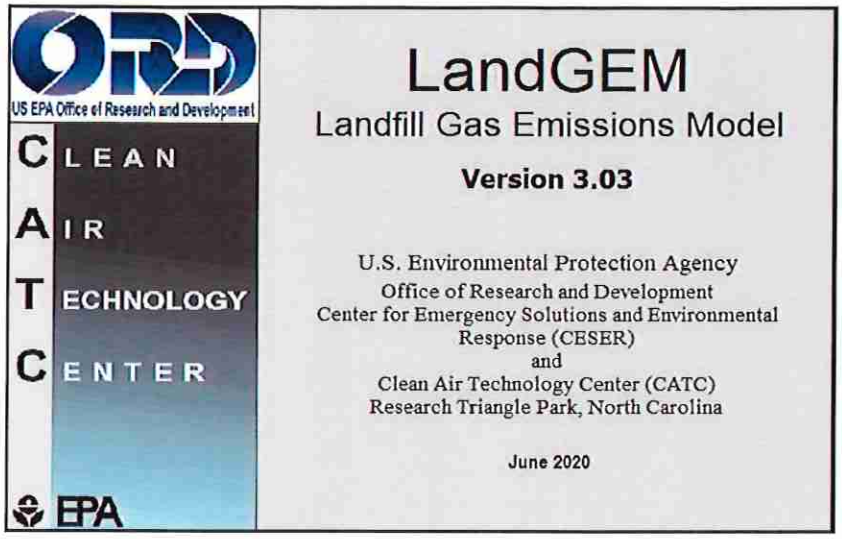


Summary Report

Landfill Name or Identifier: 40 West Landfill

Date: Friday, October 06, 2023

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_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 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	2000	
Landfill Closure Year (with 80-year limit)	2067	
Actual Closure Year (without limit)	*2067*	
Have Model Calculate Closure Year?	Yes	
Waste Design Capacity	9,591,400	*short tons*

MODEL PARAMETERS

Methane Generation Rate, k	0.040	$year^{-1}$
Potential Methane Generation Capacity, L_0	100	m^3/Mg
NMOC Concentration	109	*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:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2000	736	810	0	0
2001	70,529	77,582	736	810
2002	80,819	88,901	71,265	78,392
2003	92,050	101,255	152,085	167,293
2004	102,089	112,298	244,135	268,548
2005	118,259	130,085	346,224	380,846
2006	128,486	141,335	464,483	510,931
2007	111,958	123,154	592,969	652,266
2008	108,572	119,429	704,927	775,420
2009	90,968	100,065	813,499	894,849
2010	94,511	103,962	904,467	994,914
2011	97,217	106,939	998,978	1,098,876
2012	75,122	82,634	1,096,195	1,205,815
2013	67,575	74,332	1,171,317	1,288,449
2014	70,521	77,573	1,238,892	1,362,781
2015	80,445	88,489	1,309,413	1,440,354
2016	81,782	89,960	1,389,858	1,528,843
2017	86,452	95,097	1,471,640	1,618,804
2018	101,730	111,903	1,558,092	1,713,901
2019	111,347	122,482	1,659,822	1,825,804
2020	114,511	125,962	1,771,169	1,948,286
2021	129,936	142,930	1,885,680	2,074,248
2022	146,174	160,791	2,015,616	2,217,178
2023	146,174	160,791	2,161,790	2,377,969
2024	146,174	160,791	2,307,963	2,538,760
2025	146,174	160,791	2,454,137	2,699,551
2026	146,174	160,791	2,600,311	2,860,342
2027	146,174	160,791	2,746,484	3,021,133
2028	146,174	160,791	2,892,658	3,181,924
2029	146,174	160,791	3,038,832	3,342,715
2030	146,174	160,791	3,185,005	3,503,506
2031	146,174	160,791	3,331,179	3,664,297
2032	146,174	160,791	3,477,353	3,825,088
2033	146,174	160,791	3,623,526	3,985,879
2034	146,174	160,791	3,769,700	4,146,670
2035	146,174	160,791	3,915,873	4,307,461
2036	146,174	160,791	4,062,047	4,468,252
2037	146,174	160,791	4,208,221	4,629,043
2038	146,174	160,791	4,354,394	4,789,834
2039	146,174	160,791	4,500,568	4,950,625

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2040	146,174	160,791	4,646,742	5,111,416
2041	146,174	160,791	4,792,915	5,272,207
2042	146,174	160,791	4,939,089	5,432,998
2043	146,174	160,791	5,085,263	5,593,789
2044	146,174	160,791	5,231,436	5,754,580
2045	146,174	160,791	5,377,610	5,915,371
2046	146,174	160,791	5,523,783	6,076,162
2047	146,174	160,791	5,669,957	6,236,953
2048	146,174	160,791	5,816,131	6,397,744
2049	146,174	160,791	5,962,304	6,558,535
2050	146,174	160,791	6,108,478	6,719,326
2051	146,174	160,791	6,254,652	6,880,117
2052	146,174	160,791	6,400,825	7,040,908
2053	146,174	160,791	6,546,999	7,201,699
2054	146,174	160,791	6,693,173	7,362,490
2055	146,174	160,791	6,839,346	7,523,281
2056	146,174	160,791	6,985,520	7,684,072
2057	146,174	160,791	7,131,693	7,844,863
2058	146,174	160,791	7,277,867	8,005,654
2059	146,174	160,791	7,424,041	8,166,445
2060	146,174	160,791	7,570,214	8,327,236
2061	146,174	160,791	7,716,388	8,488,027
2062	146,174	160,791	7,862,562	8,648,818
2063	146,174	160,791	8,008,735	8,809,609
2064	146,174	160,791	8,154,909	8,970,400
2065	146,174	160,791	8,301,083	9,131,191
2066	146,174	160,791	8,447,256	9,291,982
2067	126,025	138,627	8,593,430	9,452,773
2068	0	0	8,719,455	9,591,400
2069	0	0	8,719,455	9,591,400
2070	0	0	8,719,455	9,591,400
2071	0	0	8,719,455	9,591,400
2072	0	0	8,719,455	9,591,400
2073	0	0	8,719,455	9,591,400
2074	0	0	8,719,455	9,591,400
2075	0	0	8,719,455	9,591,400
2076	0	0	8,719,455	9,591,400
2077	0	0	8,719,455	9,591,400
2078	0	0	8,719,455	9,591,400
2079	0	0	8,719,455	9,591,400

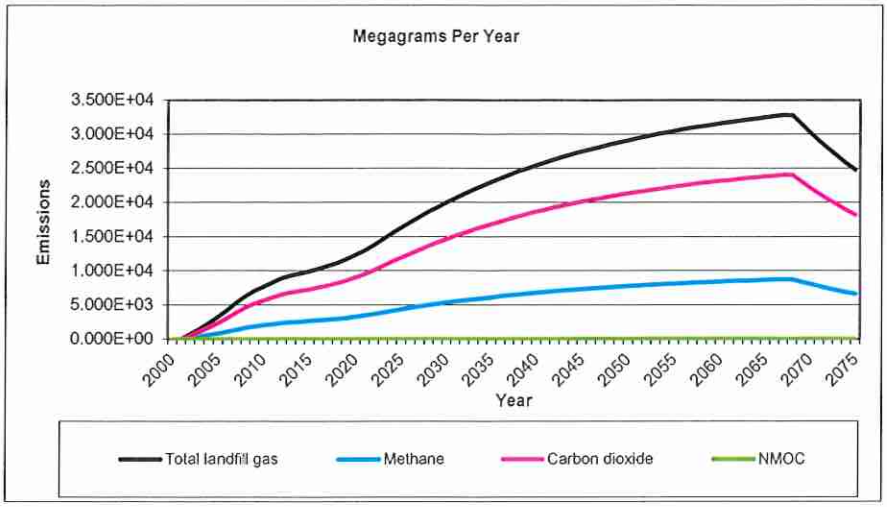
Pollutant Parameters

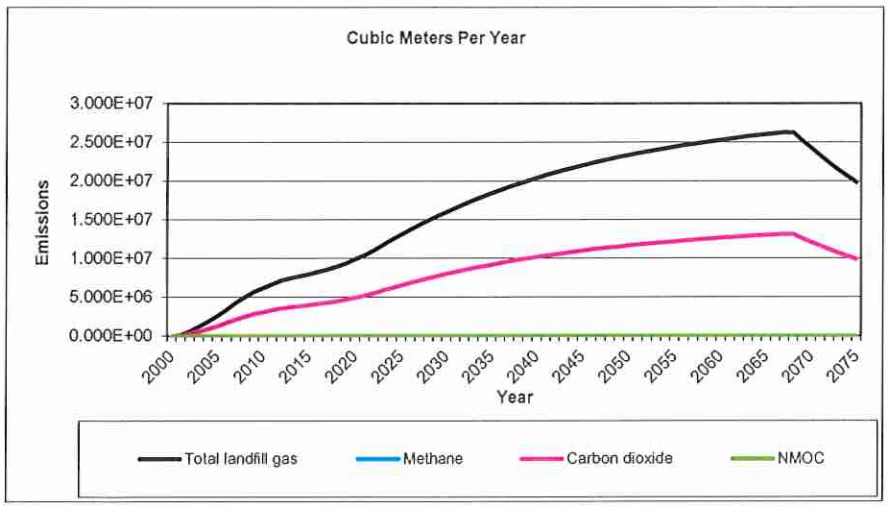
		Gas / Pollutant Default Parameters:		*User-specified Pollutant Parameters:*	
	Compound	Concentration (*ppmv*)	Molecular Weight	Concentration (*ppmv*)	Molecular Weight
Gases	Total landfill gas		0.00		
	Methane		16.04		
	Carbon dioxide		44.01		
	NMOC	4,000	86.18		
Pollutants	1,1,1-Trichloroethane (methyl 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		

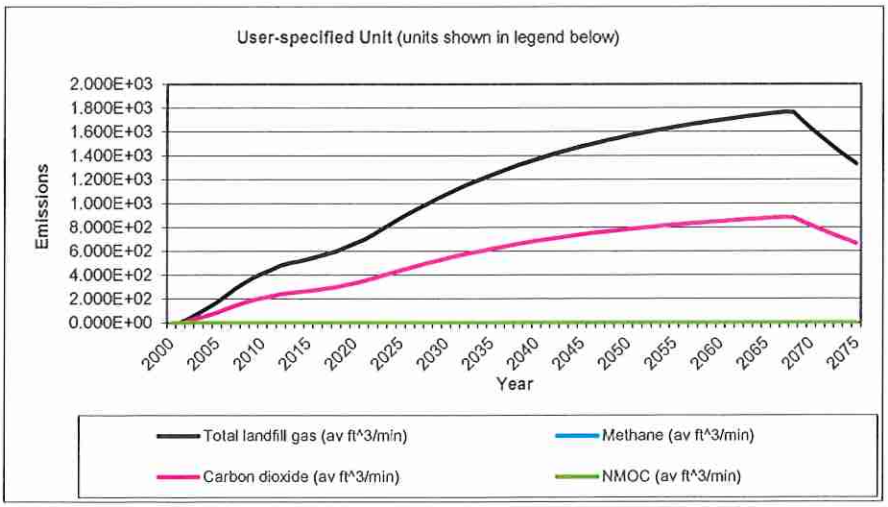
Pollutant Parameters (Continued)

		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


Megagrams Per Year
Emissions
3.500E+04
3.000E+04
2.500E+04
2.000E+04
1.500E+04
1.000E+04
5.000E+03
0.000E+00
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


Cubic Meters Per Year
Emissions
3.000E+07
2.500E+07
2.000E+07
1.500E+07
1.000E+07
5.000E+06
0.000E+00
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


User-specified Unit (units shown in legend below)
Emissions
2.000E+03
1.800E+03
1.600E+03
1.400E+03
1.200E+03
1.000E+03
8.000E+02
6.000E+02
4.000E+02
2.000E+02
0.000E+00
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075
Year
Total landfill gas (av ft^3/min)
Methane (av ft^3/min)
Carbon dioxide (av ft^3/min)
NMOC (av ft^3/min)

Results

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2000	0	0	0	0	0	0
2001	7.226E+00	5.786E+03	3.888E-01	1.930E+00	2.893E+03	1.944E-01
2002	6.990E+02	5.598E+05	3.761E+01	1.867E+02	2.799E+05	1.881E+01
2003	1.465E+03	1.173E+06	7.881E+01	3.912E+02	5.864E+05	3.940E+01
2004	2.311E+03	1.850E+06	1.243E+02	6.172E+02	9.251E+05	6.216E+01
2005	3.222E+03	2.580E+06	1.733E+02	8.606E+02	1.290E+06	8.667E+01
2006	4.256E+03	3.408E+06	2.290E+02	1.137E+03	1.704E+06	1.145E+02
2007	5.350E+03	4.284E+06	2.878E+02	1.429E+03	2.142E+06	1.439E+02
2008	6.239E+03	4.996E+06	3.357E+02	1.666E+03	2.498E+06	1.678E+02
2009	7.060E+03	5.653E+06	3.798E+02	1.886E+03	2.826E+06	1.899E+02
2010	7.675E+03	6.146E+06	4.130E+02	2.050E+03	3.073E+06	2.065E+02
2011	8.302E+03	6.648E+06	4.467E+02	2.218E+03	3.324E+06	2.233E+02
2012	8.930E+03	7.151E+06	4.805E+02	2.385E+03	3.576E+06	2.402E+02
2013	9.317E+03	7.461E+06	5.013E+02	2.489E+03	3.730E+06	2.506E+02
2014	9.615E+03	7.699E+06	5.173E+02	2.568E+03	3.850E+06	2.587E+02
2015	9.930E+03	7.952E+06	5.343E+02	2.652E+03	3.976E+06	2.671E+02
2016	1.033E+04	8.272E+06	5.558E+02	2.759E+03	4.136E+06	2.779E+02
2017	1.073E+04	8.590E+06	5.772E+02	2.865E+03	4.295E+06	2.886E+02
2018	1.116E+04	8.933E+06	6.002E+02	2.980E+03	4.466E+06	3.001E+02
2019	1.172E+04	9.382E+06	6.304E+02	3.130E+03	4.691E+06	3.152E+02
2020	1.235E+04	9.889E+06	6.644E+02	3.299E+03	4.944E+06	3.322E+02
2021	1.299E+04	1.040E+07	6.988E+02	3.469E+03	5.200E+06	3.494E+02
2022	1.375E+04	1.101E+07	7.400E+02	3.674E+03	5.507E+06	3.700E+02
2023	1.465E+04	1.173E+07	7.882E+02	3.913E+03	5.865E+06	3.941E+02
2024	1.551E+04	1.242E+07	8.345E+02	4.143E+03	6.210E+06	4.172E+02
2025	1.634E+04	1.308E+07	8.789E+02	4.364E+03	6.541E+06	4.395E+02
2026	1.713E+04	1.372E+07	9.216E+02	4.576E+03	6.858E+06	4.608E+02
2027	1.789E+04	1.433E+07	9.627E+02	4.779E+03	7.164E+06	4.813E+02
2028	1.863E+04	1.491E+07	1.002E+03	4.975E+03	7.457E+06	5.010E+02
2029	1.933E+04	1.548E+07	1.040E+03	5.163E+03	7.739E+06	5.200E+02
2030	2.001E+04	1.602E+07	1.076E+03	5.344E+03	8.010E+06	5.382E+02
2031	2.066E+04	1.654E+07	1.111E+03	5.517E+03	8.270E+06	5.557E+02
2032	2.128E+04	1.704E+07	1.145E+03	5.684E+03	8.520E+06	5.725E+02
2033	2.188E+04	1.752E+07	1.177E+03	5.845E+03	8.760E+06	5.886E+02
2034	2.246E+04	1.798E+07	1.208E+03	5.998E+03	8.991E+06	6.041E+02
2035	2.301E+04	1.843E+07	1.238E+03	6.146E+03	9.213E+06	6.190E+02
2036	2.354E+04	1.885E+07	1.267E+03	6.289E+03	9.426E+06	6.333E+02
2037	2.405E+04	1.926E+07	1.294E+03	6.425E+03	9.631E+06	6.471E+02
2038	2.455E+04	1.965E+07	1.321E+03	6.556E+03	9.827E+06	6.603E+02
2039	2.502E+04	2.003E+07	1.346E+03	6.682E+03	1.002E+07	6.730E+02
2040	2.547E+04	2.040E+07	1.370E+03	6.804E+03	1.020E+07	6.852E+02
2041	2.591E+04	2.074E+07	1.394E+03	6.920E+03	1.037E+07	6.969E+02
2042	2.633E+04	2.108E+07	1.416E+03	7.032E+03	1.054E+07	7.082E+02
2043	2.673E+04	2.140E+07	1.438E+03	7.139E+03	1.070E+07	7.190E+02
2044	2.711E+04	2.171E+07	1.459E+03	7.242E+03	1.086E+07	7.294E+02
2045	2.748E+04	2.201E+07	1.479E+03	7.342E+03	1.100E+07	7.394E+02
2046	2.784E+04	2.229E+07	1.498E+03	7.437E+03	1.115E+07	7.490E+02
2047	2.818E+04	2.257E+07	1.516E+03	7.528E+03	1.128E+07	7.582E+02
2048	2.851E+04	2.283E+07	1.534E+03	7.616E+03	1.142E+07	7.671E+02
2049	2.883E+04	2.309E+07	1.551E+03	7.701E+03	1.154E+07	7.756E+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)
2050	2.913E+04	2.333E+07	1.567E+03	7.782E+03	1.166E+07	7.837E+02
2051	2.943E+04	2.356E+07	1.583E+03	7.860E+03	1.178E+07	7.916E+02
2052	2.971E+04	2.379E+07	1.598E+03	7.935E+03	1.189E+07	7.991E+02
2053	2.998E+04	2.400E+07	1.613E+03	8.007E+03	1.200E+07	8.064E+02
2054	3.024E+04	2.421E+07	1.627E+03	8.076E+03	1.211E+07	8.134E+02
2055	3.048E+04	2.441E+07	1.640E+03	8.143E+03	1.221E+07	8.201E+02
2056	3.072E+04	2.460E+07	1.653E+03	8.206E+03	1.230E+07	8.265E+02
2057	3.095E+04	2.479E+07	1.665E+03	8.268E+03	1.239E+07	8.327E+02
2058	3.117E+04	2.496E+07	1.677E+03	8.327E+03	1.248E+07	8.386E+02
2059	3.139E+04	2.513E+07	1.689E+03	8.383E+03	1.257E+07	8.443E+02
2060	3.159E+04	2.530E+07	1.700E+03	8.438E+03	1.265E+07	8.498E+02
2061	3.179E+04	2.545E+07	1.710E+03	8.490E+03	1.273E+07	8.551E+02
2062	3.197E+04	2.560E+07	1.720E+03	8.540E+03	1.280E+07	8.601E+02
2063	3.215E+04	2.575E+07	1.730E+03	8.589E+03	1.287E+07	8.650E+02
2064	3.233E+04	2.589E+07	1.739E+03	8.635E+03	1.294E+07	8.697E+02
2065	3.249E+04	2.602E+07	1.748E+03	8.680E+03	1.301E+07	8.741E+02
2066	3.265E+04	2.615E+07	1.757E+03	8.722E+03	1.307E+07	8.785E+02
2067	3.281E+04	2.627E+07	1.765E+03	8.764E+03	1.314E+07	8.826E+02
2068	3.276E+04	2.623E+07	1.763E+03	8.750E+03	1.312E+07	8.813E+02
2069	3.147E+04	2.520E+07	1.693E+03	8.407E+03	1.260E+07	8.467E+02
2070	3.024E+04	2.422E+07	1.627E+03	8.078E+03	1.211E+07	8.135E+02
2071	2.905E+04	2.327E+07	1.563E+03	7.761E+03	1.163E+07	7.816E+02
2072	2.792E+04	2.235E+07	1.502E+03	7.456E+03	1.118E+07	7.510E+02
2073	2.682E+04	2.148E+07	1.443E+03	7.164E+03	1.074E+07	7.215E+02
2074	2.577E+04	2.063E+07	1.386E+03	6.883E+03	1.032E+07	6.932E+02
2075	2.476E+04	1.983E+07	1.332E+03	6.613E+03	9.913E+06	6.660E+02
2076	2.379E+04	1.905E+07	1.280E+03	6.354E+03	9.524E+06	6.399E+02
2077	2.286E+04	1.830E+07	1.230E+03	6.105E+03	9.151E+06	6.148E+02
2078	2.196E+04	1.758E+07	1.181E+03	5.865E+03	8.792E+06	5.907E+02
2079	2.110E+04	1.689E+07	1.135E+03	5.635E+03	8.447E+06	5.676E+02
2080	2.027E+04	1.623E+07	1.091E+03	5.415E+03	8.116E+06	5.453E+02
2081	1.948E+04	1.560E+07	1.048E+03	5.202E+03	7.798E+06	5.239E+02
2082	1.871E+04	1.498E+07	1.007E+03	4.998E+03	7.492E+06	5.034E+02
2083	1.798E+04	1.440E+07	9.673E+02	4.802E+03	7.198E+06	4.836E+02
2084	1.727E+04	1.383E+07	9.294E+02	4.614E+03	6.916E+06	4.647E+02
2085	1.660E+04	1.329E+07	8.929E+02	4.433E+03	6.645E+06	4.465E+02
2086	1.595E+04	1.277E+07	8.579E+02	4.259E+03	6.384E+06	4.290E+02
2087	1.532E+04	1.227E+07	8.243E+02	4.092E+03	6.134E+06	4.121E+02
2088	1.472E+04	1.179E+07	7.919E+02	3.932E+03	5.893E+06	3.960E+02
2089	1.414E+04	1.132E+07	7.609E+02	3.778E+03	5.662E+06	3.804E+02
2090	1.359E+04	1.088E+07	7.311E+02	3.629E+03	5.440E+06	3.655E+02
2091	1.306E+04	1.045E+07	7.024E+02	3.487E+03	5.227E+06	3.512E+02
2092	1.254E+04	1.004E+07	6.749E+02	3.350E+03	5.022E+06	3.374E+02
2093	1.205E+04	9.650E+06	6.484E+02	3.219E+03	4.825E+06	3.242E+02
2094	1.158E+04	9.272E+06	6.230E+02	3.093E+03	4.636E+06	3.115E+02
2095	1.112E+04	8.908E+06	5.985E+02	2.972E+03	4.454E+06	2.993E+02
2096	1.069E+04	8.559E+06	5.751E+02	2.855E+03	4.279E+06	2.875E+02
2097	1.027E+04	8.223E+06	5.525E+02	2.743E+03	4.112E+06	2.763E+02
2098	9.867E+03	7.901E+06	5.309E+02	2.636E+03	3.950E+06	2.654E+02
2099	9.480E+03	7.591E+06	5.100E+02	2.532E+03	3.796E+06	2.550E+02
2100	9.108E+03	7.293E+06	4.900E+02	2.433E+03	3.647E+06	2.450E+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)
2101	8.751E+03	7.007E+06	4.708E+02	2.338E+03	3.504E+06	2.354E+02
2102	8.408E+03	6.733E+06	4.524E+02	2.246E+03	3.366E+06	2.262E+02
2103	8.078E+03	6.469E+06	4.346E+02	2.158E+03	3.234E+06	2.173E+02
2104	7.762E+03	6.215E+06	4.176E+02	2.073E+03	3.108E+06	2.088E+02
2105	7.457E+03	5.971E+06	4.012E+02	1.992E+03	2.986E+06	2.006E+02
2106	7.165E+03	5.737E+06	3.855E+02	1.914E+03	2.869E+06	1.927E+02
2107	6.884E+03	5.512E+06	3.704E+02	1.839E+03	2.756E+06	1.852E+02
2108	6.614E+03	5.296E+06	3.558E+02	1.767E+03	2.648E+06	1.779E+02
2109	6.355E+03	5.088E+06	3.419E+02	1.697E+03	2.544E+06	1.709E+02
2110	6.105E+03	4.889E+06	3.285E+02	1.631E+03	2.444E+06	1.642E+02
2111	5.866E+03	4.697E+06	3.156E+02	1.567E+03	2.349E+06	1.578E+02
2112	5.636E+03	4.513E+06	3.032E+02	1.505E+03	2.257E+06	1.516E+02
2113	5.415E+03	4.336E+06	2.913E+02	1.446E+03	2.168E+06	1.457E+02
2114	5.203E+03	4.166E+06	2.799E+02	1.390E+03	2.083E+06	1.400E+02
2115	4.999E+03	4.003E+06	2.689E+02	1.335E+03	2.001E+06	1.345E+02
2116	4.803E+03	3.846E+06	2.584E+02	1.283E+03	1.923E+06	1.292E+02
2117	4.614E+03	3.695E+06	2.483E+02	1.233E+03	1.847E+06	1.241E+02
2118	4.433E+03	3.550E+06	2.385E+02	1.184E+03	1.775E+06	1.193E+02
2119	4.260E+03	3.411E+06	2.292E+02	1.138E+03	1.705E+06	1.146E+02
2120	4.093E+03	3.277E+06	2.202E+02	1.093E+03	1.639E+06	1.101E+02
2121	3.932E+03	3.149E+06	2.116E+02	1.050E+03	1.574E+06	1.058E+02
2122	3.778E+03	3.025E+06	2.033E+02	1.009E+03	1.513E+06	1.016E+02
2123	3.630E+03	2.907E+06	1.953E+02	9.696E+02	1.453E+06	9.765E+01
2124	3.487E+03	2.793E+06	1.876E+02	9.315E+02	1.396E+06	9.382E+01
2125	3.351E+03	2.683E+06	1.803E+02	8.950E+02	1.342E+06	9.014E+01
2126	3.219E+03	2.578E+06	1.732E+02	8.599E+02	1.289E+06	8.660E+01
2127	3.093E+03	2.477E+06	1.664E+02	8.262E+02	1.238E+06	8.321E+01
2128	2.972E+03	2.380E+06	1.599E+02	7.938E+02	1.190E+06	7.995E+01
2129	2.855E+03	2.286E+06	1.536E+02	7.627E+02	1.143E+06	7.681E+01
2130	2.743E+03	2.197E+06	1.476E+02	7.328E+02	1.098E+06	7.380E+01
2131	2.636E+03	2.111E+06	1.418E+02	7.040E+02	1.055E+06	7.091E+01
2132	2.532E+03	2.028E+06	1.363E+02	6.764E+02	1.014E+06	6.813E+01
2133	2.433E+03	1.948E+06	1.309E+02	6.499E+02	9.742E+05	6.545E+01
2134	2.338E+03	1.872E+06	1.258E+02	6.244E+02	9.360E+05	6.289E+01
2135	2.246E+03	1.799E+06	1.208E+02	5.999E+02	8.993E+05	6.042E+01
2136	2.158E+03	1.728E+06	1.161E+02	5.764E+02	8.640E+05	5.805E+01
2137	2.073E+03	1.660E+06	1.116E+02	5.538E+02	8.301E+05	5.578E+01
2138	1.992E+03	1.595E+06	1.072E+02	5.321E+02	7.976E+05	5.359E+01
2139	1.914E+03	1.533E+06	1.030E+02	5.112E+02	7.663E+05	5.149E+01
2140	1.839E+03	1.473E+06	9.894E+01	4.912E+02	7.363E+05	4.947E+01

Results (Continued)

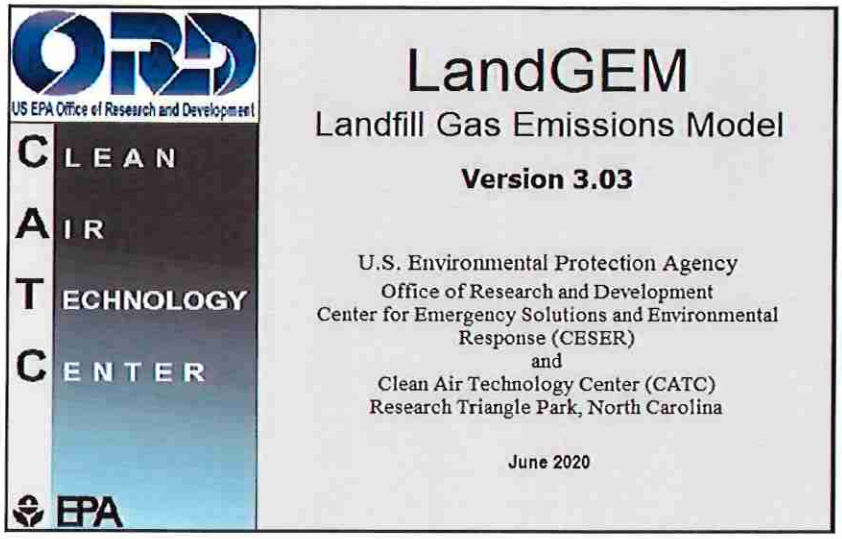
Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2000	0	0	0	0	0	0
2001	5.296E+00	2.893E+03	1.944E-01	2.261E-03	6.307E-01	4.238E-05
2002	5.123E+02	2.799E+05	1.881E+01	2.187E-01	6.101E+01	4.100E-03
2003	1.073E+03	5.864E+05	3.940E+01	4.583E-01	1.278E+02	8.590E-03
2004	1.693E+03	9.251E+05	6.216E+01	7.229E-01	2.017E+02	1.355E-02
2005	2.361E+03	1.290E+06	8.667E+01	1.008E+00	2.812E+02	1.889E-02
2006	3.119E+03	1.704E+06	1.145E+02	1.332E+00	3.715E+02	2.496E-02
2007	3.921E+03	2.142E+06	1.439E+02	1.674E+00	4.669E+02	3.137E-02
2008	4.572E+03	2.498E+06	1.678E+02	1.952E+00	5.445E+02	3.659E-02
2009	5.174E+03	2.826E+06	1.899E+02	2.209E+00	6.162E+02	4.140E-02
2010	5.625E+03	3.073E+06	2.065E+02	2.401E+00	6.699E+02	4.501E-02
2011	6.084E+03	3.324E+06	2.233E+02	2.597E+00	7.246E+02	4.869E-02
2012	6.545E+03	3.576E+06	2.402E+02	2.794E+00	7.795E+02	5.237E-02
2013	6.829E+03	3.730E+06	2.506E+02	2.915E+00	8.132E+02	5.464E-02
2014	7.047E+03	3.850E+06	2.587E+02	3.008E+00	8.392E+02	5.639E-02
2015	7.278E+03	3.976E+06	2.671E+02	3.107E+00	8.667E+02	5.824E-02
2016	7.571E+03	4.136E+06	2.779E+02	3.232E+00	9.016E+02	6.058E-02
2017	7.862E+03	4.295E+06	2.886E+02	3.356E+00	9.363E+02	6.291E-02
2018	8.176E+03	4.466E+06	3.001E+02	3.490E+00	9.737E+02	6.542E-02
2019	8.587E+03	4.691E+06	3.152E+02	3.666E+00	1.023E+03	6.871E-02
2020	9.051E+03	4.944E+06	3.322E+02	3.864E+00	1.078E+03	7.242E-02
2021	9.519E+03	5.200E+06	3.494E+02	4.064E+00	1.134E+03	7.617E-02
2022	1.008E+04	5.507E+06	3.700E+02	4.303E+00	1.201E+03	8.066E-02
2023	1.074E+04	5.865E+06	3.941E+02	4.583E+00	1.279E+03	8.591E-02
2024	1.137E+04	6.210E+06	4.172E+02	4.852E+00	1.354E+03	9.096E-02
2025	1.197E+04	6.541E+06	4.395E+02	5.111E+00	1.426E+03	9.580E-02
2026	1.255E+04	6.858E+06	4.608E+02	5.359E+00	1.495E+03	1.005E-01
2027	1.311E+04	7.164E+06	4.813E+02	5.598E+00	1.562E+03	1.049E-01
2028	1.365E+04	7.457E+06	5.010E+02	5.827E+00	1.626E+03	1.092E-01
2029	1.417E+04	7.739E+06	5.200E+02	6.047E+00	1.687E+03	1.134E-01
2030	1.466E+04	8.010E+06	5.382E+02	6.259E+00	1.746E+03	1.173E-01
2031	1.514E+04	8.270E+06	5.557E+02	6.462E+00	1.803E+03	1.211E-01
2032	1.560E+04	8.520E+06	5.725E+02	6.658E+00	1.857E+03	1.248E-01
2033	1.604E+04	8.760E+06	5.886E+02	6.846E+00	1.910E+03	1.283E-01
2034	1.646E+04	8.991E+06	6.041E+02	7.026E+00	1.960E+03	1.317E-01
2035	1.686E+04	9.213E+06	6.190E+02	7.199E+00	2.008E+03	1.349E-01
2036	1.725E+04	9.426E+06	6.333E+02	7.366E+00	2.055E+03	1.381E-01
2037	1.763E+04	9.631E+06	6.471E+02	7.526E+00	2.099E+03	1.411E-01
2038	1.799E+04	9.827E+06	6.603E+02	7.679E+00	2.142E+03	1.439E-01
2039	1.833E+04	1.002E+07	6.730E+02	7.827E+00	2.184E+03	1.467E-01
2040	1.867E+04	1.020E+07	6.852E+02	7.969E+00	2.223E+03	1.494E-01
2041	1.899E+04	1.037E+07	6.969E+02	8.105E+00	2.261E+03	1.519E-01
2042	1.929E+04	1.054E+07	7.082E+02	8.236E+00	2.298E+03	1.544E-01
2043	1.959E+04	1.070E+07	7.190E+02	8.362E+00	2.333E+03	1.567E-01
2044	1.987E+04	1.086E+07	7.294E+02	8.483E+00	2.367E+03	1.590E-01
2045	2.014E+04	1.100E+07	7.394E+02	8.599E+00	2.399E+03	1.612E-01
2046	2.040E+04	1.115E+07	7.490E+02	8.711E+00	2.430E+03	1.633E-01
2047	2.066E+04	1.128E+07	7.582E+02	8.818E+00	2.460E+03	1.653E-01
2048	2.090E+04	1.142E+07	7.671E+02	8.921E+00	2.489E+03	1.672E-01
2049	2.113E+04	1.154E+07	7.756E+02	9.020E+00	2.516E+03	1.691E-01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2050	2.135E+04	1.166E+07	7.837E+02	9.115E+00	2.543E+03	1.709E-01
2051	2.157E+04	1.178E+07	7.916E+02	9.206E+00	2.568E+03	1.726E-01
2052	2.177E+04	1.189E+07	7.991E+02	9.294E+00	2.593E+03	1.742E-01
2053	2.197E+04	1.200E+07	8.064E+02	9.378E+00	2.616E+03	1.758E-01
2054	2.216E+04	1.211E+07	8.134E+02	9.459E+00	2.639E+03	1.773E-01
2055	2.234E+04	1.221E+07	8.201E+02	9.537E+00	2.661E+03	1.788E-01
2056	2.252E+04	1.230E+07	8.265E+02	9.612E+00	2.682E+03	1.802E-01
2057	2.269E+04	1.239E+07	8.327E+02	9.684E+00	2.702E+03	1.815E-01
2058	2.285E+04	1.248E+07	8.386E+02	9.753E+00	2.721E+03	1.828E-01
2059	2.300E+04	1.257E+07	8.443E+02	9.819E+00	2.739E+03	1.841E-01
2060	2.315E+04	1.265E+07	8.498E+02	9.883E+00	2.757E+03	1.853E-01
2061	2.330E+04	1.273E+07	8.551E+02	9.944E+00	2.774E+03	1.864E-01
2062	2.343E+04	1.280E+07	8.601E+02	1.000E+01	2.791E+03	1.875E-01
2063	2.357E+04	1.287E+07	8.650E+02	1.006E+01	2.806E+03	1.886E-01
2064	2.369E+04	1.294E+07	8.697E+02	1.011E+01	2.822E+03	1.896E-01
2065	2.381E+04	1.301E+07	8.741E+02	1.017E+01	2.836E+03	1.906E-01
2066	2.393E+04	1.307E+07	8.785E+02	1.022E+01	2.850E+03	1.915E-01
2067	2.405E+04	1.314E+07	8.826E+02	1.026E+01	2.864E+03	1.924E-01
2068	2.401E+04	1.312E+07	8.813E+02	1.025E+01	2.859E+03	1.921E-01
2069	2.307E+04	1.260E+07	8.467E+02	9.847E+00	2.747E+03	1.846E-01
2070	2.216E+04	1.211E+07	8.135E+02	9.461E+00	2.639E+03	1.773E-01
2071	2.129E+04	1.163E+07	7.816E+02	9.090E+00	2.536E+03	1.704E-01
2072	2.046E+04	1.118E+07	7.510E+02	8.734E+00	2.437E+03	1.637E-01
2073	1.966E+04	1.074E+07	7.215E+02	8.391E+00	2.341E+03	1.573E-01
2074	1.889E+04	1.032E+07	6.932E+02	8.062E+00	2.249E+03	1.511E-01
2075	1.815E+04	9.913E+06	6.660E+02	7.746E+00	2.161E+03	1.452E-01
2076	1.743E+04	9.524E+06	6.399E+02	7.442E+00	2.076E+03	1.395E-01
2077	1.675E+04	9.151E+06	6.148E+02	7.150E+00	1.995E+03	1.340E-01
2078	1.609E+04	8.792E+06	5.907E+02	6.870E+00	1.917E+03	1.288E-01
2079	1.546E+04	8.447E+06	5.676E+02	6.601E+00	1.841E+03	1.237E-01
2080	1.486E+04	8.116E+06	5.453E+02	6.342E+00	1.769E+03	1.189E-01
2081	1.427E+04	7.798E+06	5.239E+02	6.093E+00	1.700E+03	1.142E-01
2082	1.371E+04	7.492E+06	5.034E+02	5.854E+00	1.633E+03	1.097E-01
2083	1.318E+04	7.198E+06	4.836E+02	5.625E+00	1.569E+03	1.054E-01
2084	1.266E+04	6.916E+06	4.647E+02	5.404E+00	1.508E+03	1.013E-01
2085	1.216E+04	6.645E+06	4.465E+02	5.192E+00	1.449E+03	9.733E-02
2086	1.169E+04	6.384E+06	4.290E+02	4.989E+00	1.392E+03	9.351E-02
2087	1.123E+04	6.134E+06	4.121E+02	4.793E+00	1.337E+03	8.985E-02
2088	1.079E+04	5.893E+06	3.960E+02	4.605E+00	1.285E+03	8.632E-02
2089	1.036E+04	5.662E+06	3.804E+02	4.425E+00	1.234E+03	8.294E-02
2090	9.958E+03	5.440E+06	3.655E+02	4.251E+00	1.186E+03	7.969E-02
2091	9.568E+03	5.227E+06	3.512E+02	4.084E+00	1.139E+03	7.656E-02
2092	9.193E+03	5.022E+06	3.374E+02	3.924E+00	1.095E+03	7.356E-02
2093	8.832E+03	4.825E+06	3.242E+02	3.770E+00	1.052E+03	7.067E-02
2094	8.486E+03	4.636E+06	3.115E+02	3.623E+00	1.011E+03	6.790E-02
2095	8.153E+03	4.454E+06	2.993E+02	3.481E+00	9.710E+02	6.524E-02
2096	7.834E+03	4.279E+06	2.875E+02	3.344E+00	9.329E+02	6.268E-02
2097	7.526E+03	4.112E+06	2.763E+02	3.213E+00	8.963E+02	6.023E-02
2098	7.231E+03	3.950E+06	2.654E+02	3.087E+00	8.612E+02	5.786E-02
2099	6.948E+03	3.796E+06	2.550E+02	2.966E+00	8.274E+02	5.559E-02
2100	6.675E+03	3.647E+06	2.450E+02	2.850E+00	7.950E+02	5.341E-02

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2101	6.414E+03	3.504E+06	2.354E+02	2.738E+00	7.638E+02	5.132E-02
2102	6.162E+03	3.366E+06	2.262E+02	2.631E+00	7.339E+02	4.931E-02
2103	5.920E+03	3.234E+06	2.173E+02	2.527E+00	7.051E+02	4.737E-02
2104	5.688E+03	3.108E+06	2.088E+02	2.428E+00	6.774E+02	4.552E-02
2105	5.465E+03	2.986E+06	2.006E+02	2.333E+00	6.509E+02	4.373E-02
2106	5.251E+03	2.869E+06	1.927E+02	2.242E+00	6.254E+02	4.202E-02
2107	5.045E+03	2.756E+06	1.852E+02	2.154E+00	6.008E+02	4.037E-02
2108	4.847E+03	2.648E+06	1.779E+02	2.069E+00	5.773E+02	3.879E-02
2109	4.657E+03	2.544E+06	1.709E+02	1.988E+00	5.546E+02	3.727E-02
2110	4.475E+03	2.444E+06	1.642E+02	1.910E+00	5.329E+02	3.581E-02
2111	4.299E+03	2.349E+06	1.578E+02	1.835E+00	5.120E+02	3.440E-02
2112	4.131E+03	2.257E+06	1.516E+02	1.763E+00	4.919E+02	3.305E-02
2113	3.969E+03	2.168E+06	1.457E+02	1.694E+00	4.726E+02	3.176E-02
2114	3.813E+03	2.083E+06	1.400E+02	1.628E+00	4.541E+02	3.051E-02
2115	3.663E+03	2.001E+06	1.345E+02	1.564E+00	4.363E+02	2.931E-02
2116	3.520E+03	1.923E+06	1.292E+02	1.503E+00	4.192E+02	2.817E-02
2117	3.382E+03	1.847E+06	1.241E+02	1.444E+00	4.028E+02	2.706E-02
2118	3.249E+03	1.775E+06	1.193E+02	1.387E+00	3.870E+02	2.600E-02
2119	3.122E+03	1.705E+06	1.146E+02	1.333E+00	3.718E+02	2.498E-02
2120	2.999E+03	1.639E+06	1.101E+02	1.280E+00	3.572E+02	2.400E-02
2121	2.882E+03	1.574E+06	1.058E+02	1.230E+00	3.432E+02	2.306E-02
2122	2.769E+03	1.513E+06	1.016E+02	1.182E+00	3.297E+02	2.216E-02
2123	2.660E+03	1.453E+06	9.765E+01	1.136E+00	3.168E+02	2.129E-02
2124	2.556E+03	1.396E+06	9.382E+01	1.091E+00	3.044E+02	2.045E-02
2125	2.456E+03	1.342E+06	9.014E+01	1.048E+00	2.925E+02	1.965E-02
2126	2.359E+03	1.289E+06	8.660E+01	1.007E+00	2.810E+02	1.888E-02
2127	2.267E+03	1.238E+06	8.321E+01	9.677E-01	2.700E+02	1.814E-02
2128	2.178E+03	1.190E+06	7.995E+01	9.298E-01	2.594E+02	1.743E-02
2129	2.093E+03	1.143E+06	7.681E+01	8.933E-01	2.492E+02	1.674E-02
2130	2.011E+03	1.098E+06	7.380E+01	8.583E-01	2.394E+02	1.609E-02
2131	1.932E+03	1.055E+06	7.091E+01	8.246E-01	2.301E+02	1.546E-02
2132	1.856E+03	1.014E+06	6.813E+01	7.923E-01	2.210E+02	1.485E-02
2133	1.783E+03	9.742E+05	6.545E+01	7.612E-01	2.124E+02	1.427E-02
2134	1.713E+03	9.360E+05	6.289E+01	7.314E-01	2.040E+02	1.371E-02
2135	1.646E+03	8.993E+05	6.042E+01	7.027E-01	1.960E+02	1.317E-02
2136	1.582E+03	8.640E+05	5.805E+01	6.751E-01	1.884E+02	1.266E-02
2137	1.520E+03	8.301E+05	5.578E+01	6.487E-01	1.810E+02	1.216E-02
2138	1.460E+03	7.976E+05	5.359E+01	6.232E-01	1.739E+02	1.168E-02
2139	1.403E+03	7.663E+05	5.149E+01	5.988E-01	1.671E+02	1.122E-02
2140	1.348E+03	7.363E+05	4.947E+01	5.753E-01	1.605E+02	1.078E-02



Summary Report

Landfill Name or Identifier: 40 West Landfill

Date: Friday, October 06, 2023

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_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 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	2000	
Landfill Closure Year (with 80-year limit)	2067	
Actual Closure Year (without limit)	*2067*	
Have Model Calculate Closure Year?	Yes	
Waste Design Capacity	9,591,400	*short tons*

MODEL PARAMETERS

Methane Generation Rate, k	0.040	$year^{-1}$
Potential Methane Generation Capacity, L_0	100	m^3/Mg
NMOC Concentration	109	*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:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2000	736	810	0	0
2001	70,529	77,582	736	810
2002	80,819	88,901	71,265	78,392
2003	92,050	101,255	152,085	167,293
2004	102,089	112,298	244,135	268,548
2005	118,259	130,085	346,224	380,846
2006	128,486	141,335	464,483	510,931
2007	111,958	123,154	592,969	652,266
2008	108,572	119,429	704,927	775,420
2009	90,968	100,065	813,499	894,849
2010	94,511	103,962	904,467	994,914
2011	97,217	106,939	998,978	1,098,876
2012	75,122	82,634	1,096,195	1,205,815
2013	67,575	74,332	1,171,317	1,288,449
2014	70,521	77,573	1,238,892	1,362,781
2015	80,445	88,489	1,309,413	1,440,354
2016	81,782	89,960	1,389,858	1,528,843
2017	86,452	95,097	1,471,640	1,618,804
2018	101,730	111,903	1,558,092	1,713,901
2019	111,347	122,482	1,659,822	1,825,804
2020	114,511	125,962	1,771,169	1,948,286
2021	129,936	142,930	1,885,680	2,074,248
2022	146,174	160,791	2,015,616	2,217,178
2023	146,174	160,791	2,161,790	2,377,969
2024	146,174	160,791	2,307,963	2,538,760
2025	146,174	160,791	2,454,137	2,699,551
2026	146,174	160,791	2,600,311	2,860,342
2027	146,174	160,791	2,746,484	3,021,133
2028	146,174	160,791	2,892,658	3,181,924
2029	146,174	160,791	3,038,832	3,342,715
2030	146,174	160,791	3,185,005	3,503,506
2031	146,174	160,791	3,331,179	3,664,297
2032	146,174	160,791	3,477,353	3,825,088
2033	146,174	160,791	3,623,526	3,985,879
2034	146,174	160,791	3,769,700	4,146,670
2035	146,174	160,791	3,915,873	4,307,461
2036	146,174	160,791	4,062,047	4,468,252
2037	146,174	160,791	4,208,221	4,629,043
2038	146,174	160,791	4,354,394	4,789,834
2039	146,174	160,791	4,500,568	4,950,625

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2040	146,174	160,791	4,646,742	5,111,416
2041	146,174	160,791	4,792,915	5,272,207
2042	146,174	160,791	4,939,089	5,432,998
2043	146,174	160,791	5,085,263	5,593,789
2044	146,174	160,791	5,231,436	5,754,580
2045	146,174	160,791	5,377,610	5,915,371
2046	146,174	160,791	5,523,783	6,076,162
2047	146,174	160,791	5,669,957	6,236,953
2048	146,174	160,791	5,816,131	6,397,744
2049	146,174	160,791	5,962,304	6,558,535
2050	146,174	160,791	6,108,478	6,719,326
2051	146,174	160,791	6,254,652	6,880,117
2052	146,174	160,791	6,400,825	7,040,908
2053	146,174	160,791	6,546,999	7,201,699
2054	146,174	160,791	6,693,173	7,362,490
2055	146,174	160,791	6,839,346	7,523,281
2056	146,174	160,791	6,985,520	7,684,072
2057	146,174	160,791	7,131,693	7,844,863
2058	146,174	160,791	7,277,867	8,005,654
2059	146,174	160,791	7,424,041	8,166,445
2060	146,174	160,791	7,570,214	8,327,236
2061	146,174	160,791	7,716,388	8,488,027
2062	146,174	160,791	7,862,562	8,648,818
2063	146,174	160,791	8,008,735	8,809,609
2064	146,174	160,791	8,154,909	8,970,400
2065	146,174	160,791	8,301,083	9,131,191
2066	146,174	160,791	8,447,256	9,291,982
2067	126,025	138,627	8,593,430	9,452,773
2068	0	0	8,719,455	9,591,400
2069	0	0	8,719,455	9,591,400
2070	0	0	8,719,455	9,591,400
2071	0	0	8,719,455	9,591,400
2072	0	0	8,719,455	9,591,400
2073	0	0	8,719,455	9,591,400
2074	0	0	8,719,455	9,591,400
2075	0	0	8,719,455	9,591,400
2076	0	0	8,719,455	9,591,400
2077	0	0	8,719,455	9,591,400
2078	0	0	8,719,455	9,591,400
2079	0	0	8,719,455	9,591,400

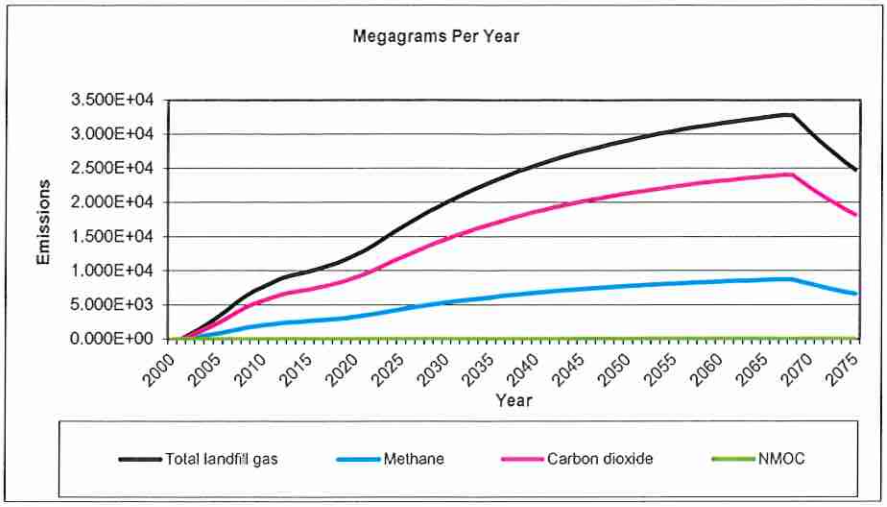
Pollutant Parameters

		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


Megagrams Per Year
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2.500E+04
2.000E+04
1.500E+04
1.000E+04
5.000E+03
0.000E+00
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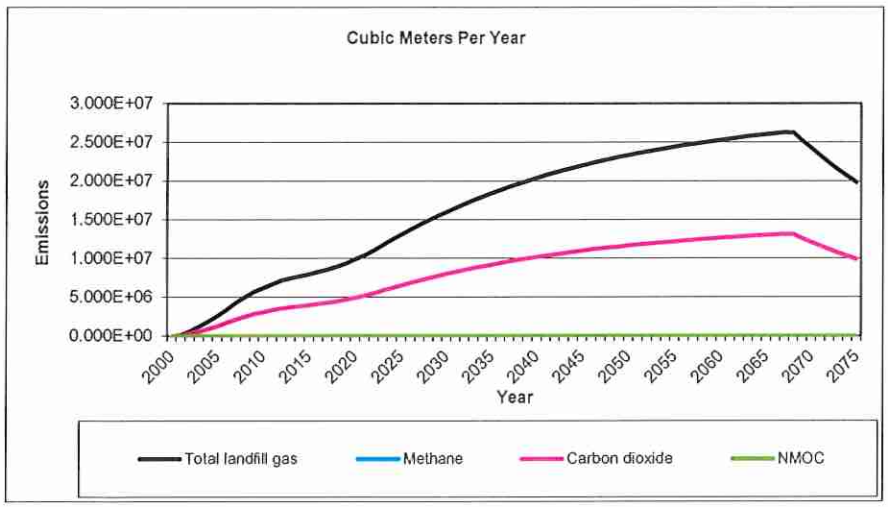
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


Cubic Meters Per Year
Emissions
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1.000E+07
5.000E+06
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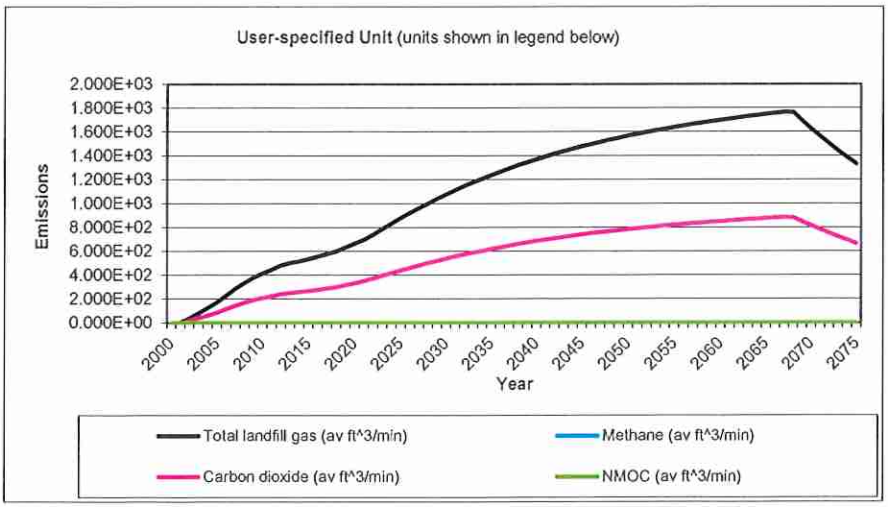
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


User-specified Unit (units shown in legend below)
Emissions
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8.000E+02
6.000E+02
4.000E+02
2.000E+02
0.000E+00
2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075
Year
Total landfill gas (av ft^3/min)
Methane (av ft^3/min)
Carbon dioxide (av ft^3/min)
NMOC (av ft^3/min)

Results

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2000	0	0	0	0	0	0
2001	7.226E+00	5.786E+03	3.888E-01	1.930E+00	2.893E+03	1.944E-01
2002	6.990E+02	5.598E+05	3.761E+01	1.867E+02	2.799E+05	1.881E+01
2003	1.465E+03	1.173E+06	7.881E+01	3.912E+02	5.864E+05	3.940E+01
2004	2.311E+03	1.850E+06	1.243E+02	6.172E+02	9.251E+05	6.216E+01
2005	3.222E+03	2.580E+06	1.733E+02	8.606E+02	1.290E+06	8.667E+01
2006	4.256E+03	3.408E+06	2.290E+02	1.137E+03	1.704E+06	1.145E+02
2007	5.350E+03	4.284E+06	2.878E+02	1.429E+03	2.142E+06	1.439E+02
2008	6.239E+03	4.996E+06	3.357E+02	1.666E+03	2.498E+06	1.678E+02
2009	7.060E+03	5.653E+06	3.798E+02	1.886E+03	2.826E+06	1.899E+02
2010	7.675E+03	6.146E+06	4.130E+02	2.050E+03	3.073E+06	2.065E+02
2011	8.302E+03	6.648E+06	4.467E+02	2.218E+03	3.324E+06	2.233E+02
2012	8.930E+03	7.151E+06	4.805E+02	2.385E+03	3.576E+06	2.402E+02
2013	9.317E+03	7.461E+06	5.013E+02	2.489E+03	3.730E+06	2.506E+02
2014	9.615E+03	7.699E+06	5.173E+02	2.568E+03	3.850E+06	2.587E+02
2015	9.930E+03	7.952E+06	5.343E+02	2.652E+03	3.976E+06	2.671E+02
2016	1.033E+04	8.272E+06	5.558E+02	2.759E+03	4.136E+06	2.779E+02
2017	1.073E+04	8.590E+06	5.772E+02	2.865E+03	4.295E+06	2.886E+02
2018	1.116E+04	8.933E+06	6.002E+02	2.980E+03	4.466E+06	3.001E+02
2019	1.172E+04	9.382E+06	6.304E+02	3.130E+03	4.691E+06	3.152E+02
2020	1.235E+04	9.889E+06	6.644E+02	3.299E+03	4.944E+06	3.322E+02
2021	1.299E+04	1.040E+07	6.988E+02	3.469E+03	5.200E+06	3.494E+02
2022	1.375E+04	1.101E+07	7.400E+02	3.674E+03	5.507E+06	3.700E+02
2023	1.465E+04	1.173E+07	7.882E+02	3.913E+03	5.865E+06	3.941E+02
2024	1.551E+04	1.242E+07	8.345E+02	4.143E+03	6.210E+06	4.172E+02
2025	1.634E+04	1.308E+07	8.789E+02	4.364E+03	6.541E+06	4.395E+02
2026	1.713E+04	1.372E+07	9.216E+02	4.576E+03	6.858E+06	4.608E+02
2027	1.789E+04	1.433E+07	9.627E+02	4.779E+03	7.164E+06	4.813E+02
2028	1.863E+04	1.491E+07	1.002E+03	4.975E+03	7.457E+06	5.010E+02
2029	1.933E+04	1.548E+07	1.040E+03	5.163E+03	7.739E+06	5.200E+02
2030	2.001E+04	1.602E+07	1.076E+03	5.344E+03	8.010E+06	5.382E+02
2031	2.066E+04	1.654E+07	1.111E+03	5.517E+03	8.270E+06	5.557E+02
2032	2.128E+04	1.704E+07	1.145E+03	5.684E+03	8.520E+06	5.725E+02
2033	2.188E+04	1.752E+07	1.177E+03	5.845E+03	8.760E+06	5.886E+02
2034	2.246E+04	1.798E+07	1.208E+03	5.998E+03	8.991E+06	6.041E+02
2035	2.301E+04	1.843E+07	1.238E+03	6.146E+03	9.213E+06	6.190E+02
2036	2.354E+04	1.885E+07	1.267E+03	6.289E+03	9.426E+06	6.333E+02
2037	2.405E+04	1.926E+07	1.294E+03	6.425E+03	9.631E+06	6.471E+02
2038	2.455E+04	1.965E+07	1.321E+03	6.556E+03	9.827E+06	6.603E+02
2039	2.502E+04	2.003E+07	1.346E+03	6.682E+03	1.002E+07	6.730E+02
2040	2.547E+04	2.040E+07	1.370E+03	6.804E+03	1.020E+07	6.852E+02
2041	2.591E+04	2.074E+07	1.394E+03	6.920E+03	1.037E+07	6.969E+02
2042	2.633E+04	2.108E+07	1.416E+03	7.032E+03	1.054E+07	7.082E+02
2043	2.673E+04	2.140E+07	1.438E+03	7.139E+03	1.070E+07	7.190E+02
2044	2.711E+04	2.171E+07	1.459E+03	7.242E+03	1.086E+07	7.294E+02
2045	2.748E+04	2.201E+07	1.479E+03	7.342E+03	1.100E+07	7.394E+02
2046	2.784E+04	2.229E+07	1.498E+03	7.437E+03	1.115E+07	7.490E+02
2047	2.818E+04	2.257E+07	1.516E+03	7.528E+03	1.128E+07	7.582E+02
2048	2.851E+04	2.283E+07	1.534E+03	7.616E+03	1.142E+07	7.671E+02
2049	2.883E+04	2.309E+07	1.551E+03	7.701E+03	1.154E+07	7.756E+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)
2050	2.913E+04	2.333E+07	1.567E+03	7.782E+03	1.166E+07	7.837E+02
2051	2.943E+04	2.356E+07	1.583E+03	7.860E+03	1.178E+07	7.916E+02
2052	2.971E+04	2.379E+07	1.598E+03	7.935E+03	1.189E+07	7.991E+02
2053	2.998E+04	2.400E+07	1.613E+03	8.007E+03	1.200E+07	8.064E+02
2054	3.024E+04	2.421E+07	1.627E+03	8.076E+03	1.211E+07	8.134E+02
2055	3.048E+04	2.441E+07	1.640E+03	8.143E+03	1.221E+07	8.201E+02
2056	3.072E+04	2.460E+07	1.653E+03	8.206E+03	1.230E+07	8.265E+02
2057	3.095E+04	2.479E+07	1.665E+03	8.268E+03	1.239E+07	8.327E+02
2058	3.117E+04	2.496E+07	1.677E+03	8.327E+03	1.248E+07	8.386E+02
2059	3.139E+04	2.513E+07	1.689E+03	8.383E+03	1.257E+07	8.443E+02
2060	3.159E+04	2.530E+07	1.700E+03	8.438E+03	1.265E+07	8.498E+02
2061	3.179E+04	2.545E+07	1.710E+03	8.490E+03	1.273E+07	8.551E+02
2062	3.197E+04	2.560E+07	1.720E+03	8.540E+03	1.280E+07	8.601E+02
2063	3.215E+04	2.575E+07	1.730E+03	8.589E+03	1.287E+07	8.650E+02
2064	3.233E+04	2.589E+07	1.739E+03	8.635E+03	1.294E+07	8.697E+02
2065	3.249E+04	2.602E+07	1.748E+03	8.680E+03	1.301E+07	8.741E+02
2066	3.265E+04	2.615E+07	1.757E+03	8.722E+03	1.307E+07	8.785E+02
2067	3.281E+04	2.627E+07	1.765E+03	8.764E+03	1.314E+07	8.826E+02
2068	3.276E+04	2.623E+07	1.763E+03	8.750E+03	1.312E+07	8.813E+02
2069	3.147E+04	2.520E+07	1.693E+03	8.407E+03	1.260E+07	8.467E+02
2070	3.024E+04	2.422E+07	1.627E+03	8.078E+03	1.211E+07	8.135E+02
2071	2.905E+04	2.327E+07	1.563E+03	7.761E+03	1.163E+07	7.816E+02
2072	2.792E+04	2.235E+07	1.502E+03	7.456E+03	1.118E+07	7.510E+02
2073	2.682E+04	2.148E+07	1.443E+03	7.164E+03	1.074E+07	7.215E+02
2074	2.577E+04	2.063E+07	1.386E+03	6.883E+03	1.032E+07	6.932E+02
2075	2.476E+04	1.983E+07	1.332E+03	6.613E+03	9.913E+06	6.660E+02
2076	2.379E+04	1.905E+07	1.280E+03	6.354E+03	9.524E+06	6.399E+02
2077	2.286E+04	1.830E+07	1.230E+03	6.105E+03	9.151E+06	6.148E+02
2078	2.196E+04	1.758E+07	1.181E+03	5.865E+03	8.792E+06	5.907E+02
2079	2.110E+04	1.689E+07	1.135E+03	5.635E+03	8.447E+06	5.676E+02
2080	2.027E+04	1.623E+07	1.091E+03	5.415E+03	8.116E+06	5.453E+02
2081	1.948E+04	1.560E+07	1.048E+03	5.202E+03	7.798E+06	5.239E+02
2082	1.871E+04	1.498E+07	1.007E+03	4.998E+03	7.492E+06	5.034E+02
2083	1.798E+04	1.440E+07	9.673E+02	4.802E+03	7.198E+06	4.836E+02
2084	1.727E+04	1.383E+07	9.294E+02	4.614E+03	6.916E+06	4.647E+02
2085	1.660E+04	1.329E+07	8.929E+02	4.433E+03	6.645E+06	4.465E+02
2086	1.595E+04	1.277E+07	8.579E+02	4.259E+03	6.384E+06	4.290E+02
2087	1.532E+04	1.227E+07	8.243E+02	4.092E+03	6.134E+06	4.121E+02
2088	1.472E+04	1.179E+07	7.919E+02	3.932E+03	5.893E+06	3.960E+02
2089	1.414E+04	1.132E+07	7.609E+02	3.778E+03	5.662E+06	3.804E+02
2090	1.359E+04	1.088E+07	7.311E+02	3.629E+03	5.440E+06	3.655E+02
2091	1.306E+04	1.045E+07	7.024E+02	3.487E+03	5.227E+06	3.512E+02
2092	1.254E+04	1.004E+07	6.749E+02	3.350E+03	5.022E+06	3.374E+02
2093	1.205E+04	9.650E+06	6.484E+02	3.219E+03	4.825E+06	3.242E+02
2094	1.158E+04	9.272E+06	6.230E+02	3.093E+03	4.636E+06	3.115E+02
2095	1.112E+04	8.908E+06	5.985E+02	2.972E+03	4.454E+06	2.993E+02
2096	1.069E+04	8.559E+06	5.751E+02	2.855E+03	4.279E+06	2.875E+02
2097	1.027E+04	8.223E+06	5.525E+02	2.743E+03	4.112E+06	2.763E+02
2098	9.867E+03	7.901E+06	5.309E+02	2.636E+03	3.950E+06	2.654E+02
2099	9.480E+03	7.591E+06	5.100E+02	2.532E+03	3.796E+06	2.550E+02
2100	9.108E+03	7.293E+06	4.900E+02	2.433E+03	3.647E+06	2.450E+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)
2101	8.751E+03	7.007E+06	4.708E+02	2.338E+03	3.504E+06	2.354E+02
2102	8.408E+03	6.733E+06	4.524E+02	2.246E+03	3.366E+06	2.262E+02
2103	8.078E+03	6.469E+06	4.346E+02	2.158E+03	3.234E+06	2.173E+02
2104	7.762E+03	6.215E+06	4.176E+02	2.073E+03	3.108E+06	2.088E+02
2105	7.457E+03	5.971E+06	4.012E+02	1.992E+03	2.986E+06	2.006E+02
2106	7.165E+03	5.737E+06	3.855E+02	1.914E+03	2.869E+06	1.927E+02
2107	6.884E+03	5.512E+06	3.704E+02	1.839E+03	2.756E+06	1.852E+02
2108	6.614E+03	5.296E+06	3.558E+02	1.767E+03	2.648E+06	1.779E+02
2109	6.355E+03	5.088E+06	3.419E+02	1.697E+03	2.544E+06	1.709E+02
2110	6.105E+03	4.889E+06	3.285E+02	1.631E+03	2.444E+06	1.642E+02
2111	5.866E+03	4.697E+06	3.156E+02	1.567E+03	2.349E+06	1.578E+02
2112	5.636E+03	4.513E+06	3.032E+02	1.505E+03	2.257E+06	1.516E+02
2113	5.415E+03	4.336E+06	2.913E+02	1.446E+03	2.168E+06	1.457E+02
2114	5.203E+03	4.166E+06	2.799E+02	1.390E+03	2.083E+06	1.400E+02
2115	4.999E+03	4.003E+06	2.689E+02	1.335E+03	2.001E+06	1.345E+02
2116	4.803E+03	3.846E+06	2.584E+02	1.283E+03	1.923E+06	1.292E+02
2117	4.614E+03	3.695E+06	2.483E+02	1.233E+03	1.847E+06	1.241E+02
2118	4.433E+03	3.550E+06	2.385E+02	1.184E+03	1.775E+06	1.193E+02
2119	4.260E+03	3.411E+06	2.292E+02	1.138E+03	1.705E+06	1.146E+02
2120	4.093E+03	3.277E+06	2.202E+02	1.093E+03	1.639E+06	1.101E+02
2121	3.932E+03	3.149E+06	2.116E+02	1.050E+03	1.574E+06	1.058E+02
2122	3.778E+03	3.025E+06	2.033E+02	1.009E+03	1.513E+06	1.016E+02
2123	3.630E+03	2.907E+06	1.953E+02	9.696E+02	1.453E+06	9.765E+01
2124	3.487E+03	2.793E+06	1.876E+02	9.315E+02	1.396E+06	9.382E+01
2125	3.351E+03	2.683E+06	1.803E+02	8.950E+02	1.342E+06	9.014E+01
2126	3.219E+03	2.578E+06	1.732E+02	8.599E+02	1.289E+06	8.660E+01
2127	3.093E+03	2.477E+06	1.664E+02	8.262E+02	1.238E+06	8.321E+01
2128	2.972E+03	2.380E+06	1.599E+02	7.938E+02	1.190E+06	7.995E+01
2129	2.855E+03	2.286E+06	1.536E+02	7.627E+02	1.143E+06	7.681E+01
2130	2.743E+03	2.197E+06	1.476E+02	7.328E+02	1.098E+06	7.380E+01
2131	2.636E+03	2.111E+06	1.418E+02	7.040E+02	1.055E+06	7.091E+01
2132	2.532E+03	2.028E+06	1.363E+02	6.764E+02	1.014E+06	6.813E+01
2133	2.433E+03	1.948E+06	1.309E+02	6.499E+02	9.742E+05	6.545E+01
2134	2.338E+03	1.872E+06	1.258E+02	6.244E+02	9.360E+05	6.289E+01
2135	2.246E+03	1.799E+06	1.208E+02	5.999E+02	8.993E+05	6.042E+01
2136	2.158E+03	1.728E+06	1.161E+02	5.764E+02	8.640E+05	5.805E+01
2137	2.073E+03	1.660E+06	1.116E+02	5.538E+02	8.301E+05	5.578E+01
2138	1.992E+03	1.595E+06	1.072E+02	5.321E+02	7.976E+05	5.359E+01
2139	1.914E+03	1.533E+06	1.030E+02	5.112E+02	7.663E+05	5.149E+01
2140	1.839E+03	1.473E+06	9.894E+01	4.912E+02	7.363E+05	4.947E+01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2000	0	0	0	0	0	0
2001	5.296E+00	2.893E+03	1.944E-01	2.261E-03	6.307E-01	4.238E-05
2002	5.123E+02	2.799E+05	1.881E+01	2.187E-01	6.101E+01	4.100E-03
2003	1.073E+03	5.864E+05	3.940E+01	4.583E-01	1.278E+02	8.590E-03
2004	1.693E+03	9.251E+05	6.216E+01	7.229E-01	2.017E+02	1.355E-02
2005	2.361E+03	1.290E+06	8.667E+01	1.008E+00	2.812E+02	1.889E-02
2006	3.119E+03	1.704E+06	1.145E+02	1.332E+00	3.715E+02	2.496E-02
2007	3.921E+03	2.142E+06	1.439E+02	1.674E+00	4.669E+02	3.137E-02
2008	4.572E+03	2.498E+06	1.678E+02	1.952E+00	5.445E+02	3.659E-02
2009	5.174E+03	2.826E+06	1.899E+02	2.209E+00	6.162E+02	4.140E-02
2010	5.625E+03	3.073E+06	2.065E+02	2.401E+00	6.699E+02	4.501E-02
2011	6.084E+03	3.324E+06	2.233E+02	2.597E+00	7.246E+02	4.869E-02
2012	6.545E+03	3.576E+06	2.402E+02	2.794E+00	7.795E+02	5.237E-02
2013	6.829E+03	3.730E+06	2.506E+02	2.915E+00	8.132E+02	5.464E-02
2014	7.047E+03	3.850E+06	2.587E+02	3.008E+00	8.392E+02	5.639E-02
2015	7.278E+03	3.976E+06	2.671E+02	3.107E+00	8.667E+02	5.824E-02
2016	7.571E+03	4.136E+06	2.779E+02	3.232E+00	9.016E+02	6.058E-02
2017	7.862E+03	4.295E+06	2.886E+02	3.356E+00	9.363E+02	6.291E-02
2018	8.176E+03	4.466E+06	3.001E+02	3.490E+00	9.737E+02	6.542E-02
2019	8.587E+03	4.691E+06	3.152E+02	3.666E+00	1.023E+03	6.871E-02
2020	9.051E+03	4.944E+06	3.322E+02	3.864E+00	1.078E+03	7.242E-02
2021	9.519E+03	5.200E+06	3.494E+02	4.064E+00	1.134E+03	7.617E-02
2022	1.008E+04	5.507E+06	3.700E+02	4.303E+00	1.201E+03	8.066E-02
2023	1.074E+04	5.865E+06	3.941E+02	4.583E+00	1.279E+03	8.591E-02
2024	1.137E+04	6.210E+06	4.172E+02	4.852E+00	1.354E+03	9.096E-02
2025	1.197E+04	6.541E+06	4.395E+02	5.111E+00	1.426E+03	9.580E-02
2026	1.255E+04	6.858E+06	4.608E+02	5.359E+00	1.495E+03	1.005E-01
2027	1.311E+04	7.164E+06	4.813E+02	5.598E+00	1.562E+03	1.049E-01
2028	1.365E+04	7.457E+06	5.010E+02	5.827E+00	1.626E+03	1.092E-01
2029	1.417E+04	7.739E+06	5.200E+02	6.047E+00	1.687E+03	1.134E-01
2030	1.466E+04	8.010E+06	5.382E+02	6.259E+00	1.746E+03	1.173E-01
2031	1.514E+04	8.270E+06	5.557E+02	6.462E+00	1.803E+03	1.211E-01
2032	1.560E+04	8.520E+06	5.725E+02	6.658E+00	1.857E+03	1.248E-01
2033	1.604E+04	8.760E+06	5.886E+02	6.846E+00	1.910E+03	1.283E-01
2034	1.646E+04	8.991E+06	6.041E+02	7.026E+00	1.960E+03	1.317E-01
2035	1.686E+04	9.213E+06	6.190E+02	7.199E+00	2.008E+03	1.349E-01
2036	1.725E+04	9.426E+06	6.333E+02	7.366E+00	2.055E+03	1.381E-01
2037	1.763E+04	9.631E+06	6.471E+02	7.526E+00	2.099E+03	1.411E-01
2038	1.799E+04	9.827E+06	6.603E+02	7.679E+00	2.142E+03	1.439E-01
2039	1.833E+04	1.002E+07	6.730E+02	7.827E+00	2.184E+03	1.467E-01
2040	1.867E+04	1.020E+07	6.852E+02	7.969E+00	2.223E+03	1.494E-01
2041	1.899E+04	1.037E+07	6.969E+02	8.105E+00	2.261E+03	1.519E-01
2042	1.929E+04	1.054E+07	7.082E+02	8.236E+00	2.298E+03	1.544E-01
2043	1.959E+04	1.070E+07	7.190E+02	8.362E+00	2.333E+03	1.567E-01
2044	1.987E+04	1.086E+07	7.294E+02	8.483E+00	2.367E+03	1.590E-01
2045	2.014E+04	1.100E+07	7.394E+02	8.599E+00	2.399E+03	1.612E-01
2046	2.040E+04	1.115E+07	7.490E+02	8.711E+00	2.430E+03	1.633E-01
2047	2.066E+04	1.128E+07	7.582E+02	8.818E+00	2.460E+03	1.653E-01
2048	2.090E+04	1.142E+07	7.671E+02	8.921E+00	2.489E+03	1.672E-01
2049	2.113E+04	1.154E+07	7.756E+02	9.020E+00	2.516E+03	1.691E-01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2050	2.135E+04	1.166E+07	7.837E+02	9.115E+00	2.543E+03	1.709E-01
2051	2.157E+04	1.178E+07	7.916E+02	9.206E+00	2.568E+03	1.726E-01
2052	2.177E+04	1.189E+07	7.991E+02	9.294E+00	2.593E+03	1.742E-01
2053	2.197E+04	1.200E+07	8.064E+02	9.378E+00	2.616E+03	1.758E-01
2054	2.216E+04	1.211E+07	8.134E+02	9.459E+00	2.639E+03	1.773E-01
2055	2.234E+04	1.221E+07	8.201E+02	9.537E+00	2.661E+03	1.788E-01
2056	2.252E+04	1.230E+07	8.265E+02	9.612E+00	2.682E+03	1.802E-01
2057	2.269E+04	1.239E+07	8.327E+02	9.684E+00	2.702E+03	1.815E-01
2058	2.285E+04	1.248E+07	8.386E+02	9.753E+00	2.721E+03	1.828E-01
2059	2.300E+04	1.257E+07	8.443E+02	9.819E+00	2.739E+03	1.841E-01
2060	2.315E+04	1.265E+07	8.498E+02	9.883E+00	2.757E+03	1.853E-01
2061	2.330E+04	1.273E+07	8.551E+02	9.944E+00	2.774E+03	1.864E-01
2062	2.343E+04	1.280E+07	8.601E+02	1.000E+01	2.791E+03	1.875E-01
2063	2.357E+04	1.287E+07	8.650E+02	1.006E+01	2.806E+03	1.886E-01
2064	2.369E+04	1.294E+07	8.697E+02	1.011E+01	2.822E+03	1.896E-01
2065	2.381E+04	1.301E+07	8.741E+02	1.017E+01	2.836E+03	1.906E-01
2066	2.393E+04	1.307E+07	8.785E+02	1.022E+01	2.850E+03	1.915E-01
2067	2.405E+04	1.314E+07	8.826E+02	1.026E+01	2.864E+03	1.924E-01
2068	2.401E+04	1.312E+07	8.813E+02	1.025E+01	2.859E+03	1.921E-01
2069	2.307E+04	1.260E+07	8.467E+02	9.847E+00	2.747E+03	1.846E-01
2070	2.216E+04	1.211E+07	8.135E+02	9.461E+00	2.639E+03	1.773E-01
2071	2.129E+04	1.163E+07	7.816E+02	9.090E+00	2.536E+03	1.704E-01
2072	2.046E+04	1.118E+07	7.510E+02	8.734E+00	2.437E+03	1.637E-01
2073	1.966E+04	1.074E+07	7.215E+02	8.391E+00	2.341E+03	1.573E-01
2074	1.889E+04	1.032E+07	6.932E+02	8.062E+00	2.249E+03	1.511E-01
2075	1.815E+04	9.913E+06	6.660E+02	7.746E+00	2.161E+03	1.452E-01
2076	1.743E+04	9.524E+06	6.399E+02	7.442E+00	2.076E+03	1.395E-01
2077	1.675E+04	9.151E+06	6.148E+02	7.150E+00	1.995E+03	1.340E-01
2078	1.609E+04	8.792E+06	5.907E+02	6.870E+00	1.917E+03	1.288E-01
2079	1.546E+04	8.447E+06	5.676E+02	6.601E+00	1.841E+03	1.237E-01
2080	1.486E+04	8.116E+06	5.453E+02	6.342E+00	1.769E+03	1.189E-01
2081	1.427E+04	7.798E+06	5.239E+02	6.093E+00	1.700E+03	1.142E-01
2082	1.371E+04	7.492E+06	5.034E+02	5.854E+00	1.633E+03	1.097E-01
2083	1.318E+04	7.198E+06	4.836E+02	5.625E+00	1.569E+03	1.054E-01
2084	1.266E+04	6.916E+06	4.647E+02	5.404E+00	1.508E+03	1.013E-01
2085	1.216E+04	6.645E+06	4.465E+02	5.192E+00	1.449E+03	9.733E-02
2086	1.169E+04	6.384E+06	4.290E+02	4.989E+00	1.392E+03	9.351E-02
2087	1.123E+04	6.134E+06	4.121E+02	4.793E+00	1.337E+03	8.985E-02
2088	1.079E+04	5.893E+06	3.960E+02	4.605E+00	1.285E+03	8.632E-02
2089	1.036E+04	5.662E+06	3.804E+02	4.425E+00	1.234E+03	8.294E-02
2090	9.958E+03	5.440E+06	3.655E+02	4.251E+00	1.186E+03	7.969E-02
2091	9.568E+03	5.227E+06	3.512E+02	4.084E+00	1.139E+03	7.656E-02
2092	9.193E+03	5.022E+06	3.374E+02	3.924E+00	1.095E+03	7.356E-02
2093	8.832E+03	4.825E+06	3.242E+02	3.770E+00	1.052E+03	7.067E-02
2094	8.486E+03	4.636E+06	3.115E+02	3.623E+00	1.011E+03	6.790E-02
2095	8.153E+03	4.454E+06	2.993E+02	3.481E+00	9.710E+02	6.524E-02
2096	7.834E+03	4.279E+06	2.875E+02	3.344E+00	9.329E+02	6.268E-02
2097	7.526E+03	4.112E+06	2.763E+02	3.213E+00	8.963E+02	6.023E-02
2098	7.231E+03	3.950E+06	2.654E+02	3.087E+00	8.612E+02	5.786E-02
2099	6.948E+03	3.796E+06	2.550E+02	2.966E+00	8.274E+02	5.559E-02
2100	6.675E+03	3.647E+06	2.450E+02	2.850E+00	7.950E+02	5.341E-02

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2101	6.414E+03	3.504E+06	2.354E+02	2.738E+00	7.638E+02	5.132E-02
2102	6.162E+03	3.366E+06	2.262E+02	2.631E+00	7.339E+02	4.931E-02
2103	5.920E+03	3.234E+06	2.173E+02	2.527E+00	7.051E+02	4.737E-02
2104	5.688E+03	3.108E+06	2.088E+02	2.428E+00	6.774E+02	4.552E-02
2105	5.465E+03	2.986E+06	2.006E+02	2.333E+00	6.509E+02	4.373E-02
2106	5.251E+03	2.869E+06	1.927E+02	2.242E+00	6.254E+02	4.202E-02
2107	5.045E+03	2.756E+06	1.852E+02	2.154E+00	6.008E+02	4.037E-02
2108	4.847E+03	2.648E+06	1.779E+02	2.069E+00	5.773E+02	3.879E-02
2109	4.657E+03	2.544E+06	1.709E+02	1.988E+00	5.546E+02	3.727E-02
2110	4.475E+03	2.444E+06	1.642E+02	1.910E+00	5.329E+02	3.581E-02
2111	4.299E+03	2.349E+06	1.578E+02	1.835E+00	5.120E+02	3.440E-02
2112	4.131E+03	2.257E+06	1.516E+02	1.763E+00	4.919E+02	3.305E-02
2113	3.969E+03	2.168E+06	1.457E+02	1.694E+00	4.726E+02	3.176E-02
2114	3.813E+03	2.083E+06	1.400E+02	1.628E+00	4.541E+02	3.051E-02
2115	3.663E+03	2.001E+06	1.345E+02	1.564E+00	4.363E+02	2.931E-02
2116	3.520E+03	1.923E+06	1.292E+02	1.503E+00	4.192E+02	2.817E-02
2117	3.382E+03	1.847E+06	1.241E+02	1.444E+00	4.028E+02	2.706E-02
2118	3.249E+03	1.775E+06	1.193E+02	1.387E+00	3.870E+02	2.600E-02
2119	3.122E+03	1.705E+06	1.146E+02	1.333E+00	3.718E+02	2.498E-02
2120	2.999E+03	1.639E+06	1.101E+02	1.280E+00	3.572E+02	2.400E-02
2121	2.882E+03	1.574E+06	1.058E+02	1.230E+00	3.432E+02	2.306E-02
2122	2.769E+03	1.513E+06	1.016E+02	1.182E+00	3.297E+02	2.216E-02
2123	2.660E+03	1.453E+06	9.765E+01	1.136E+00	3.168E+02	2.129E-02
2124	2.556E+03	1.396E+06	9.382E+01	1.091E+00	3.044E+02	2.045E-02
2125	2.456E+03	1.342E+06	9.014E+01	1.048E+00	2.925E+02	1.965E-02
2126	2.359E+03	1.289E+06	8.660E+01	1.007E+00	2.810E+02	1.888E-02
2127	2.267E+03	1.238E+06	8.321E+01	9.677E-01	2.700E+02	1.814E-02
2128	2.178E+03	1.190E+06	7.995E+01	9.298E-01	2.594E+02	1.743E-02
2129	2.093E+03	1.143E+06	7.681E+01	8.933E-01	2.492E+02	1.674E-02
2130	2.011E+03	1.098E+06	7.380E+01	8.583E-01	2.394E+02	1.609E-02
2131	1.932E+03	1.055E+06	7.091E+01	8.246E-01	2.301E+02	1.546E-02
2132	1.856E+03	1.014E+06	6.813E+01	7.923E-01	2.210E+02	1.485E-02
2133	1.783E+03	9.742E+05	6.545E+01	7.612E-01	2.124E+02	1.427E-02
2134	1.713E+03	9.360E+05	6.289E+01	7.314E-01	2.040E+02	1.371E-02
2135	1.646E+03	8.993E+05	6.042E+01	7.027E-01	1.960E+02	1.317E-02
2136	1.582E+03	8.640E+05	5.805E+01	6.751E-01	1.884E+02	1.266E-02
2137	1.520E+03	8.301E+05	5.578E+01	6.487E-01	1.810E+02	1.216E-02
2138	1.460E+03	7.976E+05	5.359E+01	6.232E-01	1.739E+02	1.168E-02
2139	1.403E+03	7.663E+05	5.149E+01	5.988E-01	1.671E+02	1.122E-02
2140	1.348E+03	7.363E+05	4.947E+01	5.753E-01	1.605E+02	1.078E-02