

**MLFRRF WASTE DATA
1975 - PRESENT**

Landfill Cell	Cell Life	Size (Acres)	Waste Received (Tons)	Note
Cell 1	1975-1977	25	311,000	Note 1
Cell 2	1977-1979	9.8	252,000	
Cell 3	1977-1979	4	35,000	Note 1
Cell 4	1979-1981	7.7	135,000	
Cell 5,6,7	1980-1992	77	3,804,000	
Cell 8	1992-present	54.1	2,781,278	through 2008
Cell 9	Future	83.6	0	

Cell 8-Yearly Disposal Waste Received (Tons)

1993	576,230	Note 2, 3 and 4
1994	416,000	
1995	270,419	
1996	154,466	
1997	222,711	
1998	100,981	
1999	85,062	
2000	109,505	
2001	98,696	
2002	132,365	
2003	103,595	
2004	104,664	
2005	114,089	
2006	108,414	
2007	95,503	
2008	88,578	
Total:	2,781,278	
Average	127,789 year 1995 through 2008	

Waste Receipt Projection

January 2009 through April 13, 2013	110,000 /yr	Note 5
after April 13, 2013	275,000 /yr	

Notes:

- 1) 121,000 tons of waste relocated from Cell 1W and 35,000 tons of waste relocated from Cell 3 to Cell 8
- 2) Per Golder Report (5/13/09 and Response to Comments - 8/28/09) - The percentage of waste placed in Subcells 8.1 through 8.6 was calculated to be 54.4% MSW (Curbside) and 45.6% NCMSW (Non Curbside Municipal Solid Waste)
- 3) Per Golder Report (5/13/09 and Response to Comments - 8/28/09), the percentage of waste placed in subcells 8.7 & 8.8 is 25% MSW (Curbside) and the remainder (74%) is NCMSW.
- 4) Cell 8 yearly tonnage taken from MLFRRF Annual Report - KCI Technologies, June 2009.
- 5) Waste disposal rates may remain the same and not increase to this rate if the County elects to continue diversion after 2013.

**MLFRRF LFG DATA
2005 - 2008**

Year	Methane (% by vol)	Oxygen (% by vol)	Carbon Dioxide (% by vol)	Balance Gas (% by vol)	Avg Flow (cfm)	Total Flow (cm/yr)
2005	50.1	1.3	38.8	9.8	1,054	15,153,190
2006	52.0	1.0	37.0	10.0	1,080	15,945,000
2007	51.0	1.0	37.0	11.0	1,184	17,397,448
2008	52.2	1.2	35.6	11.0	1,185	17,418,848

Notes:

- 1) Numbers represent total landfill gas to the flare.

**TABLE C-1: PROJECTED LFG, NMOC AND VOC GENERATION RATES
Millersville Landfill and Resource Recovery Facility**

Year	Disposal Rate (tons/yr)	Refuse In-Place (tons)	Disposal Rate (Mg/yr)	Refuse In-Place (Mg)	Methane Generation Rates (m ³ /yr)	LFG Generation Rates (cfm)	NMOC Generation Rates (tons/yr)	VOC Generation Rates (tons/yr)
1975	155,400	0	140,977	0	0.000E+00	0.0	0.00	0.00
1976	155,400	155,400	140,977	140,977	2.820E+05	37.9	0.76	0.30
1977	126,000	310,800	114,305	281,953	5.583E+05	75.0	1.51	0.59
1978	126,000	436,800	114,305	396,258	7.759E+05	104.3	2.11	0.82
1979	135,000	562,800	122,470	510,564	9.891E+05	132.9	2.68	1.05
1980	43,506	697,800	39,468	633,034	1.214E+06	163.2	3.30	1.29
1981	105,796	741,306	95,977	672,501	1.269E+06	170.6	3.44	1.34
1982	132,690	847,102	120,374	768,478	1.436E+06	193.0	3.90	1.52
1983	196,683	979,792	178,428	888,852	1.648E+06	221.5	4.47	1.74
1984	334,266	1,176,475	303,241	1,067,280	1.973E+06	265.1	5.35	2.09
1985	335,417	1,510,741	304,285	1,370,521	2.540E+06	341.3	6.89	2.69
1986	360,280	1,846,158	326,841	1,674,806	3.098E+06	416.4	8.41	3.28
1987	379,579	2,206,438	344,348	2,001,647	3.691E+06	496.0	10.01	3.91
1988	383,566	2,586,017	347,965	2,345,995	4.306E+06	578.7	11.68	4.56
1989	380,121	2,969,583	344,840	2,693,960	4.917E+06	660.7	13.34	5.20
1990	423,130	3,349,704	383,857	3,038,800	5.509E+06	740.3	14.95	5.83
1991	397,663	3,772,834	360,754	3,422,657	6.168E+06	828.8	16.73	6.53
1992	330,216	4,170,497	299,567	3,783,411	6.767E+06	909.4	18.36	7.16
1993	432,173	4,500,713	392,061	4,082,978	7.232E+06	971.9	19.62	7.65
1994	416,000	4,932,886	377,389	4,475,039	7.873E+06	1058.0	21.36	8.33
1995	270,419	5,348,886	245,320	4,852,428	8.472E+06	1138.5	22.99	8.96
1996	200,520	5,619,305	181,909	5,097,748	8.795E+06	1181.9	23.86	9.31
1997	222,711	5,819,825	202,040	5,279,656	8.985E+06	1207.4	24.38	9.51
1998	100,981	6,042,536	91,608	5,481,697	9.211E+06	1237.8	24.99	9.75
1999	85,938	6,143,517	77,962	5,573,305	9.212E+06	1237.9	24.99	9.75
2000	111,119	6,229,455	100,805	5,651,267	9.185E+06	1234.3	24.92	9.72
2001	99,396	6,340,574	90,171	5,752,072	9.205E+06	1237.0	24.97	9.74
2002	125,496	6,439,970	113,848	5,842,243	9.203E+06	1236.7	24.97	9.74
2003	110,267	6,565,466	100,033	5,956,091	9.249E+06	1242.8	25.09	9.79
2004	87,690	6,675,733	79,551	6,056,123	9.266E+06	1245.1	25.14	9.80
2005	109,865	6,763,423	99,668	6,135,674	9.241E+06	1241.8	25.07	9.78
2006	109,865	6,873,288	99,668	6,235,342	9.257E+06	1244.0	25.12	9.80
2007	109,865	6,983,153	99,668	6,335,010	9.274E+06	1246.2	25.16	9.81
2008	109,865	7,093,018	99,668	6,434,678	9.289E+06	1248.3	25.20	9.83
2009	109,865	7,202,883	99,668	6,534,346	9.305E+06	1250.3	25.24	9.85
2010	109,865	7,312,748	99,668	6,634,013	9.320E+06	1252.4	25.29	9.86

NMOC CONCENTRATION IN LFG: 343.3 ppmv (Site testing done at the B/F station June 2003)
VOC CONCENTRATION IN LFG: 133.9 ppmv (EPA's AP-42)
ASSUMED METHANE CONTENT OF LFG: 50%
SELECTED DECAY RATE CONSTANT: 0.02 (Site-specific volume)
SELECTED ULTIMATE METHANE RECOVERY RATE: 3,203.7 ft³/ton
METRIC EQUIVALENT: 100 cu m/Mg (EPA's AP-42)

Notes:

1. Filling history provided by Anne Arundel County until 2004
2. VOC concentration taken to be 39% of NMOC concentration, per the EPA's AP-42 Section 2.4.
3. Actual: Years 1975 - 2004
4. Projected: Years 2005 - 2010

**MILLERSVILLE LANDFILL AND RESOURCE RECOVERY FACILITY
LANDFILL GAS MANAGEMENT SYSTEM
July 2009**

CAPPED LANDFILL CELLS							
	DATES FILLED	VOLUME	SIZE	MAXIMUM DEPTH REFUSE	AVERAGE DEPTH REFUSE	NUMBER OF WELLS	NUMBER OF TRENCHES
CELL 1	1975-1976	547,000 cy	15 acres	30 feet	14 feet	0	4
CELL 2	1976-1978	450,000 cy	10 acres	54 feet	30 feet	12	0
CELL 4	1978-1980	240,000 cy	8 acres	28 feet	19 feet	7	2
CELL 5,6,7	1980-1992	7,244,000 cy	77 acres	134 feet	98 feet	61	0

ACTIVE LANDFILL CELL

CELL 8*	1992-2013	5,633,000 cy	54 acres	94 feet	78 feet	10	0
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FUTURE LANDFILL CELL

CELL 9	2013- 2030+	8,523,000 cy	84 acres	106 feet	95 feet		
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* As of 12/30/08 - Cell 8 was filled to 79.2% of capacity.

* As of 12/30/08, the waste buried to date at the facility is approximately 7,330,000 tons. As of 12/30/08, total capacity used is approximately 12,944,000 cy. The landfill gas management system began operation in 1995. It consists of 90 wells and 6 trenches manifolded together into one centrally enclosed ground flare. In April 2008 - 3 wells from Cell 2 and 19 wells from cell 567 were decommissioned with approval from MDE.

The system has approximately 25,000 linear feet of piping including headers and laterals, but that figure does not include horizontal collector piping runs. The 2008 flow rate to the flare averaged 1,185 cfm and approximately 17,418,848 cubic m/year. The landfill gas averages 52.2% methane, 1.2% oxygen, and 11% balance gas.

As of July 2009, the landfill is currently accepting waste at a rate of approximately 205 tons per day.