAP/VOC	39.3	92.1	563	4,678	2.3
Trichloroethylene (trichloroethene) - HAP/VOC	2.82	131.4	40	479	0.24
Vinyl chloride - HAP/VOC	7.34	62.5	105	594	0.30
Xylenes - HAP/VOC	12.1	106.2	173	1,658	0.83
Total HAPs	NA	NA	6,151	13,779	6.9
Total VOCs	NA	NA	7,754	20,673	10.3

[a]Table 2.4-1 lists carbon monoxide but notes "...carbon monoxide is not a typical constituent of LFG, but does exist in instances involving landfill (underground) combustion. Of 18 sites where CO was measured, only 2 showed detectable levels of CO." For this reason, carbon monoxide is not being considered for these calculations.

PROJECT	High Point - Kersey Valley MSW Landfill	SHEET	6/7
		JOB #	HPOINT-24-1
SUBJECT	2024 Air Emission Inventory	DATE	6/16/2025
		COMPUTED BY	MMJ
		CHECKED BY	MSL

SECTION 3: **Emissions from Leachate/Condensate**

NARRATIVE: Emissions from leachate and LFG collection system condensate (condensate) are conservatively estimated from the total amounts generated and maximum concentrations of pollutants detected during semi-annual leachate sampling **(Att. 3.3)**

$$M_P = Q_{LC} * C_P$$

Where:

M_P = Mass emissions of pollutant, P, from leachate and condensate, kg/yr

Q_{LC} = 3,725,216 gal/yr, Leachate and condensate generation, estimated from pump
14,099,943 liters/yr

C_P = Maximum concentration of pollutant, P, µg/l (Att. 3.3)

Pollutants	C_P (µg/l)	C_p (kg/l)	M_P (kg/yr)	M_P (lb/yr)
1,4-Dioxane - HAP/VOC	1,100	1.1E-06	16	34
Benzene - No or Unknown Co-disposal - HAP/VOC	9.0	9.0E-09	0.13	0.28
Methyl ethyl ketone (2-Butanone) - VOC	2,600	2.6E-06	37	81
Chlorobenzene - HAP/VOC	1.4	1.4E-09	0.020	0.044
Carbon disulfide - HAP/VOC	0.80	8.0E-10	0.011	0.025
Dichlorobenzene - (HAP for para isomer/VOC)	3.9	3.9E-09	0.055	0.12
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	0.55	5.5E-10	7.8E-03	0.017
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	2.5	2.5E-09	0.035	0.078
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.35	3.5E-10	4.9E-03	0.011
Ethyl Benzene - HAP/VOC	20	2.0E-08	0.28	0.62
Methyl isobutyl ketone - HAP/VOC	82	8.2E-08	1.2	2.5
t-1,2-Dichloroethene - VOC	0.42	4.2E-10	5.9E-03	0.013
Trichloroethylene (trichloroethene) - HAP/VOC	1.2	1.2E-09	0.017	0.037
Perchloroethylene (tetrachloroethylene) - HAP	0.67	6.7E-10	0.009	0.021
Toluene - No or Unknown Co-disposal - HAP/VOC	210	2.1E-07	3.0	6.5
Xylenes - HAP/VOC	70	7.0E-08	0.99	2.2

Yellow highlighted sample concentrations were measured at levels above the detection limit but below the quanititation limit

$14,099,943 \times 1,100 \times .000000001$

$= 15.5 \cong 16$

$15.5 \times 2.2\ lb/kg = 34.1\ lbs$ ✓

Barker, Robert

From: Mac Jones <mac@smithgardnerinc.com>
Sent: Wednesday, July 16, 2025 12:47 PM
To: Barker, Robert
Subject: [External] Kersey Valley Landfill - RY2024 1,4 Dioxane Emissions

Robert,

Thank you for taking the time to speak with me today regarding the Kersey Valley Landfill Air Emission Inventory Report for RY2024. As we discussed, 1,4 Dioxane emission changes between 2023 and 2024 were influenced by changes in emissions from leachate contributions. The table below provides a summary of leachate generation, measured concentration, and emissions. Increases in leachate generation (+58%) and in 1,4 Dioxane concentration (+703%) resulted in a net increase of 1167% as noted in the reported AERO forms. While variations in leachate generated emissions across compounds are common, these are more pronounced for 1,4 Dioxane as the leachate emissions are the only reported source from the landfill.

	RY 2023	RY 2024	% Change
Leachate Generation (L/yr)	8.93e+6	1.41e+7	+58%
1,4, Dioxane Leachate Conc (ug/L)	137	1100	+703%
1,4 Dioxane Leachate Emissions (lb/yr)	~~3.9~~ 2.7	34	+~~1167~~% ⇒ 1159%

Should you require any additional information, please feel free to reach out to me at your convenience.

Sincerely,

Mac Jones, P.E.
Project Engineer

SMITH GARDNER, INC.
14 N. Boylan Avenue
Raleigh, NC 27603

C (910) **540.8836**
www.smithgardnerinc.com

PROJECT: High Point - Kersey Valley MSW Landfill
SUBJECT: 2024 Air Emission Inventory

SHEET: 7/7
JOB #: HPOINT-24-1
DATE: 6/17/2025
COMPUTED BY: MMJ
CHECKED BY: MSL

SECTION 5: Facility-Wide Emissions Summary

NARRATIVE: Total facility-wide emissions (FWP) are the total of emissions from Sections 2 and 3, including landfill gas (LFG) fugitive emissions, fugitive leachate emissions, and emergency generator emissions. Fugitive emissions from both LFG and Leachate are jointly reported under operating scenario 1 (OS-1). FWP emissions are compared to de minimus limits. Pollutants whose emissions exceed de minimus quantities are included in the Air Emission Inventory.

Facility-Wide Emissions Summary

Pollutants	LFG (lb/yr)	LFG (tons/yr)	Leachate (lbs/yr)	IES-2 (lbs/yr)	FW_P (lbs/yr)	FW_P (tons/yr)	De Minimis Limit (lbs/yr)[1]	Reportable Quantity?
Particulate Matter (PM)	----	----	----	4.86	4.9	2.4E-03	1,000	NO
Carbon monoxide (none measured at landfill)	----	----	----	14.7	15	7.4E-03	1,000	NO
Oxides of Nitrogen (NOx)	----	----	----	68	68	0.034	1,000	NO
Sulfur Dioxide (SO_2)	----	----	----	2.7	2.7	1.3E-03	1,000	NO
1,4-Dioxane - HAP/VOC	----	----	34	----	34	0.017	0.01	YES
1,1,1-Trichloroethane (methyl chloroform) - HAP	83	0.042	----	----	83	0.042	100	NO
1,1,2,2-Tetrachloroethane - HAP/VOC	240	0.12	----	----	240	0.12	100	YES
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	309	0.15	0.017	----	309	0.15	100	YES
1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	25	0.013	----	----	25	0.013	0.1	YES
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	53	0.026	0.078	----	53	0.026	1	YES
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	26	0.013	0.011	----	26	0.013	10	YES
2-Propanol (isopropyl alcohol) - VOC	3,913	2.0	----	----	3,913	2.0	NA	NO
Acetone	529	0.26	----	----	529	0.26	NA	NO
Acrylonitrile - HAP/VOC	435	0.22	----	----	435	0.22	10	YES
Benzene - No or Unknown Co-disposal - HAP/VOC	193	0.10	0.28	0.014	194	0.097	1	YES
Bromodichloromethane - VOC	661	0.33	----	----	661	0.33	NA	NO
Butane - VOC	378	0.19	----	----	378	0.19	NA	NO
Carbon disulfide - HAP/VOC	57	0.029	0.025	----	58	0.029	10	YES
Carbon tetrachloride - HAP/VOC	0.80	4.0E-04	----	----	0.80	4.0E-04	1	NO
Carbonyl sulfide - HAP/VOC	38	0.019	----	----	38	0.019	1	YES
Chlorobenzene - HAP/VOC	37	0.018	0.044	----	37	0.018	10	YES
Chlorodifluoromethane	146	0.073	----	----	146	0.073	NA	NO
Chloroethane (ethyl chloride) - HAP/VOC	109	0.055	----	----	109	0.055	10	YES
Chloroform - HAP/VOC	4.7	2.3E-03	----	----	4.7	0.002	100	NO
Chloromethane (Methyl Chloride) - VOC	79	0.039	----	----	79	0.039	1	YES
Dichlorobenzene - (HAP for para isomer/VOC)	40	0.020	0.12	----	40	0.020	1	YES
Dichlorodifluoromethane (CFC-12)	2,519	1.3	----	----	2,519	1.3	100	YES
Dichlorofluoromethane - VOC	348	0.17	----	----	348	0.17	100	YES
Dichloromethane (methylene chloride) - HAP	1,548	0.77	----	----	1,548	0.77	1	YES
Dimethyl sulfide (methyl sulfide) - VOC/TRS	631	0.32	----	----	631	0.32	1	YES
Ethane	34,841	17	----	----	34,841	17	NA	NO
Ethanol - VOC	1,620	0.81	----	----	1,620	0.81	NA	NO
Ethyl mercaptan (ethanethiol) - VOC	186	0.09	----	----	186	0.093	10	YES
Ethyl Benzene - HAP/VOC	636	0.32	0.62	----	636	0.32	100	YES
Ethylene dibromide - HAP/VOC	0.24	1.2E-04	----	----	0.24	1.2E-04	1	NO
Fluorotrichloromethane (CFC-11) - VOC	136	0.068	----	----	136	0.068	100	YES
Hexane - HAP/VOC	740	0.37	----	----	740	0.37	100	YES
Hydrogen sulfide - TRS	1,597	0.80	----	----	1,597	0.80	1	YES
Mercury (total) - HAP	0.076	3.8E-05	----	4.6E-05	0.076	3.8E-05	0.001	YES
Methyl ethyl ketone (2-Butanone) - VOC	667	0.33	81	----	747	0.37	100	YES
Methyl isobutyl ketone - HAP/VOC	248	0.12	2.5	----	250	0.13	10	YES
Methyl mercaptan - VOC/TRS	157	0.078	----	----	157	0.078	1	YES
Pentane - VOC	310	0.15	----	----	310	0.15	NA	NO
Perchloroethylene (tetrachloroethylene) - HAP	799	0.40	0.021	----	799	0.40	100	YES
Propane - VOC	631	0.32	----	----	631	0.32	NA	NO
t-1,2-Dichloroethene - VOC	353	0.18	0.013	----	353	0.18	NA	NO
Toluene - No or Unknown Co-disposal - HAP/VOC	4,678	2.3	6.5	6.3E-03	4,684	2.3	100	YES
Trichloroethylene (trichloroethene) - HAP/VOC	479	0.24	0.037	----	479	0.24	1000	NO
Vinyl chloride - HAP/VOC	594	0.30	----	----	594	0.30	0.1	YES
Xylenes - HAP/VOC	1,658	0.83	2.2	4.4E-03	1,661	0.83	100	YES
Total Reduced Sulfur	2,609	1.3	----	----	2,609	1.3	NA	NO
Total Hazardous Air Pollutant (HAP)	13,034	6.5	47	0.025	13,080	6.5	NA	NO
Total Volatile Organic Compound (VOC)	20,673	10	93	0.025	20,767	10	NA	NO

[1] De Minimis Limits from **Ref. 2**.

SMITH+GARDNER

Attachment 3.1

LandGEM

Air Emissions Inventory – Reporting Year 2024
Kersey Valley MSW Landfill
High Point, North Carolina

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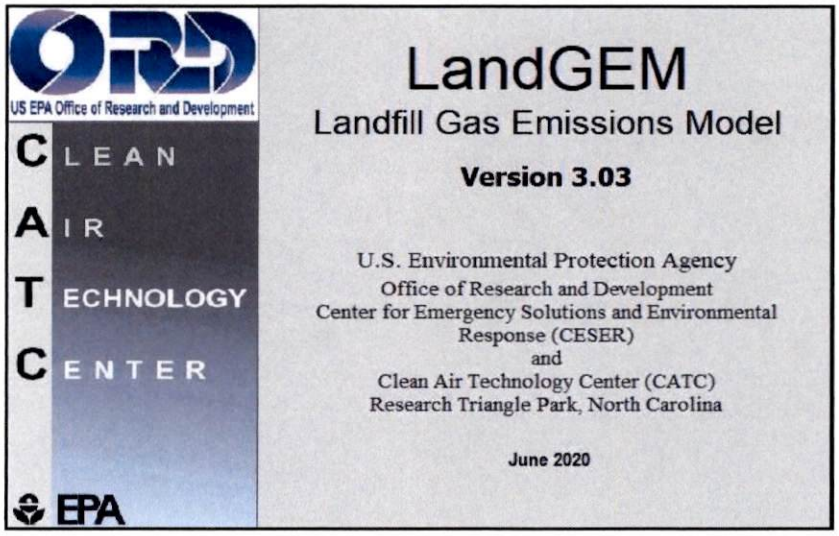

Summary Report

Landfill Name or Identifier: High Point Landfill - Areas 1&2 Combined

Date: Wednesday, June 11, 2025

Description/Comments:

About LandGEM:

First-Order Decomposition Rate Equation:

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

Where,

Q_{CH4} = 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_0 = 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 convential 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	**1993**	
Landfill Closure Year (with 80-year limit)	**2026**	
Actual Closure Year (without limit)	***2026***	
Have Model Calculate Closure Year?	**Yes**	
Waste Design Capacity	**3,665,965**	*short tons*

MODEL PARAMETERS

Methane Generation Rate, k	**0.040**	$year^{-1}$
Potential Methane Generation Capacity, L_0	**100**	m^3/Mg
NMOC Concentration	**259**	*ppmv as hexane*
Methane Content	**50**	*% by volume*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Total landfill gas**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	
Gas / Pollutant #4:	

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
1993	38,069	41,876	0	0
1994	82,975	91,273	38,069	41,876
1995	87,292	96,022	121,044	133,149
1996	88,558	97,414	208,336	229,170
1997	96,485	106,133	296,894	326,584
1998	103,874	114,262	393,379	432,717
1999	122,220	134,443	497,253	546,978
2000	136,090	149,699	619,473	681,421
2001	134,952	148,448	755,563	831,120
2002	138,500	152,351	890,515	979,567
2003	134,499	147,949	1,029,016	1,131,918
2004	108,614	119,475	1,163,515	1,279,867
2005	84,135	92,549	1,272,129	1,399,342
2006	84,414	92,856	1,356,264	1,491,891
2007	83,938	92,332	1,440,678	1,584,746
2008	75,690	83,260	1,524,616	1,677,078
2009	77,975	85,773	1,600,306	1,760,337
2010	85,850	94,435	1,678,282	1,846,110
2011	86,282	94,910	1,764,132	1,940,545
2012	85,014	93,516	1,850,414	2,035,455
2013	45,989	50,588	1,935,428	2,128,970
2014	101,150	111,266	1,981,416	2,179,558
2015	100,318	110,350	2,082,567	2,290,823
2016	97,352	107,087	2,182,885	2,401,173
2017	92,564	101,820	2,280,237	2,508,260
2018	111,605	122,765	2,372,800	2,610,080
2019	136,844	150,528	2,484,405	2,732,846
2020	132,657	145,923	2,621,249	2,883,374
2021	110,738	121,812	2,753,906	3,029,297
2022	111,289	122,418	2,864,644	3,151,109
2023	112,460	123,706	2,975,933	3,273,527
2024	114,249	125,674	3,088,393	3,397,233
2025	114,249	125,674	3,202,643	3,522,907
2026	15,804	17,384	3,316,892	3,648,581
2027	0	0	3,332,695	3,665,965
2028	0	0	3,332,695	3,665,965
2029	0	0	3,332,695	3,665,965
2030	0	0	3,332,695	3,665,965
2031	0	0	3,332,695	3,665,965
2032	0	0	3,332,695	3,665,965

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2033	0	0	3,332,695	3,665,965
2034	0	0	3,332,695	3,665,965
2035	0	0	3,332,695	3,665,965
2036	0	0	3,332,695	3,665,965
2037	0	0	3,332,695	3,665,965
2038	0	0	3,332,695	3,665,965
2039	0	0	3,332,695	3,665,965
2040	0	0	3,332,695	3,665,965
2041	0	0	3,332,695	3,665,965
2042	0	0	3,332,695	3,665,965
2043	0	0	3,332,695	3,665,965
2044	0	0	3,332,695	3,665,965
2045	0	0	3,332,695	3,665,965
2046	0	0	3,332,695	3,665,965
2047	0	0	3,332,695	3,665,965
2048	0	0	3,332,695	3,665,965
2049	0	0	3,332,695	3,665,965
2050	0	0	3,332,695	3,665,965
2051	0	0	3,332,695	3,665,965
2052	0	0	3,332,695	3,665,965
2053	0	0	3,332,695	3,665,965
2054	0	0	3,332,695	3,665,965
2055	0	0	3,332,695	3,665,965
2056	0	0	3,332,695	3,665,965
2057	0	0	3,332,695	3,665,965
2058	0	0	3,332,695	3,665,965
2059	0	0	3,332,695	3,665,965
2060	0	0	3,332,695	3,665,965
2061	0	0	3,332,695	3,665,965
2062	0	0	3,332,695	3,665,965
2063	0	0	3,332,695	3,665,965
2064	0	0	3,332,695	3,665,965
2065	0	0	3,332,695	3,665,965
2066	0	0	3,332,695	3,665,965
2067	0	0	3,332,695	3,665,965
2068	0	0	3,332,695	3,665,965
2069	0	0	3,332,695	3,665,965
2070	0	0	3,332,695	3,665,965
2071	0	0	3,332,695	3,665,965
2072	0	0	3,332,695	3,665,965

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		

Results

Year	Total landfill gas			Methane		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
1993	0	0	0	0	0	0
1994	3.736E+02	2.991E+05	2.010E+01	9.978E+01	1.496E+05	1.005E+01
1995	1.173E+03	9.394E+05	6.312E+01	3.134E+02	4.697E+05	3.156E+01
1996	1.984E+03	1.589E+06	1.067E+02	5.299E+02	7.943E+05	5.337E+01
1997	2.775E+03	2.222E+06	1.493E+02	7.412E+02	1.111E+06	7.465E+01
1998	3.613E+03	2.893E+06	1.944E+02	9.651E+02	1.447E+06	9.719E+01
1999	4.491E+03	3.596E+06	2.416E+02	1.199E+03	1.798E+06	1.208E+02
2000	5.514E+03	4.415E+06	2.967E+02	1.473E+03	2.208E+06	1.483E+02
2001	6.633E+03	5.312E+06	3.569E+02	1.772E+03	2.656E+06	1.784E+02
2002	7.697E+03	6.164E+06	4.141E+02	2.056E+03	3.082E+06	2.071E+02
2003	8.755E+03	7.010E+06	4.710E+02	2.338E+03	3.505E+06	2.355E+02
2004	9.731E+03	7.792E+06	5.236E+02	2.599E+03	3.896E+06	2.618E+02
2005	1.042E+04	8.340E+06	5.604E+02	2.782E+03	4.170E+06	2.802E+02
2006	1.083E+04	8.674E+06	5.828E+02	2.894E+03	4.337E+06	2.914E+02
2007	1.124E+04	8.998E+06	6.045E+02	3.001E+03	4.499E+06	3.023E+02
2008	1.162E+04	9.304E+06	6.252E+02	3.104E+03	4.652E+06	3.126E+02
2009	1.191E+04	9.534E+06	6.406E+02	3.180E+03	4.767E+06	3.203E+02
2010	1.220E+04	9.773E+06	6.567E+02	3.260E+03	4.887E+06	3.283E+02
2011	1.257E+04	1.006E+07	6.762E+02	3.357E+03	5.032E+06	3.381E+02
2012	1.292E+04	1.035E+07	6.953E+02	3.452E+03	5.174E+06	3.476E+02
2013	1.325E+04	1.061E+07	7.129E+02	3.539E+03	5.305E+06	3.564E+02
2014	1.318E+04	1.056E+07	7.092E+02	3.521E+03	5.278E+06	3.546E+02
2015	1.366E+04	1.094E+07	7.348E+02	3.648E+03	5.468E+06	3.674E+02
2016	1.411E+04	1.130E+07	7.590E+02	3.768E+03	5.648E+06	3.795E+02
2017	1.451E+04	1.162E+07	7.806E+02	3.875E+03	5.809E+06	3.903E+02
2018	1.485E+04	1.189E+07	7.989E+02	3.966E+03	5.945E+06	3.994E+02
2019	1.536E+04	1.230E+07	8.265E+02	4.103E+03	6.150E+06	4.132E+02
2020	1.610E+04	1.289E+07	8.663E+02	4.301E+03	6.447E+06	4.332E+02
2021	1.677E+04	1.343E+07	9.024E+02	4.480E+03	6.715E+06	4.512E+02
2022	1.720E+04	1.377E+07	9.255E+02	4.595E+03	6.887E+06	4.627E+02
2023	1.762E+04	1.411E+07	9.479E+02	4.706E+03	7.054E+06	4.740E+02
2024	1.803E+04	1.444E+07	9.701E+02	4.816E+03	7.219E+06	4.851E+02
2025	1.845E+04	1.477E+07	9.924E+02	4.927E+03	7.385E+06	4.962E+02
2026	1.884E+04	1.509E+07	1.014E+03	5.033E+03	7.544E+06	5.069E+02
2027	1.826E+04	1.462E+07	9.824E+02	4.877E+03	7.311E+06	4.912E+02
2028	1.754E+04	1.405E+07	9.439E+02	4.686E+03	7.024E+06	4.719E+02
2029	1.686E+04	1.350E+07	9.069E+02	4.502E+03	6.749E+06	4.534E+02
2030	1.619E+04	1.297E+07	8.713E+02	4.326E+03	6.484E+06	4.357E+02
2031	1.556E+04	1.246E+07	8.372E+02	4.156E+03	6.230E+06	4.186E+02
2032	1.495E+04	1.197E+07	8.043E+02	3.993E+03	5.986E+06	4.022E+02
2033	1.436E+04	1.150E+07	7.728E+02	3.837E+03	5.751E+06	3.864E+02
2034	1.380E+04	1.105E+07	7.425E+02	3.686E+03	5.525E+06	3.712E+02
2035	1.326E+04	1.062E+07	7.134E+02	3.542E+03	5.309E+06	3.567E+02
2036	1.274E+04	1.020E+07	6.854E+02	3.403E+03	5.101E+06	3.427E+02
2037	1.224E+04	9.801E+06	6.585E+02	3.269E+03	4.901E+06	3.293E+02
2038	1.176E+04	9.417E+06	6.327E+02	3.141E+03	4.708E+06	3.164E+02
2039	1.130E+04	9.048E+06	6.079E+02	3.018E+03	4.524E+06	3.040E+02
2040	1.086E+04	8.693E+06	5.841E+02	2.900E+03	4.346E+06	2.920E+02
2041	1.043E+04	8.352E+06	5.612E+02	2.786E+03	4.176E+06	2.806E+02
2042	1.002E+04	8.024E+06	5.392E+02	2.677E+03	4.012E+06	2.696E+02

INVENTORY

Landfill Name or Identifier: High Point Landfill - Areas 1&2 Combined

Enter year of emissions inventory: 2024

Gas / Pollutant	Emission Rate				
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(ft^3/year)*	*(short tons/year)*
Total landfill gas	1.803E+04	1.444E+07	9.701E+02	5.099E+08	1.983E+04
Methane	4.816E+03	7.219E+06	4.851E+02	2.550E+08	5.298E+03
Carbon dioxide	1.322E+04	7.219E+06	4.851E+02	2.550E+08	1.454E+04
NMOC	1.340E+01	3.740E+03	2.513E-01	1.321E+05	1.475E+01
1,1,1-Trichloroethane (methyl chloroform) - HAP	3.846E-02	6.931E+00	4.657E-04	2.448E+02	4.230E-02
1,1,2,2-Tetrachloroethane - HAP/VOC	1.109E-01	1.588E+01	1.067E-03	5.609E+02	1.220E-01
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	1.426E-01	3.465E+01	2.328E-03	1.224E+03	1.569E-01
1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	1.164E-02	2.888E+00	1.940E-04	1.020E+02	1.281E-02
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	2.437E-02	5.920E+00	3.978E-04	2.091E+02	2.680E-02
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	1.221E-02	2.599E+00	1.746E-04	9.178E+01	1.344E-02
2-Propanol (isopropyl alcohol) - VOC	1.805E+00	7.219E+02	4.851E-02	2.550E+04	1.985E+00
Acetone	2.442E-01	1.011E+02	6.791E-03	3.569E+03	2.686E-01
Acrylonitrile - HAP/VOC	2.007E-01	9.096E+01	6.112E-03	3.212E+03	2.208E-01
Benzene - No or Unknown Co-disposal - HAP/VOC	8.913E-02	2.743E+01	1.843E-03	9.688E+02	9.804E-02
Benzene - Co-disposal - HAP/VOC	5.160E-01	1.588E+02	1.067E-02	5.609E+03	5.676E-01
Bromodichloromethane - VOC	3.050E-01	4.476E+01	3.007E-03	1.581E+03	3.355E-01
Butane - VOC	1.745E-01	7.219E+01	4.851E-03	2.550E+03	1.920E-01
Carbon disulfide - HAP/VOC	2.652E-02	8.374E+00	5.627E-04	2.957E+02	2.917E-02
Carbon monoxide	2.355E+00	2.021E+03	1.358E-01	7.139E+04	2.590E+00
Carbon tetrachloride - HAP/VOC	3.696E-04	5.775E-02	3.881E-06	2.040E+00	4.065E-04
Carbonyl sulfide - HAP/VOC	1.768E-02	7.075E+00	4.754E-04	2.499E+02	1.944E-02
Chlorobenzene - HAP/VOC	1.690E-02	3.610E+00	2.425E-04	1.275E+02	1.859E-02
Chlorodifluoromethane	6.751E-02	1.877E+01	1.261E-03	6.629E+02	7.426E-02
Chloroethane (ethyl chloride) - HAP/VOC	5.037E-02	1.877E+01	1.261E-03	6.629E+02	5.541E-02
Chloroform - HAP/VOC	2.151E-03	4.332E-01	2.910E-05	1.530E+01	2.366E-03
Chloromethane - VOC	3.639E-02	1.733E+01	1.164E-03	6.119E+02	4.002E-02
Dichlorobenzene - (HAP for para isomer/VOC)	1.854E-02	3.032E+00	2.037E-04	1.071E+02	2.039E-02
Dichlorodifluoromethane	1.162E+00	2.310E+02	1.552E-02	8.158E+03	1.278E+00
Dichlorofluoromethane - VOC	1.607E-01	3.754E+01	2.522E-03	1.326E+03	1.768E-01
Dichloromethane (methylene chloride) - HAP	7.141E-01	2.021E+02	1.358E-02	7.139E+03	7.856E-01
Dimethyl sulfide (methyl sulfide) - VOC	2.910E-01	1.126E+02	7.567E-03	3.977E+03	3.201E-01
Ethane	1.607E+01	1.285E+04	8.634E-01	4.538E+05	1.768E+01
Ethanol - VOC	7.472E-01	3.898E+02	2.619E-02	1.377E+04	8.219E-01
Ethyl mercaptan (ethanethiol) - VOC	8.582E-02	3.321E+01	2.231E-03	1.173E+03	9.440E-02
Ethylbenzene - HAP/VOC	2.933E-01	6.642E+01	4.463E-03	2.346E+03	3.226E-01
Ethylene dibromide - HAP/VOC	1.128E-04	1.444E-02	9.701E-07	5.099E-01	1.241E-04
Fluorotrichloromethane - VOC	6.270E-02	1.097E+01	7.373E-04	3.875E+02	6.897E-02
Hexane - HAP/VOC	3.416E-01	9.530E+01	6.403E-03	3.365E+03	3.757E-01
Hydrogen sulfide	7.368E-01	5.198E+02	3.492E-02	1.836E+04	8.105E-01
Mercury (total) - HAP	3.494E-05	4.187E-03	2.813E-07	1.479E-01	3.843E-05
Methyl ethyl ketone - HAP/VOC	3.075E-01	1.025E+02	6.888E-03	3.620E+03	3.382E-01
Methyl isobutyl ketone - HAP/VOC	1.143E-01	2.743E+01	1.843E-03	9.688E+02	1.257E-01
Methyl mercaptan - VOC	7.223E-02	3.610E+01	2.425E-03	1.275E+03	7.945E-02
Pentane - VOC	1.430E-01	4.765E+01	3.201E-03	1.683E+03	1.573E-01
Perchloroethylene (tetrachloroethylene) - HAP	3.685E-01	5.342E+01	3.590E-03	1.887E+03	4.053E-01
Propane - VOC	2.913E-01	1.588E+02	1.067E-02	5.609E+03	3.204E-01
t-1,2-Dichloroethene - VOC	1.630E-01	4.043E+01	2.716E-03	1.428E+03	1.793E-01
Toluene - No or Unknown Co-disposal - HAP/VOC	2.158E+00	5.631E+02	3.784E-02	1.989E+04	2.374E+00
Toluene - Co-disposal - HAP/VOC	9.406E+00	2.455E+03	1.649E-01	8.668E+04	1.035E+01
Trichloroethylene (trichloroethene) - HAP/VOC	2.210E-01	4.043E+01	2.716E-03	1.428E+03	2.430E-01
Vinyl chloride - HAP/VOC	2.740E-01	1.054E+02	7.082E-03	3.722E+03	3.014E-01
Xylenes - HAP/VOC	7.650E-01	1.733E+02	1.164E-02	6.119E+03	8.416E-01

Attachment 3.2

Waste Acceptance Records

Air Emissions Inventory – Reporting Year 2024
Kersey Valley MSW Landfill
High Point, North Carolina

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Material Analysis Report

Summary Report for the period 1/1/2024 - 12/31/2024
Accounts 0 - 999999 Customer Types - zz Materials - zzzzzzzzzz Material Types K - K
Origins - zzzzzzzzzzzzzzzzzzzzzzzz Origin Groups - zzzzzzzzzz
Sites: 33

Date	Material	Origin	Account	Ticket #	Count	Est. vol.	Act. Vol.	Est. Wt.	Actual Wt.	Amount
	Report Total			75496	0	0.00	0.00	~~128989.26~~	~~128989.26~~	
	Report Average				0	0.00	0.00	1.71	1.71	

125,674.19 Tons

Material Analysis Report

Summary Report for the period 1/1/2024 - 12/31/2024
Accounts 0 - 999999 Customer Types - zz Materials - zzzzzzzzzz Material Types K - K
Origins - zzzzzzzzzzzzzzzzzzzzzzzzz Origin Groups - zzzzzzzzzz
Sites: 33

Date	Material	Origin	Account	Ticket #	Count	Est. vol.	Act. Vol.	Est. Wt.	Actual Wt.	Amount
	E.SIDE BY	Eastside Sludge Resi		1	0	0.00	0.00	0.17	0.17	
	Average				0	0.00	0.00	0.17	0.17	
	MARKET RES	market residual		102	0	0.00	0.00	246.16	246.16	
	Average				0	0.00	0.00	2.41	2.41	
	MRF RD NLF	MRF RESD TO NEW LAND		682	0	0.00	0.00	2746.47	2746.47	
	Average				0	0.00	0.00	4.03	4.03	
	NLF COMM	Commercial New LF		60327	0	0.00	0.00	77611.24	77611.24	
	Average				0	0.00	0.00	1.29	1.29	
	NLF GB CAR	Residental Car		4031	0	0.00	0.00	247.11	247.11	
	Average				0	0.00	0.00	0.06	0.06	
	NLF RES\GB	Residental Truck New		3110	0	0.00	0.00	1005.78	1005.78	
	Average				0	0.00	0.00	0.32	0.32	
	NLF RGB SP	CHP Truck New LF		6019	0	0.00	0.00	44704.86	44704.86	
	Average				0	0.00	0.00	7.43	7.43	
	NLF RS BL	RES GB BOOM TO NEW L		418	0	0.00	0.00	765.31	765.31	
	Average				0	0.00	0.00	1.83	1.83	
	NLF SFM GB	SFM COMM GARBAGE		123	0	0.00	0.00	201.54	201.54	
	Average				0	0.00	0.00	1.64	1.64	
	RES\GB BL	Residential Boom Loa		440	0	0.00	0.00	875.50	875.50	
	Average				0	0.00	0.00	1.99	1.99	
	RES\GB SP	SFM GARBAGE CHP		48	0	0.00	0.00	255.16	255.16	
	Average				0	0.00	0.00	5.32	5.32	
	SFM WOOD	Furn. Market Wood		6	0	0.00	0.00	7.52	7.52	
	Average				0	0.00	0.00	1.25	1.25	
	ST SWEEPER	Street Sweeper		189	0	0.00	0.00	322.44	322.44	
	Average				0	0.00	0.00	1.71	1.71	

Attachment 3.3

Leachate Flow and Analytical Data

Air Emissions Inventory – Reporting Year 2024
Kersey Valley MSW Landfill
High Point, North Carolina

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Kersey Valley Landfill

Leachate Generation - Reporting Year 2024

Month	Leachate Generation (gal)
January	257,078
February	180,755
March	242,068
April	139,270
May	1,241,551
June	136,299
July	258,242
August	400,302
September	402,264
October	160,392
November	168,278
December	138,717
2024 Total	**3,725,216**

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TABLE 4
May 2024 Monitoring Event
Landfill Leachate
Kersey Valley MSWLF
High Point, North Carolina
Permit #41-04

Parameter	Pump Station Leachate Sample (ug/l)
Inorganics (ug/l)	
Antimony	5.7
Arsenic	25
Barium	310
Cadmium	0.15 J
Chromium	83
Cobalt	66
Copper	2.1 J
Lead	1.3 JB
Nickel	120
Selenium	2.7
Vanadium	68
Zinc	200
Biochemical Oxygen Demand	1,500,000
Chemical Oxygen Demand	2,200,000
Nitrate/Nitrite	140
Phosphorus	600
Sulfate	93
Method 8260D (ug/l)	
Acetone	2000
Benzene	9
2-Butanone (MEK)	2600
Carbon disulfide	0.80 J
1,4-Dichlorobenzene	3.7
1,1-Dichloroethane	0.55 J
1,2-Dichloroethane	1.7
trans-1,2-Dichloroethene	0.42 J
1,2-Dichloropropane	0.35 J
1,4-Dioxane	1100
Ethylbenzene	20
Tetrachloroethene	0.67 J
Trichloroethene	1.2
Toluene	21
Xylenes, Total	70

Sample collected on May 17, 2024
BQL - Below laboratory quantitation limit.
J - Detected below the quantitation limit.
B - Amount in Prep Blank > MDL

TABLE 4
October 2024 Monitoring Event
Landfill Leachate
Kersey Valley MSWLF
High Point, North Carolina
Permit #41-04

Parameter	Pump Station Leachate Sample (ug/l)
Inorganics (ug/l)	
Antimony	3.3 J
Arsenic	8.4
Barium	530
Chromium	24
Cobalt	23
Copper	4.9
Lead	2.0
Nickel	46
Selenium	8.4
Vanadium	27
Zinc	100
Biochemical Oxygen Demand	180,000
Chemical Oxygen Demand	2,500,000
Nitrate/Nitrite	36 JB
Phosphorus	3,400
Sulfate	190,000
Method 8260D (ug/l)	
Acetone	510
Benzene	4.4 J
2-Butanone (MEK)	1,100
Chlorobenzene	1.4 J
1,4-Dichlorobenzene	3.9 J
1,2-Dichloroethane	2.5 J
cis-1,2-Dichloroethene	2.3 J
1,4-Dioxane	120 B
Ethylbenzene	12
4-Methyl-2-pentanone (MIBK)	82
Styrene	1.2 J
Toluene	210
Xylenes, Total	29

Sample collected on October 2, 2024
BQL - Below laboratory quantitation limit.
J - Detected below the quantitation limit.
B - Amount in Prep Blank > MDL

Attachment 3.4

Diesel-fired Leachate Pump Emissions

Air Emissions Inventory – Reporting Year 2024
Kersey Valley MSW Landfill
High Point, North Carolina

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Mac Jones

From: Mike Spencer <mike.spencer@highpointnc.gov>
Sent: Monday, January 6, 2025 3:29 PM
To: Mac Jones; Robby Stone
Cc: Melinda King; Brad Embry
Subject: RE: 2024 Air Compliance Data
Attachments: Material 2024.pdf; City of High Point-Kersey Valley 123446 March '24 FS.pdf; IMG_20250106_121521201.jpg; IMG_20250106_121537355.jpg; IMG_20250106_122603037.jpg; IMG_20250106_121513456.jpg

Mac,

I have attached everything other than the leachate totals for the year, I have requested, and will pass them along as soon as I receive them. The total run time for the generator for the year is 32hrs. Let me know if you have any questions or need anything further.

Thank you.

CITY OF high point.

Mike Spencer
Solid Waste Disposal Supt
City of High Point
336.883.3433
www.HighPointNC.gov

From: Mac Jones <mac@smithgardnerinc.com>
Sent: Thursday, January 2, 2025 12:21 PM
To: Mike Spencer <mike.spencer@highpointnc.gov>; Robby Stone <robby.stone@highpointnc.gov>
Cc: Melinda King <melinda.king@highpointnc.gov>
Subject: [EXTERNAL] Re: 2024 Air Compliance Data

That sounds great, thank you Mike.

All my best,

Mac Jones, P.E.
Project Engineer

SMITH GARDNER, INC.
14 N. Boylan Avenue
Raleigh, NC 27603

P (919) **828.0577 x153**
C (910) **540.8836**
www.smithgardnerinc.com

GAS & DIESEL INTERNAL COMBUSTION ENGINES with power rating of <= 600 HP for diesel engines and <= 250 HP for gasoline engines
EMISSIONS CALCULATOR REVISION S 6/22/2015 - INPUT SCREEN

NCDENR

Instructions: Enter emission source / facility data on the "INPUT" tab/screen. The air emission results and summary of input data are viewed/printed on the "OUTPUT" tab/screen. The different tabs are on the bottom of this screen.

This spreadsheet is for your use only and should be used with caution. DENR does not guarantee the accuracy of the information contained. This spreadsheet is subject to continual revision and updating. It is your responsibility to be aware of the most current information available. DENR is not responsible for errors or omissions that may be contained herein.

FIELDS	***SELECTIONS***
COMPANY NAME:	Kersey Valley Landfill
FACILITY ID NUMBER:	4101253
PERMIT NUMBER	10517T02
FACILITY CITY:	High Point
FACILITY COUNTY:	Guilford
SPREADSHEET PREPARED BY:	MMJ
EMISSION SOURCE ID NO.:	IES-2
RATING and FUEL TYPE	69.00 HP POWER OUTPUT, DIESEL
SULFUR CONTENT OF DIESEL FUEL (%)	0.15

FUEL HEATING VALUE

FUEL HEATING VALUE (BTU/GAL): 140,000 BTU/GAL is equal to 0.1400 mm Btu/gal

DEFAULT VALUES BY FUEL TYPE (not used for Greenhouse Gas calcs --See below for GHG defaults):
116,485 BTU/GALLON GASOLINE
140,000 BTU/GALLON DIESEL

USAGE DATA

ACTUALS (GALLONS COMBUSTED OR HRS OF OPERATION): 32 HRS OF OPERATION

REQUESTED ANNUAL LIMITATION (GALLONS COMBUSTED OR HRS OF OPERATION): HRS OF OPERATION

ADDITIONAL INFORMATION FOR GREENHOUSE GAS (GHG) EMISSIONS

ENTER CALCULATION TIER from EPA Mandatory Reporting Rule (MRR) Subpart C - www.epa.gov/climatechange/emissions/ghgrulemaking.html: TIER 1: DEFAULT HIGH HEAT VALUE AND DEFAULT EF

NOTE: EF is "Emission Factor"

SELECT FUEL TYPE (more detailed fuel type needed for GHGs): DISTILLATE #2

SINCE TIER 3 IS NOT BEING USED, FUEL CARBON CONTENT WILL NOT BE USED: 7.0000 kg Carbon/gal

HIGH HEAT VALUE (HHV) FOR GHGs

FOR TIER 1 and TIER 3, the FUEL HEATING VALUE entered above is overriden with the EPA DEFAULT from Table C-1 of the EPA MRR:

GASOLINE (Motor)	0.125 mm Btu/gal	
DISTILLATE #1	0.139 mm Btu/gal	
DISTILLATE #2	0.138 mm Btu/gal	THIS VALUE WILL BE USED
DISTILLATE #4	0.146 mm Btu/gal	
RESIDUAL #5	0.14 mm Btu/gal	
RESIDUAL #6	0.15 mm Btu/gal	

FOR TIER 2, the FUEL HEATING VALUE entered above is used. The value entered must be the annual average HHV of the fuel determined using procedures in the EPA MRR (see 98.33(a)(2))

HHV TO BE USED FOR GHG IS:

DISTILLATE #2 DEFAULT HHV OF 0.1380 mm Btu/gal THIS VALUE WILL BE USED

GAS & DIESEL INTERNAL COMBUSTION ENGINES EMISSIONS CALCULATOR REVISION S 6/22/2015 - OUTPUT SCREEN

NCDENR

Instructions: Enter emission source / facility data on the "INPUT" tab/screen. The air emission results and summary of input data are viewed/printed on the "OUTPUT" tab/screen. The different tabs are on the bottom of this screen.

This spreadsheet is for your use only and should be used with caution. DENR does not guarantee the accuracy of the information contained. This spreadsheet is subject to continual revision and updating. It is your responsibility to be aware of the most current information available. DENR is not responsible for errors or omissions that may be contained herein.

SOURCE / FACILITY / USER INPUT SUMMARY (FROM INPUT SCREEN)

COMPANY:	Kersey Valley Landfill					FACILITY ID NO.:	4101253
						PERMIT NUMBER:	10517T02
EMISSION SOURCE DESCRIPTION:	69 HP POWER OUTPUT, DIESEL INTERNAL COMBUSTION ENGINE					FACILITY CITY:	High Point
EMISSION SOURCE ID NO.:	IES-2					FACILITY COUNTY:	Guilford
SPREADSHEET PREPARED BY:	MMJ					POLLUTANT	CONTROL EFF.
ACTUAL THROUGHPUT	32	HRS OF OPERATION	FUEL HEATING VALUE:	140000	BTU/GAL	PM	0
REQUESTED ANNUAL LIMITATION	0	HRS OF OPERATION	CALCULATIONS:	0.138	mm BTU/GAL	PM10	0
SULFUR CONTENT OF DIESEL FUEL (%)	0					PM2.5	0
METHOD USED TO COMPUTE ACTUAL GHG EMISSIONS:	TIER 1: DEFAULT HIGH HEAT VALUE AND DEFAULT EF					SO2	0
CARBON CONTENT USED FOR GHGS (kg C/gal):	CARBON CONTENT NOT USED FOR CALCULATION TIER CHOSEN					NOX	0
						CO	0
						VOC	0

CRITERIA AIR POLLUTANT EMISSIONS INFORMATION

	ACTUAL EMISSIONS (AFTER CONTROLS / LIMITS)		POTENTIAL EMISSIONS (BEFORE CONTROLS/LIMITS)		POTENTIAL EMISSIONS (AFTER CONTROLS /LIMITS)		EMISSION FACTOR
AIR POLLUTANT EMITTED	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hp-hr uncontrolled
PARTICULATE MATTER (PM)	0.15	0.00	0.15	0.66	0.15	0.00	2.20E-03
PARTICULATE MATTER<10 MICRONS (PM_{10})	0.15	0.00	0.15	0.66	0.15	0.00	2.20E-03
PARTICULATE MATTER<2.5 MICRONS ($PM_{2.5}$)	0.15	0.00	0.15	0.66	0.15	0.00	2.20E-03
SULFUR DIOXIDE (SO2)	0.08	0.00	0.08	0.37	0.08	0.00	1.21E-03
NITROGEN OXIDES (NOx)	2.14	0.03	2.14	9.37	2.14	0.00	3.10E-02
CARBON MONOXIDE (CO)	0.46	0.01	0.46	2.02	0.46	0.00	6.68E-03
VOLATILE ORGANIC COMPOUNDS (VOC)	0.17	0.00	0.17	0.76	0.17	0.00	2.51E-03

TOXIC / HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION

	CAS	ACTUAL EMISSIONS (AFTER CONTROLS / LIMITS)		POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITS)		POTENTIAL EMISSIONS (AFTER CONTROLS /LIMITS)		EMISSION FACTOR
TOXIC / HAZARDOUS AIR POLLUTANT	NUMBER	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hp-hr uncontrolled
Acetaldehyde (H,T)	75070	3.70E-04	1.19E-02	3.70E-04	3.25E+00	3.70E-04	0.00E+00	5.37E-06
Acrolein (H,T)	107028	4.47E-05	1.43E-03	4.47E-05	3.91E-01	4.47E-05	0.00E+00	6.48E-07
Arsenic unlisted compounds (H,T)	ASC-Other	1.93E-06	6.18E-05	1.93E-06	1.69E-02	1.93E-06	0.00E+00	2.80E-08
Benzene (H,T)	71432	4.51E-04	1.44E-02	4.51E-04	3.95E+00	4.51E-04	0.00E+00	6.53E-06
Benzo(a)pyrene (H,T)	50328	9.08E-08	2.91E-06	9.08E-08	7.95E-04	9.08E-08	0.00E+00	1.32E-09
Beryllium metal (unreacted) (H,T)	7440417	1.45E-06	4.64E-05	1.45E-06	1.27E-02	1.45E-06	0.00E+00	2.10E-08
1,3-Butadiene (H,T)	106990	1.89E-05	6.04E-04	1.89E-05	1.65E-01	1.89E-05	0.00E+00	2.74E-07
Cadmium metal (elemental unreacted) (H,T)	7440439	1.45E-06	4.64E-05	1.45E-06	1.27E-02	1.45E-06	0.00E+00	2.10E-08
Chromic Acid (VI) (H,T)	7738945	1.45E-06	4.64E-05	1.45E-06	1.27E-02	1.45E-06	0.00E+00	2.10E-08
Formaldehyde (H,T)	50000	5.70E-04	1.82E-02	5.70E-04	4.99E+00	5.70E-04	0.00E+00	8.26E-06
Lead unlisted compounds (H)	PBC-Other	4.35E-06	1.39E-04	4.35E-06	3.81E-02	4.35E-06	0.00E+00	6.30E-08
Manganese unlisted compounds (H,T)	MNC-Other	2.90E-06	9.27E-05	2.90E-06	2.54E-02	2.90E-06	0.00E+00	4.20E-08
Mercury vapor (H,T)	7439976	1.45E-06	4.64E-05	1.45E-06	1.27E-02	1.45E-06	0.00E+00	2.10E-08
Napthalene (H)	91203	4.10E-05	1.31E-03	4.10E-05	3.59E-01	4.10E-05	0.00E+00	5.94E-07
Nickel metal (H,T)	7440020	1.45E-06	4.64E-05	1.45E-06	1.27E-02	1.45E-06	0.00E+00	2.10E-08
Selenium compounds (H)	SEC	7.25E-06	2.32E-04	7.25E-06	6.35E-02	7.25E-06	0.00E+00	1.05E-07
Toluene (H,T)	108883	1.98E-04	6.32E-03	1.98E-04	1.73E+00	1.98E-04	0.00E+00	2.86E-06
Xylene (H,T)	1330207	1.38E-04	4.40E-03	1.38E-04	1.21E+00	1.38E-04	0.00E+00	2.00E-06
Highest HAP (Formaldehyde)	50000	5.70E-04	1.82E-02	5.70E-04	4.99E+00	5.70E-04	0.00E+00	8.26E-06
Total HAPs		1.85E-03	5.93E-02	1.85E-03	1.62E+01	1.85E-03	0.00E+00	

TOXIC AIR POLLUTANT EMISSIONS INFORMATION (FOR PERMITTING PURPOSES)

		EXPECTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS			EMISSION FACTOR
TOXIC AIR POLLUTANT	CAS Num.	lb/hr	lb/day	lb/yr	lb/hp-hr uncontrolled
Acetaldehyde (H,T)	75070	3.70E-04	8.89E-03	0.00E+00	5.37E-06
Acrolein (H,T)	107028	4.47E-05	1.07E-03	0.00E+00	6.48E-07
Arsenic unlisted compounds (H,T)	ASC-Other	1.93E-06	4.64E-05	0.00E+00	2.80E-08
Benzene (H,T)	71432	4.51E-04	1.08E-02	0.00E+00	6.53E-06
Benzo(a)pyrene (H,T)	50328	9.08E-08	2.18E-06	0.00E+00	1.32E-09
Beryllium metal (unreacted) (H,T)	7440417	1.45E-06	3.48E-05	0.00E+00	2.10E-08
1,3-Butadiene (H,T)	106990	1.89E-05	4.53E-04	0.00E+00	2.74E-07
Cadmium metal (elemental unreacted) (H,T)	7440439	1.45E-06	3.48E-05	0.00E+00	2.10E-08
soluble chromate compounds, as chromium (VI) equivalent	SOLCR6	1.45E-06	3.48E-05	0.00E+00	2.10E-08
Formaldehyde (H,T)	50000	5.70E-04	1.37E-02	0.00E+00	8.26E-06
Manganese unlisted compounds (H,T)	MNC-Other	2.90E-06	6.96E-05	0.00E+00	4.20E-08
Mercury vapor (H,T)	7439976	1.45E-06	3.48E-05	0.00E+00	2.10E-08
Nickel metal (H,T)	7440020	1.45E-06	3.48E-05	0.00E+00	2.10E-08
Toluene (H,T)	108883	1.98E-04	4.74E-03	0.00E+00	2.86E-06
Xylene (H,T)	1330207	1.38E-04	3.30E-03	0.00E+00	2.00E-06

GREENHOUSE GAS EMISSIONS INFORMATION (FOR EMISSIONS INVENTORY PURPOSES) - CONSISTENT WITH EPA MANDATORY REPORTING RULE (MRR) METHOD

GHG - POTENTIAL TO EMIT NOT BASED ON EPA MRR METHOD

DISTILLATE #2	ACTUAL EMISSIONS			POTENTIAL EMISSIONS - utilize max heat input capacity or horsepower and EPA MRR Emission Factors		POTENTIAL EMISSIONS With Requested Emission Limitation - utilize requested fuel limit and EPA MRR Emission Factors	
GREENHOUSE GAS EMITTED	WILL NOT USE EPA MRR METHOD IF ONLY HOURS OF OPERATION ARE GIVEN						
	metric tons/yr	metric tons/yr, **CO2e**	short tons/yr	short tons/yr	short tons/yr, **CO2e**	short tons/yr	short tons/yr, **CO2e**
CARBON DIOXIDE (CO_2)	no EPA method	no EPA method	no EPA method	344.95	344.95	0.00	0.00
METHANE (CH_4)	no EPA method	no EPA method	no EPA method	1.40E-02	3.50E-01	0.00E+00	0.00E+00
NITROUS OXIDE (N_2O)	no EPA method	no EPA method	no EPA method	2.80E-03	8.34E-01	0.00E+00	0.00E+00
	TOTAL	**no EPA method**		**TOTAL**	**346.13**	**TOTAL**	**0.00**

NOTE: CO2e means CO2 equivalent.
NOTE: The DAQ Air Emissions Reporting Online (AERO) system requires short tons be reported. The EPA MRR requires metric tons be reported.
NOTE: Do not use greenhouse gas emission estimates from this spreadsheet for PSD (Prevention of Significant Deterioration) purposes.