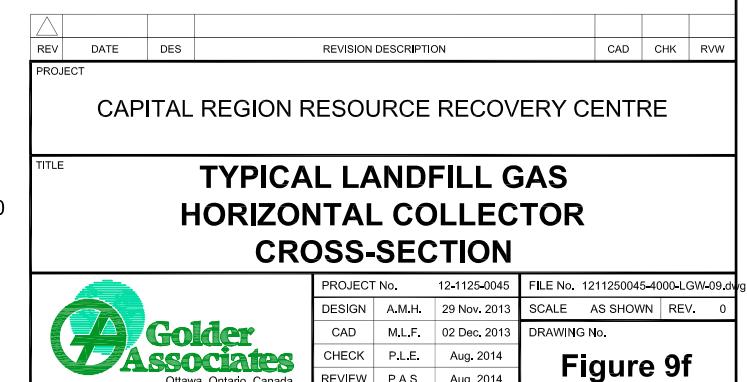


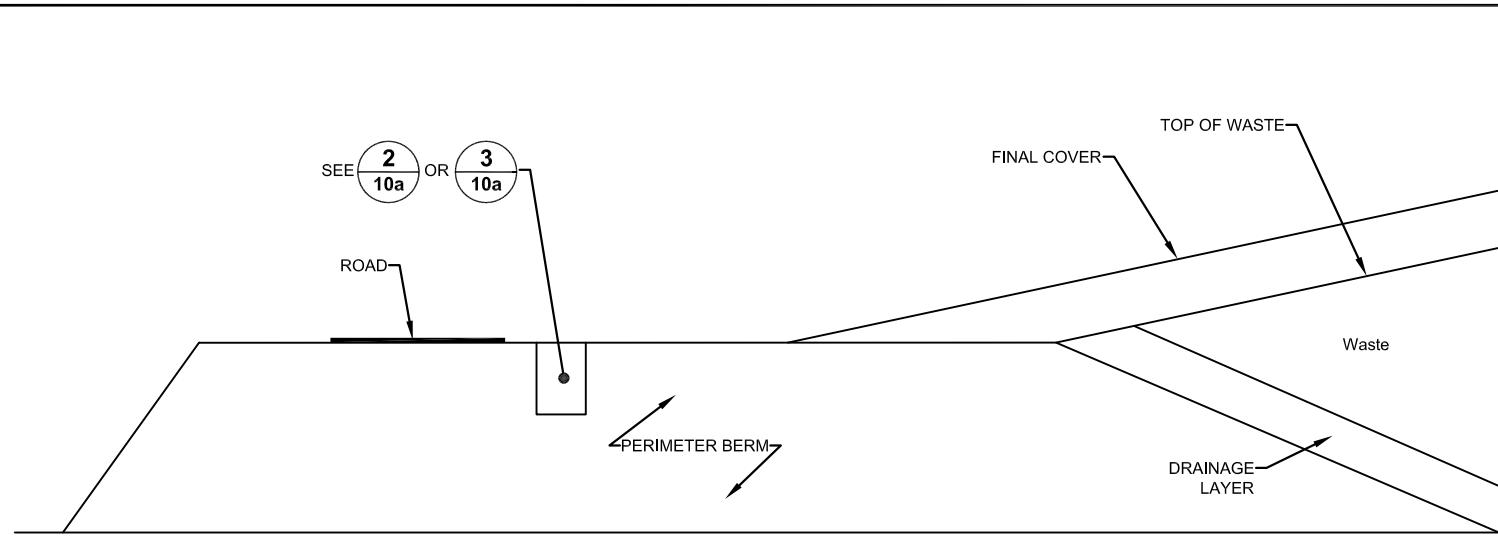
## TYPICAL HORIZONTAL COLLECTORS FOR PHASE 7

NOTE: CROSS-SECTION OF TYPICAL HORIZONTAL  
COLLECTORS. ELEVATION AND LENGTHS OF INDIVIDUAL  
HORIZONTAL COLLECTORS VARY



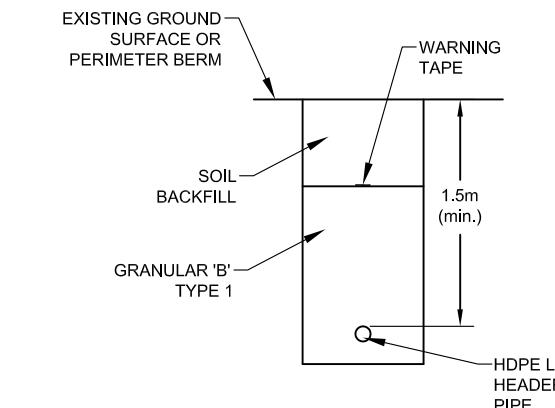
**NOT FOR  
CONSTRUCTION**

PLOT DATE: July 7, 2014  
FILENAME: N:\Active\Spatial\M\Miller\_Paving\_Ltd\CRRC\ACAD\Vol 4 (Report Figures)\Landfill Gas\1211250045-4000-LG.W-09.dwg



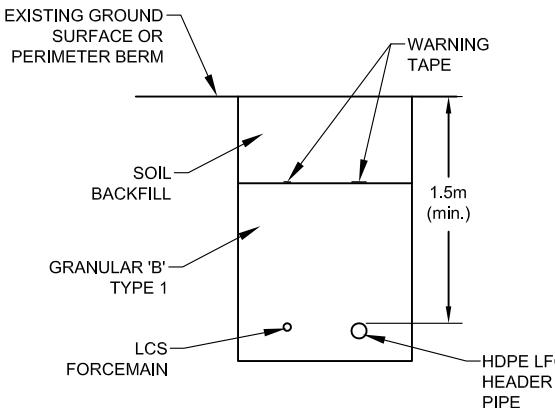
TYPICAL LFG HEADER PIPE AND PERIMETER BERM CROSS-SECTION

**1**  
10a



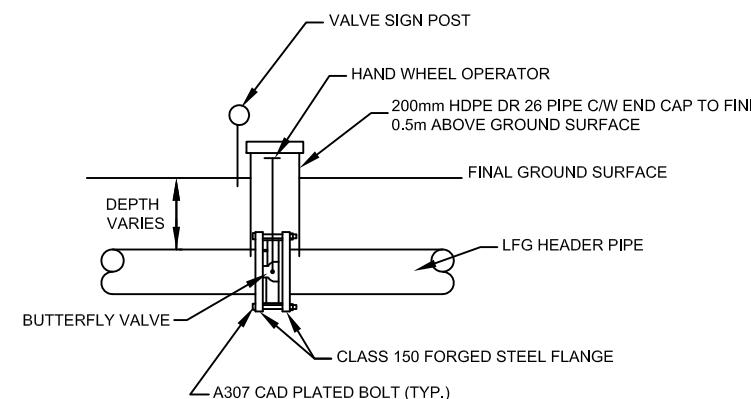
TYPICAL LFG HEADER PIPE TRENCH CROSS-SECTION (WHERE ALONE)

**2**  
10a



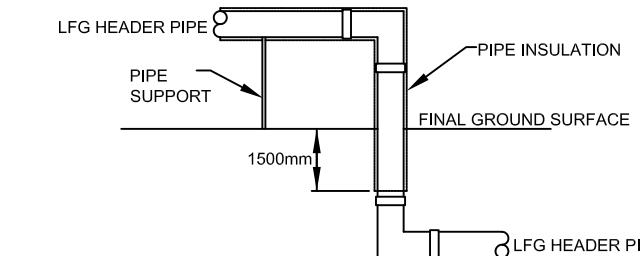
TYPICAL LFG HEADER AND LCS FORCEMAIN TRENCH CROSS-SECTION

**3**  
10a



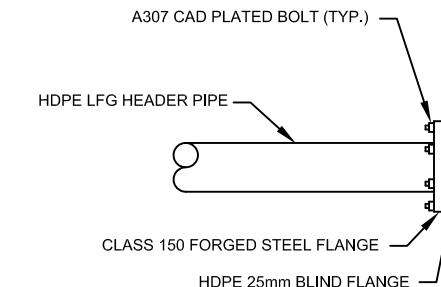
TYPICAL LFG HEADER VALVE

SCALE N.T.S.  
**4**  
10a



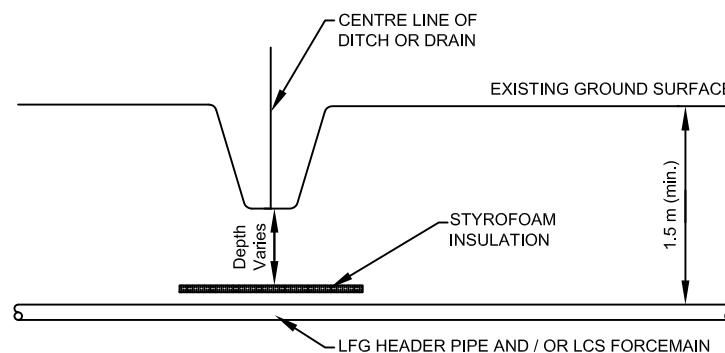
HEADER PIPE ENTRY ABOVE GROUND

SCALE N.T.S.  
**5**  
10a



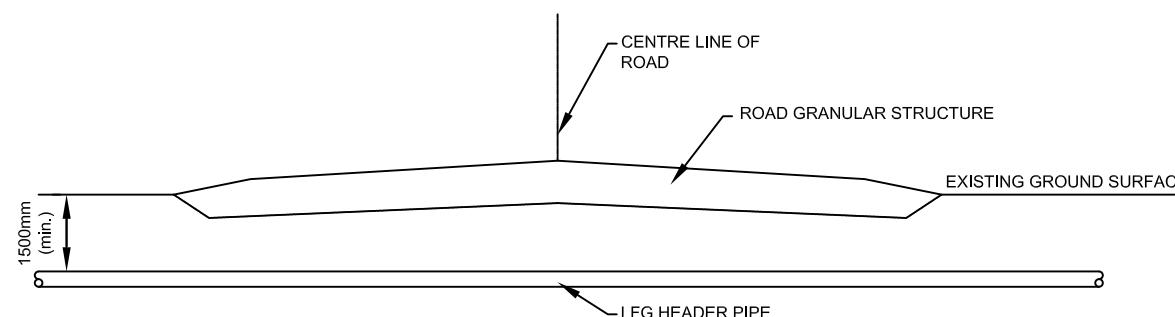
TEMPORARY LFG HEADER TERMINATION

SCALE N.T.S.  
**6**  
10a



TYPICAL DITCH OR DRAIN CROSSING

SCALE N.T.S.  
**7**  
10a



TYPICAL ROAD CROSSING

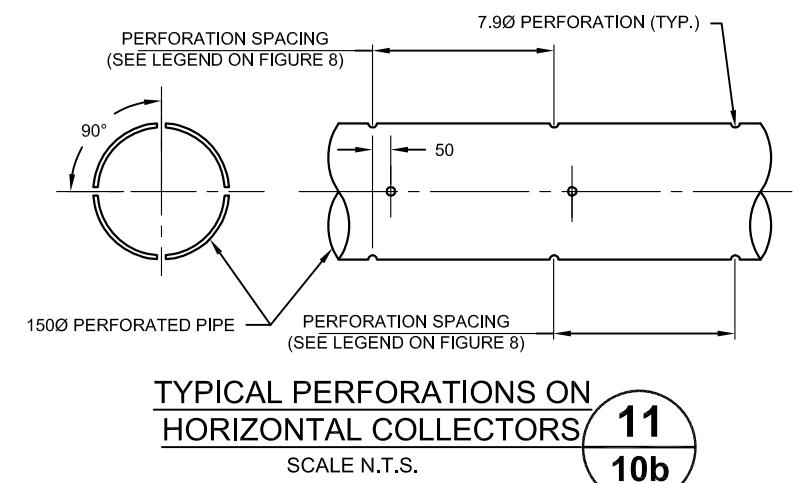
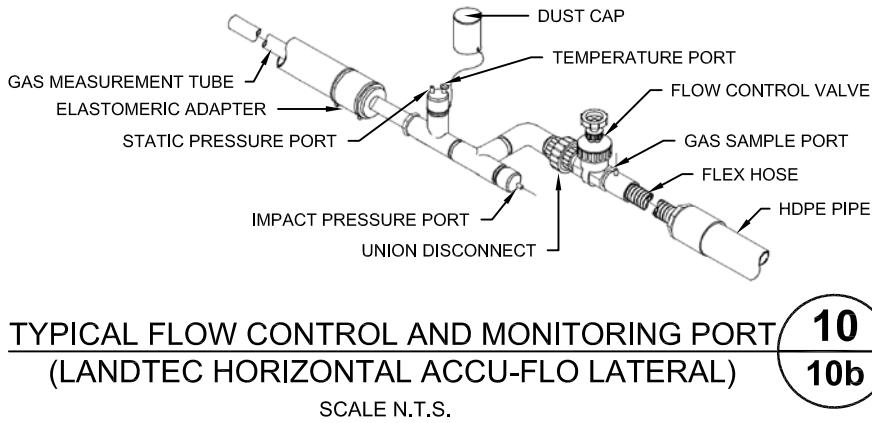
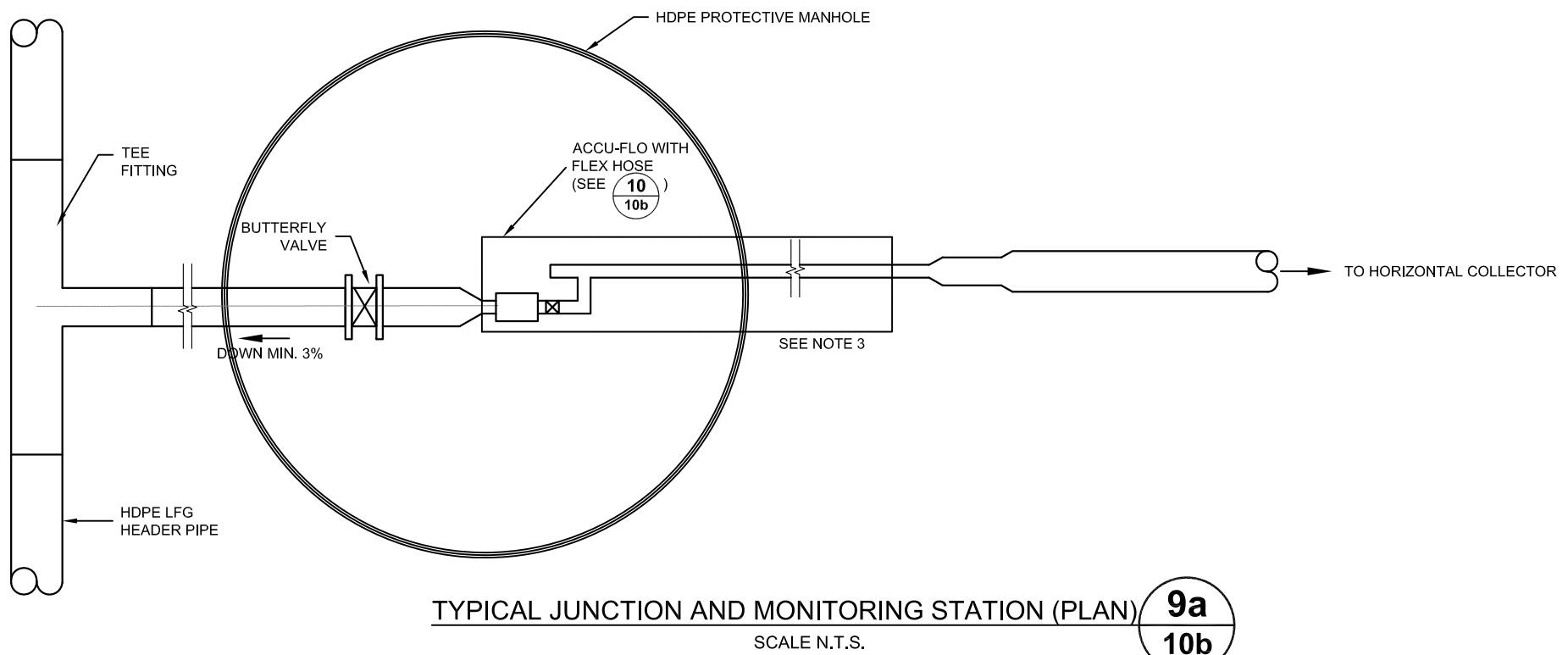
SCALE N.T.S.  
**8**  
10a

**NOT FOR CONSTRUCTION**

REV	DATE	DES	REVISION DESCRIPTION	CAD	CHK	RWV
PROJECT						
CAPITAL REGION RESOURCE RECOVERY CENTRE						
TITLE						
<b>LANDFILL GAS COLLECTION SYSTEM DETAILS</b>						
PROJECT No.	12-1125-0045	FILE No.	1211250045-4000-LGW-10.dwg			
DESIGN	M.K.F.	15 Oct, 2013	SCALE	AS SHOWN	REV.	0
CAD	M.L.F.	15 Oct, 2013	DRAWING No.			
CHECK	M.K.F.	Aug, 2014				
REVIEW	P.A.S.B.	Aug, 2014				

**Golder Associates**  
Ottawa, Ontario, Canada

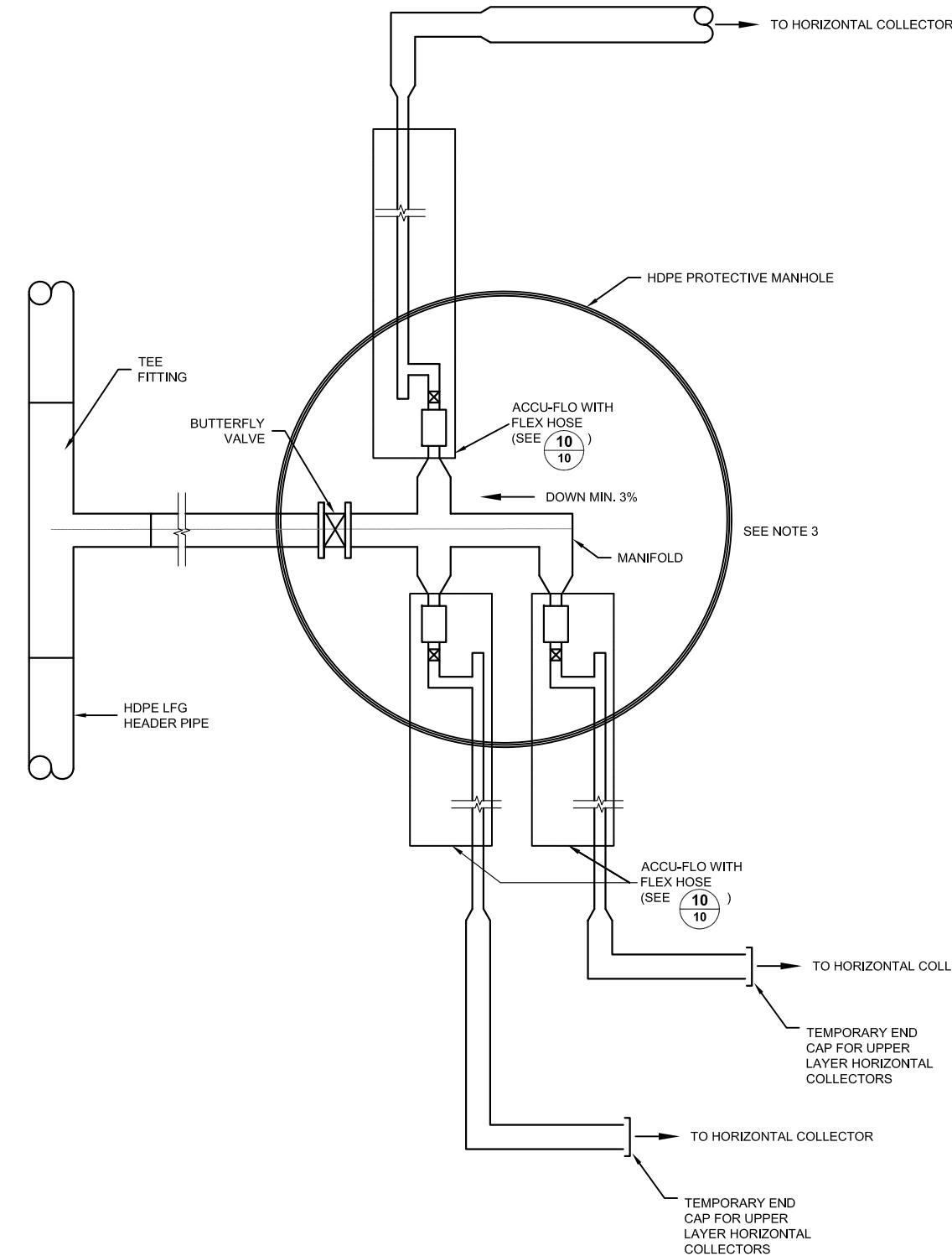
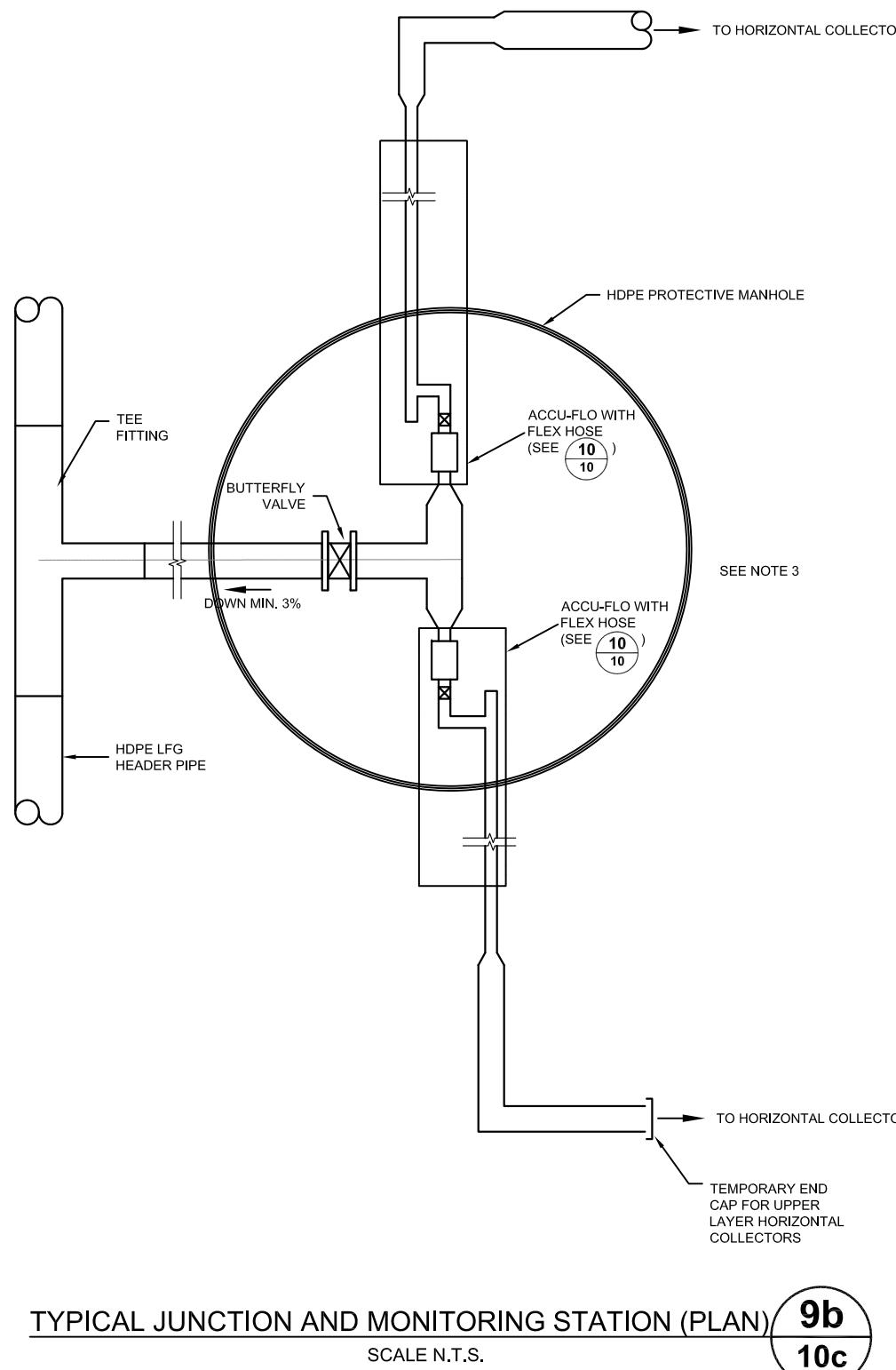
**Figure 10a**



**NOT FOR  
 CONSTRUCTION**

REV	DATE	DES	REVISION DESCRIPTION	CAD	CHK	RWV
PROJECT						
CAPITAL REGION RESOURCE RECOVERY CENTRE						
TITLE						
<b>LANDFILL GAS COLLECTION      SYSTEM DETAILS</b>						
<b>Golder      Associates</b> <small>Ottawa, Ontario, Canada</small>		PROJECT No.	12-1125-0045	FILE No.	1211250045-4000-LGW-10.dwg	
DESIGN	M.K.F.	15 Oct. 2013	SCALE	AS SHOWN	REV.	0
CAD	M.L.F.	15 Oct. 2013	DRAWING No.			
CHECK	M.K.F.	Aug. 2014				
REVIEW	P.A.S.B.	Aug. 2014				

**Figure 10b**

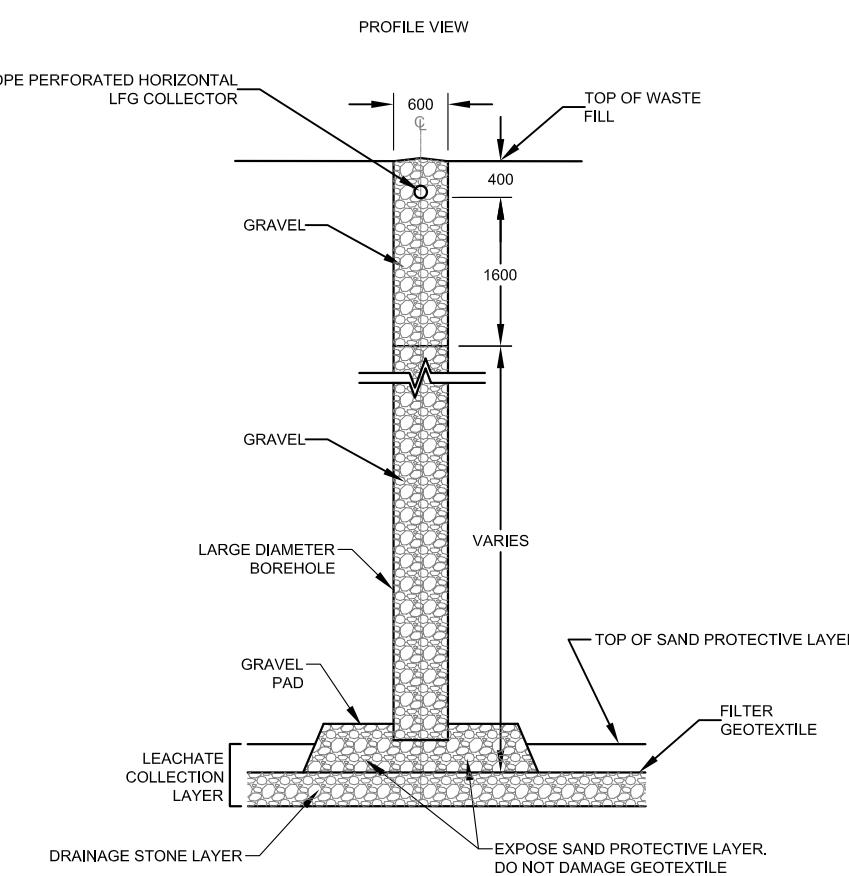
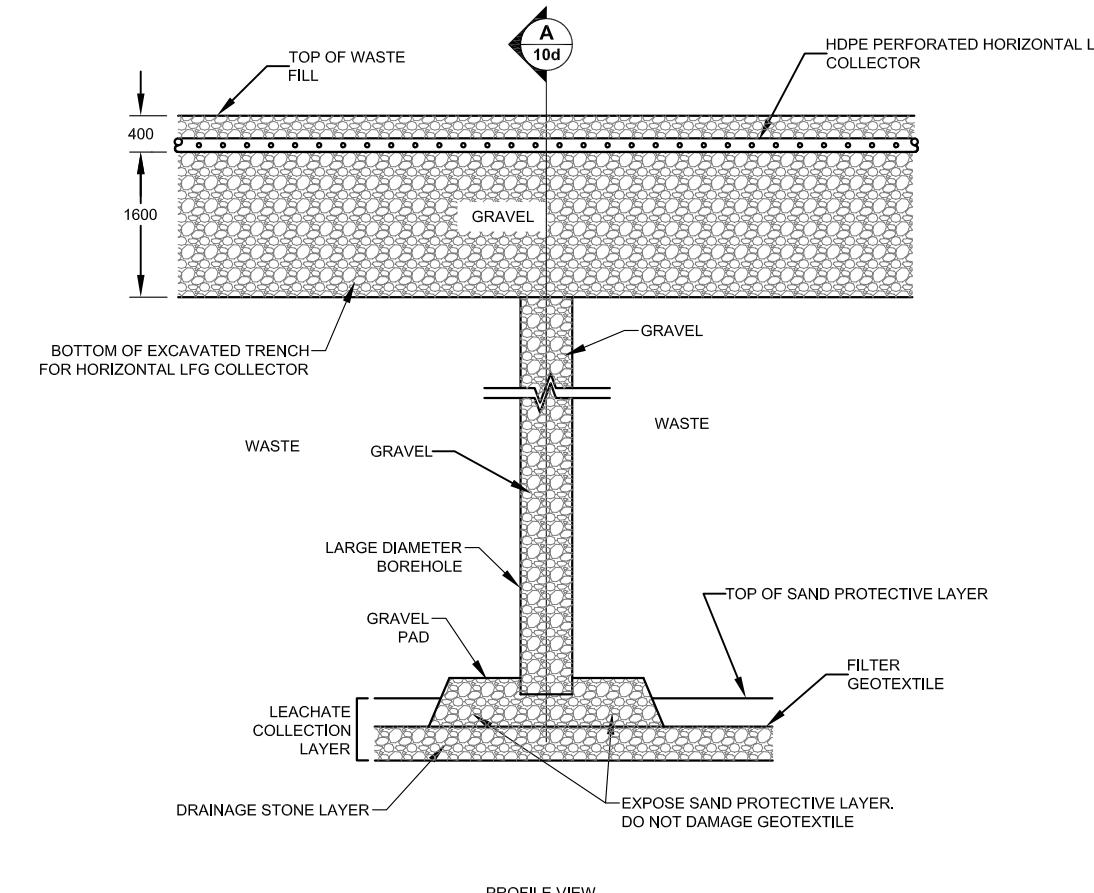
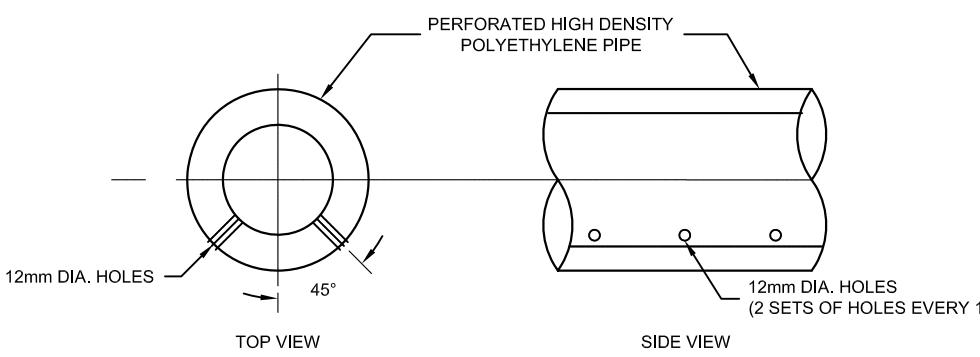
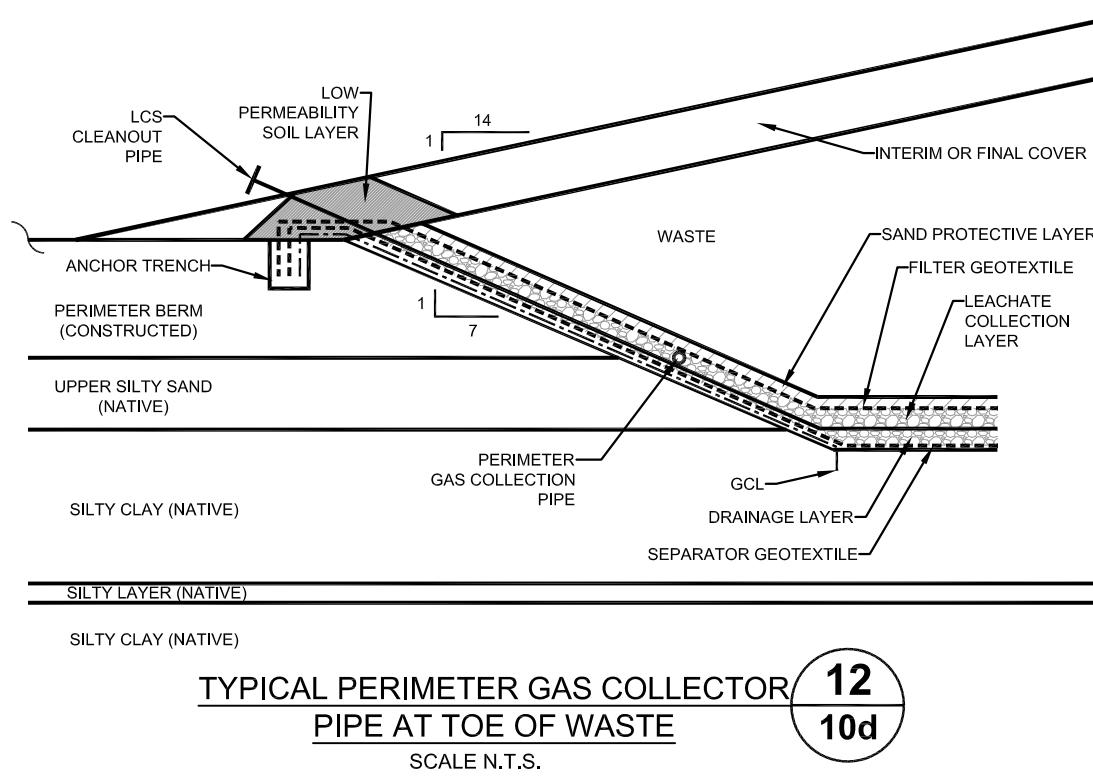


- NOTES:**
1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
  2. ALL SOIL COMPACTION TO MINIMUM 90% OF STANDARD PROCTOR MAXIMUM DRY DENSITY. GRANULAR B, TYPE I SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY.
  3. PIPE, VALVES AND MONITORING PORTS SHALL BE SUPPORTED ON NOMINALLY COMPACTED GRAVEL IF NEEDED.
  4. DETAILS AND DIMENSIONS SUBJECT TO MODIFICATION DURING DETAILED DESIGN.

**NOT FOR CONSTRUCTION**

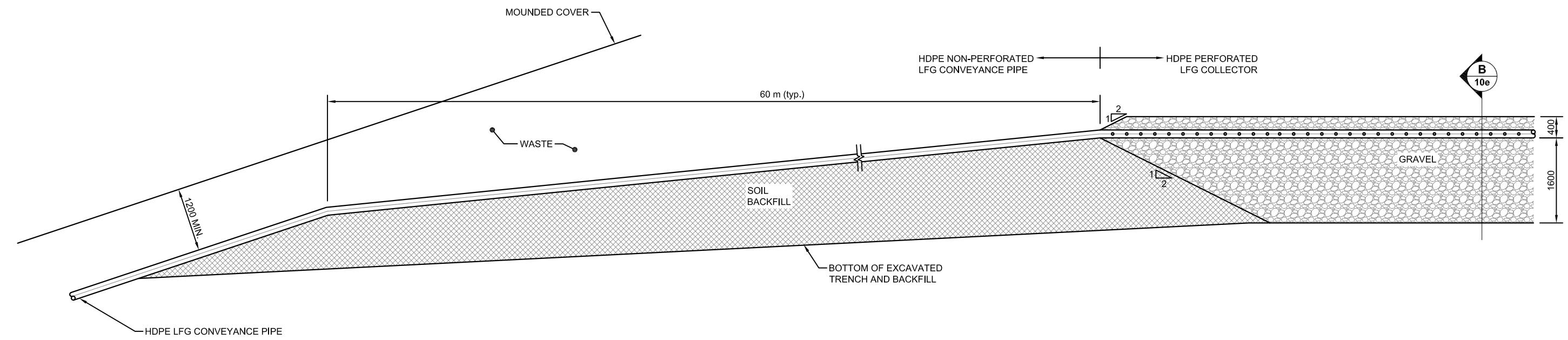
REV	DATE	DES	REVISION DESCRIPTION	CAD	CHK	RWV		
PROJECT								
CAPITAL REGION RESOURCE RECOVERY CENTRE								
TITLE								
<b>LANDFILL GAS COLLECTION SYSTEM DETAILS</b>								
<b>Golder Associates</b> Ottawa, Ontario, Canada		PROJECT No.	12-1125-0045	FILE No.	1211250045-4000-LGW-10.dwg			
		DESIGN	M.K.F.	15 Oct. 2013	SCALE	AS SHOWN	REV.	0
		CAD	M.L.F.	15 Oct. 2013	DRAWING No.			
		CHECK	M.K.F.	Aug. 2014	REVIEW	P.A.S.B.	Aug. 2014	

**Figure 10c**



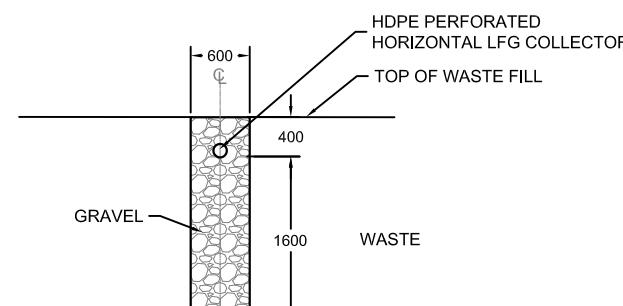
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PROJECT						
CAPITAL REGION RESOURCE RECOVERY CENTRE						
TITLE						
<b>LANDFILL GAS COLLECTION SYSTEM DETAILS</b>						
	PROJECT No.	12-1125-0045	FILE No.	1211250045-4000-LGW-10.dwg		
DESIGN	M.K.F.	15 Oct. 2013	SCALE	AS SHOWN	REV.	0
CAD	M.L.F.	15 Oct. 2013	DRAWING No.			
CHECK	M.K.F.	Aug. 2014				
REVIEW	P.A.S.B.	Aug. 2014				

Figure 10d



TYPICAL TRANSITION BETWEEN NON-PERFORATED AND PERFORATED HORIZONTAL COLLECTOR PIPES  
 SCALE N.T.S.

15  
10e



SECTION B  
TYPICAL HORIZONTAL COLLECTOR  
TRENCH CROSS-SECTION  
 SCALE N.T.S.

16  
10e

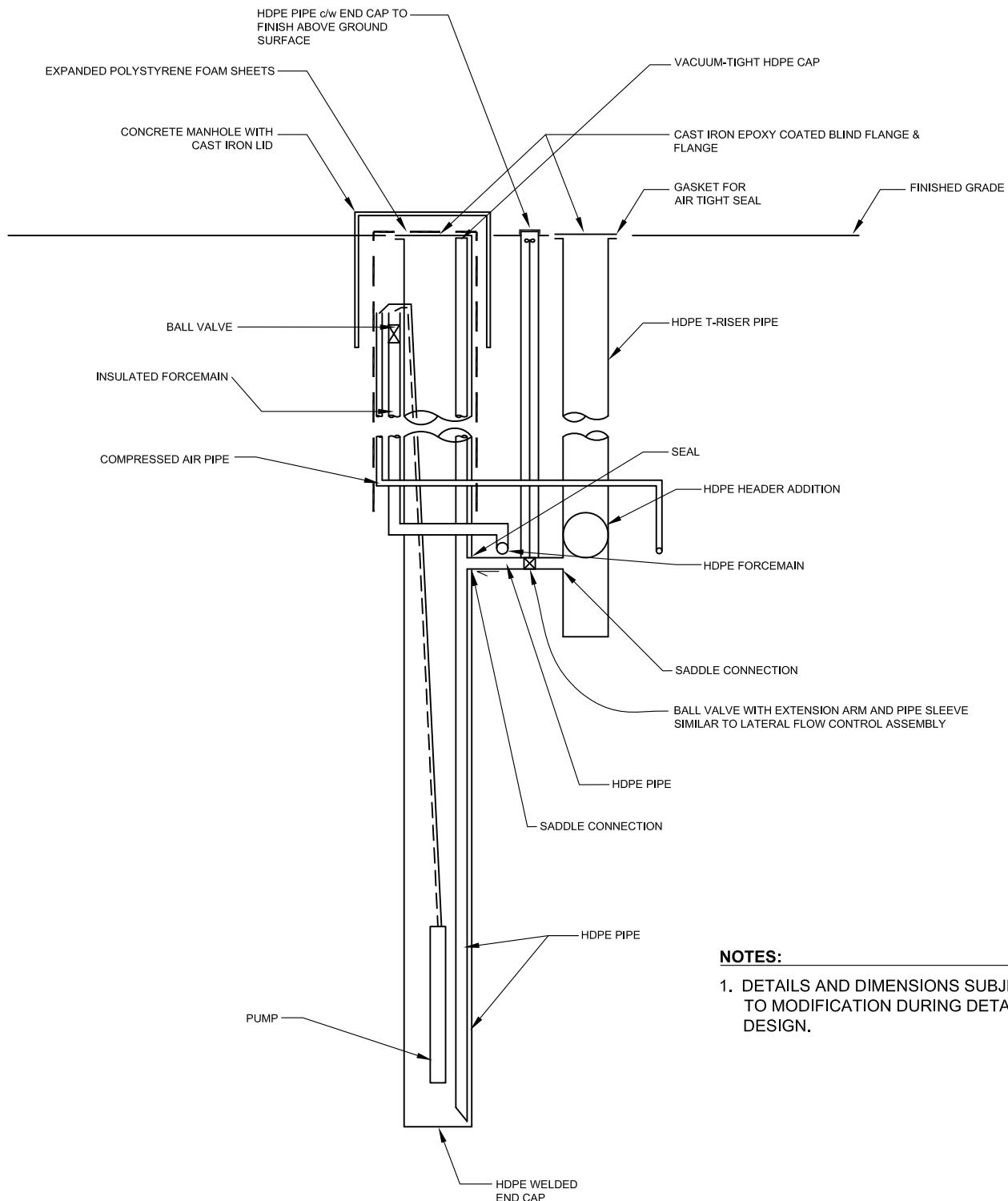
**NOTES:**

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. DETAILS AND DIMENSIONS SUBJECT TO MODIFICATION DURING DETAILED DESIGN.

**NOT FOR  
CONSTRUCTION**

REV	DATE	DES	REVISION DESCRIPTION	CAD	CHK	RWV
PROJECT						
CAPITAL REGION RESOURCE RECOVERY CENTRE						
TITLE						
<b>LANDFILL GAS COLLECTION SYSTEM DETAILS</b>						
<b>Golder Associates</b> Ottawa, Ontario, Canada		PROJECT No.	12-1125-0045	FILE No.	1211250045-4000-LGW-10.dwg	
DESIGN	M.K.F.	15 Oct. 2013	SCALE	AS SHOWN	REV.	0
CAD	M.L.F.	15 Oct. 2013			DRAWING No.	
CHECK	M.K.F.	Aug. 2014				
REVIEW	P.A.S.B.	Aug. 2014				

**Figure 10e**



**NOTES:**

1. DETAILS AND DIMENSIONS SUBJECT TO MODIFICATION DURING DETAILED DESIGN.

**TYPICAL CONDENSATE  
TRAP SECTION VIEW**

1  
11

**NOT FOR  
CONSTRUCTION**



SCALE	N.T.S.
DATE	30 Nov. 2013
DESIGN	A.M.H.
CAD	M.L.F.

TITLE

**CONDENSATE  
MANAGEMENT DETAILS**

FILE No. 1211250045-4000-LGW-11.dwg

PROJECT No. 12-1125-0045

REV.

CHECK

P.L.E.

CAPITAL REGION RESOURCE  
RECOVERY CENTRE

FIGURE

**11**



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**APPENDIX I, VOL IV DESIGN AND OPERATIONS REPORT  
LANDFILL D&O**

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# **ATTACHMENT A**

## **Landfill Gas Generation Estimates**

DATE November 2013

PROJECT No. 12-1125-0045/2000/0110

**ESTIMATE OF LANDFILL GAS GENERATION  
CAPITAL REGION RESOURCE RECOVERY CENTRE (CRRRC)****Introduction**

Estimates of landfill gas (LFG) generation were prepared for the landfill associated with the proposed Taggart Miller Capital Region Resource Recovery Centre (CRRRC) as described in this technical memorandum. The estimated LFG generation rates from the landfill footprint will be used in the estimation of air emissions from the CRRRC. The estimated LFG generation rates herein are not intended for use in sizing/specifying LFG equipment or associated collection system.

This memorandum concerns only LFG generated from landfilled materials. Biogas generated from other on-site facilities, such as the Organics Processing Facility, is not considered in this memorandum.

**Methodology**

At the request of Mr. Rudolf Wan (Ministry of the Environment (MOE) - Toronto) during a conference call on October 9, 2013, LFG generation rates from landfilled materials at the proposed CRRRC were estimated using the LandGEM model (1991) developed by the United States Environmental Protection Agency (US EPA). The LandGEM model is based on a first-order decay model of landfill gas generation. It should be noted that the LandGEM model was developed to estimate LFG generation rates for landfills accepting municipal solid waste (MSW) (US EPA, 2005). The projected waste materials anticipated to be landfilled at the CRRRC consist primarily of industrial, commercial and institutional (IC&I) and construction and demolition (C&D) materials, and may differ from a typical municipal solid waste (MSW) composition. As a result, it is expected that LFG generation rate results generated by the LandGEM model may not be representative of the actual LFG generation rates for the CRRRC landfill.

The key input parameters for the model are the projected annual tonnages of waste disposed of in the landfill footprint, the landfill gas production potential ( $L_o$ ) and the landfill gas generation rate factor ( $k$ ).  $L_o$  is a measure of the ultimate methane yield in cubic metres of methane per tonne of waste ( $m^3/tonne$ ), and  $k$  is the methane generation rate constant in year<sup>-1</sup>. Both  $L_o$  and  $k$  are highly influenced by moisture content, as well as waste composition, temperature, pH, particle size and availability of nutrients.

The LandGEM model was used to estimate LFG generation rates for the CRRRC based on the maximum projected waste tonnages to be landfilled at the CRRRC provided by Taggart Miller, assuming an operational lifespan of 30 years. Tonnages of soils were removed from the projected waste tonnages as it was assumed that rates of LFG produced by soil would be negligible. Tonnages of C&D, IC&I, leaf and yard, clean source-separated organics and mixed organics waste were included.



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Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America



The following default values for  $L_o$  and  $k$  for Ontario used in the LFG generation estimates as described in the MOE *Interim Guide to Estimate and Assess Landfill Air Impacts* (MOE, 1992):

$$L_o = 125 \text{ m}^3/\text{tonne}$$

$$k = 0.04 \text{ year}^{-1}$$

For the model, LFG generated at the landfill site was assumed to be comprised of 50% methane ( $\text{CH}_4$ ) by volume.

## **LFG Generation Estimates**

The resulting theoretical LFG generation rate estimates obtained from the LandGEM model are presented in Attachment A and illustrated in Figure 1. Table 1 presents a summary of LFG and methane generation rates.

**Table 1: Estimated LFG and Methane Generation Rates using the Projected Maximum Waste Tonnage Landfilled**

Year	Total LFG		Total Methane*	
	$\text{m}^3/\text{hour}$	scfm	$\text{m}^3/\text{hour}$	scfm
5	1,115	655	555	330
10	2,240	1,320	1,120	660
15	3,165	1,865	1,585	930
20	3,925	2,310	1,960	1,155
25	4,545	2,675	2,270	1,335
30 (Peak)	5,050	2,975	2,525	1,485
35	4,135	2,435	2,070	1,215
40	3,385	1,995	1,695	995
45	2,770	1,630	1,385	815
50	2,270	1,335	1,135	670

\* Assumes LFG is comprised of 50% methane.

$\text{m}^3$  = cubic metres

scfm = standard cubic feet per minute

It should be noted that this memorandum provides an estimate of landfill gas generation, which is not the same as the landfill gas collection rate since any future LFG collection system would not be able to collect all of the LFG generated.

## **Limitations**

It should be noted that landfill gas modelling without the benefit of actual measurement of LFG emissions, is a very inexact science. Model results can vary, perhaps substantially, from actual LFG generation rates. Caution should always be exercised when using LFG generation rates derived from first order decay modelling.

## Closure

We trust this technical memorandum satisfies your current needs. If you have any questions regarding this memorandum, please contact the undersigned.

**GOLDER ASSOCIATES LTD.**



A.M. Harwood, M.Eng., P.Eng.  
Environmental Engineer



Rachel Wyles, M.Eng., P.Eng. (BC)  
Air Quality Specialist

ALC/AMH/RW/sg

n:\active\2012\1125 - environmental and civil engineering\12-1125-0045 crrrc ea eastern on\phase 2000\_assess\_env\_impacts\task 0110 air&noise\fggen\landgem\lm crrrc\lm crrrc ifg gen  
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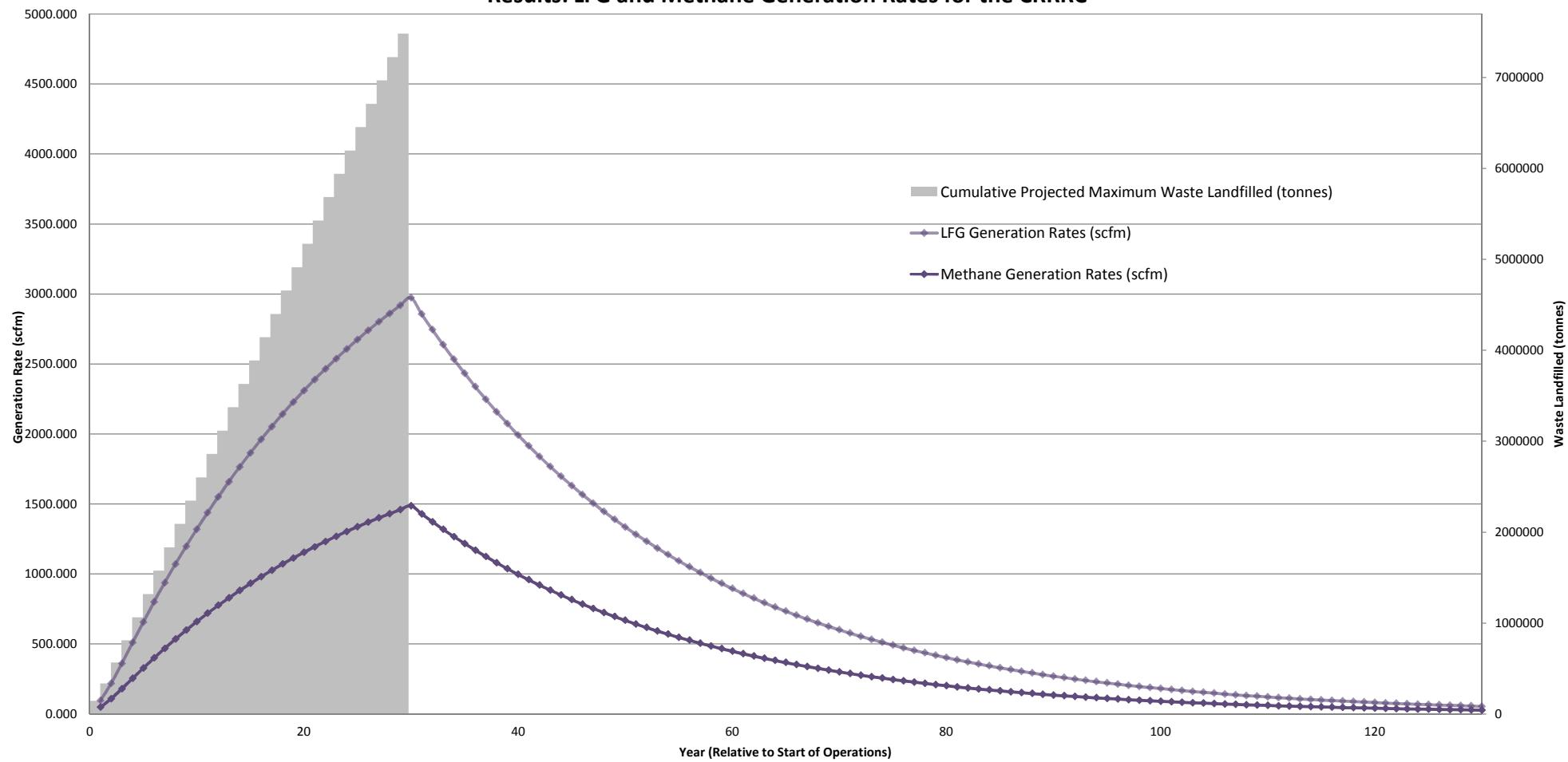
Attachments: Figure 1  
Attachment A

## References

MOE, Air Resources Branch. *Interim Guide to Estimate and Assess Landfill Air Impacts*. October 1992.

United State Environmental Protection Agency. Landfill Gas Emissions Model (LandGEM) Version 3.02 User's Guide. May 2005.

### Results: LFG and Methane Generation Rates for the CRRRC

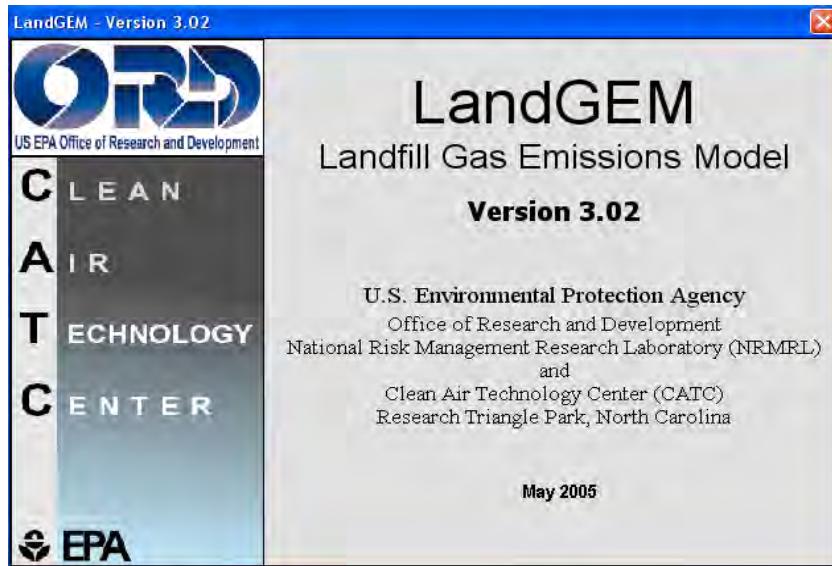


Date: November 2013 Drawn: ALC  
Project: 12-1125-0045 Review: AMH

**LFG and Methane Generation Rates for the CRRRC**

**FIGURE 1**

## ATTACHMENT A



## Summary Report

**Landfill Name or Identifier:** Maximum Tonnage- MOE Inputs

**Date:** Friday, November 08, 2013

**Description/Comments:**

**About LandGEM:**

First-Order Decomposition Rate Equation:

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

Where,

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

i = 1-year time increment

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

j = 0.1-year time increment

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

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

$M_i$  = mass of waste accepted in the i<sup>th</sup> year (Mg)

$t_{ij}$  = age of the j<sup>th</sup> section of waste mass  $M_i$  accepted in the i<sup>th</sup> year

(decimal years, e.g., 3.2 years)

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

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

## Input Review

### LANDFILL CHARACTERISTICS

Landfill Open Year	1	
Landfill Closure Year (with 80-year limit)	30	
Actual Closure Year (without limit)	30	
Have Model Calculate Closure Year?	No	
Waste Design Capacity		megagrams

### MODEL PARAMETERS

Methane Generation Rate, k	0.040	year <sup>-1</sup>
Potential Methane Generation Capacity, L <sub>o</sub>	125	m <sup>3</sup> /Mg
NMOC Concentration	4,000	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)
1	144,900	159,390	0	0
2	190,500	209,550	144,900	159,390
3	229,680	252,648	335,400	368,940
4	246,000	270,600	565,080	621,588
5	251,786	276,964	811,080	892,188
6	256,800	282,480	1,062,866	1,169,152
7	256,800	282,480	1,319,666	1,451,632
8	256,800	282,480	1,576,466	1,734,112
9	256,800	282,480	1,833,266	2,016,592
10	256,800	282,480	2,090,066	2,299,072
11	256,800	282,480	2,346,866	2,581,552
12	256,800	282,480	2,603,666	2,864,032
13	256,800	282,480	2,860,466	3,146,512
14	256,800	282,480	3,117,266	3,428,992
15	256,800	282,480	3,374,066	3,711,472
16	256,800	282,480	3,630,866	3,993,952
17	256,800	282,480	3,887,666	4,276,432
18	256,800	282,480	4,144,466	4,558,912
19	256,800	282,480	4,401,266	4,841,392
20	256,800	282,480	4,658,066	5,123,872
21	256,800	282,480	4,914,866	5,406,352
22	256,800	282,480	5,171,666	5,688,832
23	256,800	282,480	5,428,466	5,971,312
24	256,800	282,480	5,685,266	6,253,792
25	256,800	282,480	5,942,066	6,536,272
26	256,800	282,480	6,198,866	6,818,752
27	256,800	282,480	6,455,666	7,101,232
28	256,800	282,480	6,712,466	7,383,712
29	256,800	282,480	6,969,266	7,666,192
30	256,800	282,480	7,226,066	7,948,672
31	0	0	7,482,866	8,231,152
32	0	0	7,482,866	8,231,152
33	0	0	7,482,866	8,231,152
34	0	0	7,482,866	8,231,152
35	0	0	7,482,866	8,231,152
36	0	0	7,482,866	8,231,152
37	0	0	7,482,866	8,231,152
38	0	0	7,482,866	8,231,152
39	0	0	7,482,866	8,231,152
40	0	0	7,482,866	8,231,152

## WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
41	0	0	7,482,866	8,231,152
42	0	0	7,482,866	8,231,152
43	0	0	7,482,866	8,231,152
44	0	0	7,482,866	8,231,152
45	0	0	7,482,866	8,231,152
46	0	0	7,482,866	8,231,152
47	0	0	7,482,866	8,231,152
48	0	0	7,482,866	8,231,152
49	0	0	7,482,866	8,231,152
50	0	0	7,482,866	8,231,152
51	0	0	7,482,866	8,231,152
52	0	0	7,482,866	8,231,152
53	0	0	7,482,866	8,231,152
54	0	0	7,482,866	8,231,152
55	0	0	7,482,866	8,231,152
56	0	0	7,482,866	8,231,152
57	0	0	7,482,866	8,231,152
58	0	0	7,482,866	8,231,152
59	0	0	7,482,866	8,231,152
60	0	0	7,482,866	8,231,152
61	0	0	7,482,866	8,231,152
62	0	0	7,482,866	8,231,152
63	0	0	7,482,866	8,231,152
64	0	0	7,482,866	8,231,152
65	0	0	7,482,866	8,231,152
66	0	0	7,482,866	8,231,152
67	0	0	7,482,866	8,231,152
68	0	0	7,482,866	8,231,152
69	0	0	7,482,866	8,231,152
70	0	0	7,482,866	8,231,152
71	0	0	7,482,866	8,231,152
72	0	0	7,482,866	8,231,152
73	0	0	7,482,866	8,231,152
74	0	0	7,482,866	8,231,152
75	0	0	7,482,866	8,231,152
76	0	0	7,482,866	8,231,152
77	0	0	7,482,866	8,231,152
78	0	0	7,482,866	8,231,152
79	0	0	7,482,866	8,231,152
80	0	0	7,482,866	8,231,152

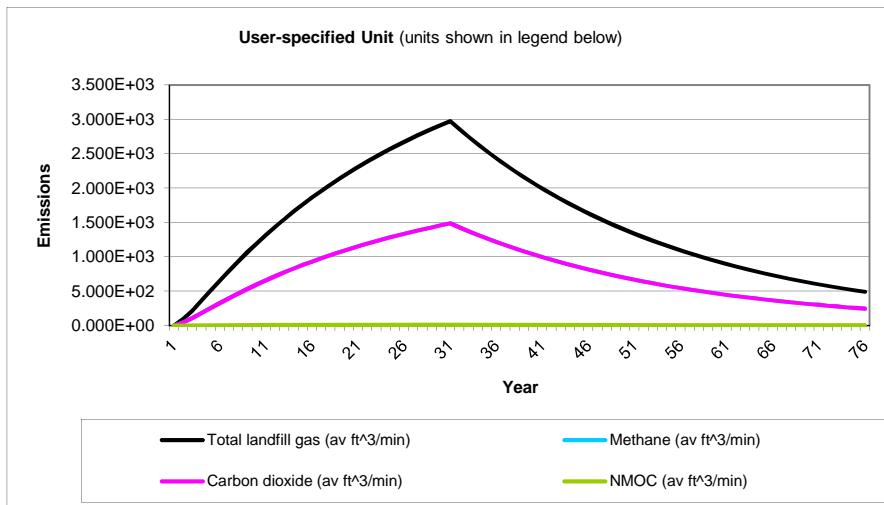
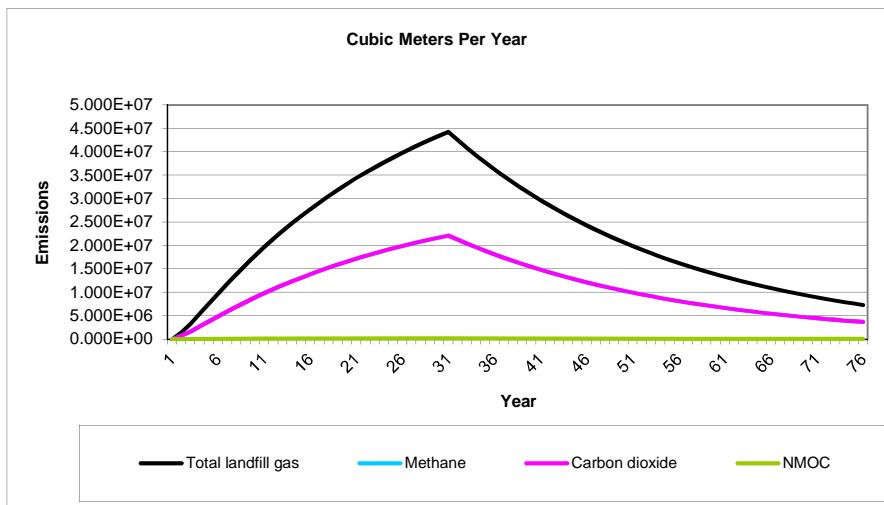
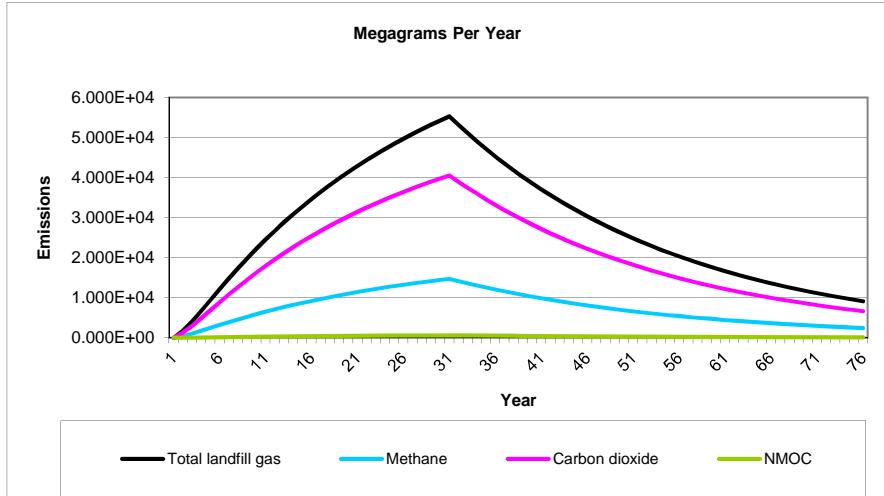
## Pollutant Parameters

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

## Pollutant Parameters (Continued)

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

## Graphs



## Results

Year	Total landfill gas			Methane		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
1	0	0	0	0	0	0
2	1.777E+03	1.423E+06	9.563E+01	4.748E+02	7.116E+05	4.781E+01
3	4.044E+03	3.239E+06	2.176E+02	1.080E+03	1.619E+06	1.088E+02
4	6.703E+03	5.368E+06	3.606E+02	1.790E+03	2.684E+06	1.803E+02
5	9.458E+03	7.573E+06	5.089E+02	2.526E+03	3.787E+06	2.544E+02
6	1.218E+04	9.750E+06	6.551E+02	3.252E+03	4.875E+06	3.275E+02
7	1.485E+04	1.189E+07	7.989E+02	3.966E+03	5.945E+06	3.994E+02
8	1.742E+04	1.395E+07	9.370E+02	4.652E+03	6.973E+06	4.685E+02
9	1.988E+04	1.592E+07	1.070E+03	5.311E+03	7.961E+06	5.349E+02
10	2.225E+04	1.782E+07	1.197E+03	5.944E+03	8.910E+06	5.986E+02
11	2.453E+04	1.964E+07	1.320E+03	6.552E+03	9.822E+06	6.599E+02
12	2.672E+04	2.140E+07	1.438E+03	7.137E+03	1.070E+07	7.188E+02
13	2.882E+04	2.308E+07	1.551E+03	7.698E+03	1.154E+07	7.753E+02
14	3.084E+04	2.470E+07	1.659E+03	8.238E+03	1.235E+07	8.297E+02
15	3.278E+04	2.625E+07	1.764E+03	8.756E+03	1.313E+07	8.819E+02
16	3.465E+04	2.774E+07	1.864E+03	9.254E+03	1.387E+07	9.320E+02
17	3.644E+04	2.918E+07	1.960E+03	9.733E+03	1.459E+07	9.802E+02
18	3.816E+04	3.056E+07	2.053E+03	1.019E+04	1.528E+07	1.027E+03
19	3.981E+04	3.188E+07	2.142E+03	1.063E+04	1.594E+07	1.071E+03
20	4.140E+04	3.315E+07	2.228E+03	1.106E+04	1.658E+07	1.114E+03
21	4.293E+04	3.437E+07	2.310E+03	1.147E+04	1.719E+07	1.155E+03
22	4.439E+04	3.555E+07	2.389E+03	1.186E+04	1.777E+07	1.194E+03
23	4.580E+04	3.668E+07	2.464E+03	1.223E+04	1.834E+07	1.232E+03
24	4.716E+04	3.776E+07	2.537E+03	1.260E+04	1.888E+07	1.269E+03
25	4.846E+04	3.880E+07	2.607E+03	1.294E+04	1.940E+07	1.304E+03
26	4.971E+04	3.980E+07	2.674E+03	1.328E+04	1.990E+07	1.337E+03
27	5.091E+04	4.077E+07	2.739E+03	1.360E+04	2.038E+07	1.370E+03
28	5.206E+04	4.169E+07	2.801E+03	1.391E+04	2.085E+07	1.401E+03
29	5.317E+04	4.258E+07	2.861E+03	1.420E+04	2.129E+07	1.430E+03
30	5.424E+04	4.343E+07	2.918E+03	1.449E+04	2.172E+07	1.459E+03
31	5.526E+04	4.425E+07	2.973E+03	1.476E+04	2.213E+07	1.487E+03
32	5.309E+04	4.251E+07	2.857E+03	1.418E+04	2.126E+07	1.428E+03
33	5.101E+04	4.085E+07	2.745E+03	1.363E+04	2.042E+07	1.372E+03
34	4.901E+04	3.925E+07	2.637E+03	1.309E+04	1.962E+07	1.318E+03
35	4.709E+04	3.771E+07	2.534E+03	1.258E+04	1.885E+07	1.267E+03
36	4.524E+04	3.623E+07	2.434E+03	1.209E+04	1.811E+07	1.217E+03
37	4.347E+04	3.481E+07	2.339E+03	1.161E+04	1.740E+07	1.169E+03
38	4.176E+04	3.344E+07	2.247E+03	1.116E+04	1.672E+07	1.124E+03
39	4.013E+04	3.213E+07	2.159E+03	1.072E+04	1.607E+07	1.079E+03
40	3.855E+04	3.087E+07	2.074E+03	1.030E+04	1.544E+07	1.037E+03
41	3.704E+04	2.966E+07	1.993E+03	9.894E+03	1.483E+07	9.965E+02
42	3.559E+04	2.850E+07	1.915E+03	9.506E+03	1.425E+07	9.574E+02
43	3.419E+04	2.738E+07	1.840E+03	9.134E+03	1.369E+07	9.199E+02
44	3.285E+04	2.631E+07	1.768E+03	8.776E+03	1.315E+07	8.838E+02
45	3.157E+04	2.528E+07	1.698E+03	8.431E+03	1.264E+07	8.491E+02
46	3.033E+04	2.428E+07	1.632E+03	8.101E+03	1.214E+07	8.159E+02
47	2.914E+04	2.333E+07	1.568E+03	7.783E+03	1.167E+07	7.839E+02
48	2.800E+04	2.242E+07	1.506E+03	7.478E+03	1.121E+07	7.531E+02
49	2.690E+04	2.154E+07	1.447E+03	7.185E+03	1.077E+07	7.236E+02
50	2.584E+04	2.069E+07	1.390E+03	6.903E+03	1.035E+07	6.952E+02

## Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
51	2.483E+04	1.988E+07	1.336E+03	6.632E+03	9.941E+06	6.680E+02
52	2.386E+04	1.910E+07	1.284E+03	6.372E+03	9.552E+06	6.418E+02
53	2.292E+04	1.835E+07	1.233E+03	6.122E+03	9.177E+06	6.166E+02
54	2.202E+04	1.763E+07	1.185E+03	5.882E+03	8.817E+06	5.924E+02
55	2.116E+04	1.694E+07	1.138E+03	5.652E+03	8.472E+06	5.692E+02
56	2.033E+04	1.628E+07	1.094E+03	5.430E+03	8.139E+06	5.469E+02
57	1.953E+04	1.564E+07	1.051E+03	5.217E+03	7.820E+06	5.254E+02
58	1.877E+04	1.503E+07	1.010E+03	5.013E+03	7.514E+06	5.048E+02
59	1.803E+04	1.444E+07	9.701E+02	4.816E+03	7.219E+06	4.850E+02
60	1.732E+04	1.387E+07	9.320E+02	4.627E+03	6.936E+06	4.660E+02
61	1.664E+04	1.333E+07	8.955E+02	4.446E+03	6.664E+06	4.477E+02
62	1.599E+04	1.281E+07	8.604E+02	4.272E+03	6.403E+06	4.302E+02
63	1.536E+04	1.230E+07	8.266E+02	4.104E+03	6.152E+06	4.133E+02
64	1.476E+04	1.182E+07	7.942E+02	3.943E+03	5.910E+06	3.971E+02
65	1.418E+04	1.136E+07	7.631E+02	3.788E+03	5.679E+06	3.815E+02
66	1.363E+04	1.091E+07	7.332E+02	3.640E+03	5.456E+06	3.666E+02
67	1.309E+04	1.048E+07	7.044E+02	3.497E+03	5.242E+06	3.522E+02
68	1.258E+04	1.007E+07	6.768E+02	3.360E+03	5.036E+06	3.384E+02
69	1.209E+04	9.678E+06	6.503E+02	3.228E+03	4.839E+06	3.251E+02
70	1.161E+04	9.299E+06	6.248E+02	3.102E+03	4.649E+06	3.124E+02
71	1.116E+04	8.934E+06	6.003E+02	2.980E+03	4.467E+06	3.001E+02
72	1.072E+04	8.584E+06	5.767E+02	2.863E+03	4.292E+06	2.884E+02
73	1.030E+04	8.247E+06	5.541E+02	2.751E+03	4.124E+06	2.771E+02
74	9.895E+03	7.924E+06	5.324E+02	2.643E+03	3.962E+06	2.662E+02
75	9.507E+03	7.613E+06	5.115E+02	2.539E+03	3.806E+06	2.558E+02
76	9.134E+03	7.314E+06	4.915E+02	2.440E+03	3.657E+06	2.457E+02
77	8.776E+03	7.028E+06	4.722E+02	2.344E+03	3.514E+06	2.361E+02
78	8.432E+03	6.752E+06	4.537E+02	2.252E+03	3.376E+06	2.268E+02
79	8.102E+03	6.487E+06	4.359E+02	2.164E+03	3.244E+06	2.179E+02
80	7.784E+03	6.233E+06	4.188E+02	2.079E+03	3.116E+06	2.094E+02
81	7.479E+03	5.989E+06	4.024E+02	1.998E+03	2.994E+06	2.012E+02
82	7.185E+03	5.754E+06	3.866E+02	1.919E+03	2.877E+06	1.933E+02
83	6.904E+03	5.528E+06	3.714E+02	1.844E+03	2.764E+06	1.857E+02
84	6.633E+03	5.311E+06	3.569E+02	1.772E+03	2.656E+06	1.784E+02
85	6.373E+03	5.103E+06	3.429E+02	1.702E+03	2.552E+06	1.714E+02
86	6.123E+03	4.903E+06	3.294E+02	1.636E+03	2.452E+06	1.647E+02
87	5.883E+03	4.711E+06	3.165E+02	1.571E+03	2.355E+06	1.583E+02
88	5.652E+03	4.526E+06	3.041E+02	1.510E+03	2.263E+06	1.521E+02
89	5.431E+03	4.349E+06	2.922E+02	1.451E+03	2.174E+06	1.461E+02
90	5.218E+03	4.178E+06	2.807E+02	1.394E+03	2.089E+06	1.404E+02
91	5.013E+03	4.014E+06	2.697E+02	1.339E+03	2.007E+06	1.349E+02
92	4.817E+03	3.857E+06	2.591E+02	1.287E+03	1.928E+06	1.296E+02
93	4.628E+03	3.706E+06	2.490E+02	1.236E+03	1.853E+06	1.245E+02
94	4.446E+03	3.560E+06	2.392E+02	1.188E+03	1.780E+06	1.196E+02
95	4.272E+03	3.421E+06	2.298E+02	1.141E+03	1.710E+06	1.149E+02
96	4.104E+03	3.287E+06	2.208E+02	1.096E+03	1.643E+06	1.104E+02
97	3.943E+03	3.158E+06	2.122E+02	1.053E+03	1.579E+06	1.061E+02
98	3.789E+03	3.034E+06	2.038E+02	1.012E+03	1.517E+06	1.019E+02
99	3.640E+03	2.915E+06	1.959E+02	9.724E+02	1.457E+06	9.793E+01
100	3.498E+03	2.801E+06	1.882E+02	9.342E+02	1.400E+06	9.409E+01
101	3.360E+03	2.691E+06	1.808E+02	8.976E+02	1.345E+06	9.040E+01

## Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
102	3.229E+03	2.585E+06	1.737E+02	8.624E+02	1.293E+06	8.685E+01
103	3.102E+03	2.484E+06	1.669E+02	8.286E+02	1.242E+06	8.345E+01
104	2.980E+03	2.387E+06	1.604E+02	7.961E+02	1.193E+06	8.018E+01
105	2.864E+03	2.293E+06	1.541E+02	7.649E+02	1.146E+06	7.703E+01
106	2.751E+03	2.203E+06	1.480E+02	7.349E+02	1.102E+06	7.401E+01
107	2.643E+03	2.117E+06	1.422E+02	7.061E+02	1.058E+06	7.111E+01
108	2.540E+03	2.034E+06	1.366E+02	6.784E+02	1.017E+06	6.832E+01
109	2.440E+03	1.954E+06	1.313E+02	6.518E+02	9.770E+05	6.564E+01
110	2.344E+03	1.877E+06	1.261E+02	6.262E+02	9.387E+05	6.307E+01
111	2.253E+03	1.804E+06	1.212E+02	6.017E+02	9.019E+05	6.060E+01
112	2.164E+03	1.733E+06	1.164E+02	5.781E+02	8.665E+05	5.822E+01
113	2.079E+03	1.665E+06	1.119E+02	5.554E+02	8.325E+05	5.594E+01
114	1.998E+03	1.600E+06	1.075E+02	5.336E+02	7.999E+05	5.374E+01
115	1.919E+03	1.537E+06	1.033E+02	5.127E+02	7.685E+05	5.164E+01
116	1.844E+03	1.477E+06	9.922E+01	4.926E+02	7.384E+05	4.961E+01
117	1.772E+03	1.419E+06	9.533E+01	4.733E+02	7.094E+05	4.767E+01
118	1.702E+03	1.363E+06	9.160E+01	4.547E+02	6.816E+05	4.580E+01
119	1.636E+03	1.310E+06	8.800E+01	4.369E+02	6.549E+05	4.400E+01
120	1.572E+03	1.258E+06	8.455E+01	4.198E+02	6.292E+05	4.228E+01
121	1.510E+03	1.209E+06	8.124E+01	4.033E+02	6.045E+05	4.062E+01
122	1.451E+03	1.162E+06	7.805E+01	3.875E+02	5.808E+05	3.903E+01
123	1.394E+03	1.116E+06	7.499E+01	3.723E+02	5.581E+05	3.750E+01
124	1.339E+03	1.072E+06	7.205E+01	3.577E+02	5.362E+05	3.603E+01
125	1.287E+03	1.030E+06	6.923E+01	3.437E+02	5.152E+05	3.461E+01
126	1.236E+03	9.899E+05	6.651E+01	3.302E+02	4.950E+05	3.326E+01
127	1.188E+03	9.511E+05	6.390E+01	3.173E+02	4.755E+05	3.195E+01
128	1.141E+03	9.138E+05	6.140E+01	3.048E+02	4.569E+05	3.070E+01
129	1.096E+03	8.780E+05	5.899E+01	2.929E+02	4.390E+05	2.950E+01
130	1.053E+03	8.435E+05	5.668E+01	2.814E+02	4.218E+05	2.834E+01
131	1.012E+03	8.105E+05	5.446E+01	2.704E+02	4.052E+05	2.723E+01
132	9.724E+02	7.787E+05	5.232E+01	2.598E+02	3.893E+05	2.616E+01
133	9.343E+02	7.482E+05	5.027E+01	2.496E+02	3.741E+05	2.513E+01
134	8.977E+02	7.188E+05	4.830E+01	2.398E+02	3.594E+05	2.415E+01
135	8.625E+02	6.906E+05	4.640E+01	2.304E+02	3.453E+05	2.320E+01
136	8.287E+02	6.636E+05	4.458E+01	2.213E+02	3.318E+05	2.229E+01
137	7.962E+02	6.375E+05	4.284E+01	2.127E+02	3.188E+05	2.142E+01
138	7.650E+02	6.125E+05	4.116E+01	2.043E+02	3.063E+05	2.058E+01
139	7.350E+02	5.885E+05	3.954E+01	1.963E+02	2.943E+05	1.977E+01
140	7.061E+02	5.654E+05	3.799E+01	1.886E+02	2.827E+05	1.900E+01
141	6.785E+02	5.433E+05	3.650E+01	1.812E+02	2.716E+05	1.825E+01

## Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
1	0	0	0	0	0	0
2	1.303E+03	7.116E+05	4.781E+01	2.041E+01	5.693E+03	3.825E-01
3	2.964E+03	1.619E+06	1.088E+02	4.643E+01	1.295E+04	8.704E-01
4	4.913E+03	2.684E+06	1.803E+02	7.696E+01	2.147E+04	1.443E+00
5	6.932E+03	3.787E+06	2.544E+02	1.086E+02	3.029E+04	2.035E+00
6	8.923E+03	4.875E+06	3.275E+02	1.398E+02	3.900E+04	2.620E+00
7	1.088E+04	5.945E+06	3.994E+02	1.705E+02	4.756E+04	3.195E+00
8	1.276E+04	6.973E+06	4.685E+02	2.000E+02	5.578E+04	3.748E+00
9	1.457E+04	7.961E+06	5.349E+02	2.283E+02	6.369E+04	4.279E+00
10	1.631E+04	8.910E+06	5.986E+02	2.555E+02	7.128E+04	4.789E+00
11	1.798E+04	9.822E+06	6.599E+02	2.816E+02	7.857E+04	5.279E+00
12	1.958E+04	1.070E+07	7.188E+02	3.068E+02	8.558E+04	5.750E+00
13	2.112E+04	1.154E+07	7.753E+02	3.309E+02	9.231E+04	6.203E+00
14	2.260E+04	1.235E+07	8.297E+02	3.541E+02	9.878E+04	6.637E+00
15	2.403E+04	1.313E+07	8.819E+02	3.764E+02	1.050E+05	7.055E+00
16	2.539E+04	1.387E+07	9.320E+02	3.978E+02	1.110E+05	7.456E+00
17	2.670E+04	1.459E+07	9.802E+02	4.183E+02	1.167E+05	7.842E+00
18	2.797E+04	1.528E+07	1.027E+03	4.381E+02	1.222E+05	8.212E+00
19	2.918E+04	1.594E+07	1.071E+03	4.571E+02	1.275E+05	8.568E+00
20	3.034E+04	1.658E+07	1.114E+03	4.753E+02	1.326E+05	8.910E+00
21	3.146E+04	1.719E+07	1.155E+03	4.929E+02	1.375E+05	9.239E+00
22	3.254E+04	1.777E+07	1.194E+03	5.097E+02	1.422E+05	9.554E+00
23	3.357E+04	1.834E+07	1.232E+03	5.259E+02	1.467E+05	9.858E+00
24	3.456E+04	1.888E+07	1.269E+03	5.414E+02	1.510E+05	1.015E+01
25	3.552E+04	1.940E+07	1.304E+03	5.564E+02	1.552E+05	1.043E+01
26	3.643E+04	1.990E+07	1.337E+03	5.707E+02	1.592E+05	1.070E+01
27	3.731E+04	2.038E+07	1.370E+03	5.845E+02	1.631E+05	1.096E+01
28	3.816E+04	2.085E+07	1.401E+03	5.977E+02	1.668E+05	1.120E+01
29	3.897E+04	2.129E+07	1.430E+03	6.105E+02	1.703E+05	1.144E+01
30	3.975E+04	2.172E+07	1.459E+03	6.227E+02	1.737E+05	1.167E+01
31	4.050E+04	2.213E+07	1.487E+03	6.345E+02	1.770E+05	1.189E+01
32	3.891E+04	2.126E+07	1.428E+03	6.096E+02	1.701E+05	1.143E+01
33	3.739E+04	2.042E+07	1.372E+03	5.857E+02	1.634E+05	1.098E+01
34	3.592E+04	1.962E+07	1.318E+03	5.627E+02	1.570E+05	1.055E+01
35	3.451E+04	1.885E+07	1.267E+03	5.406E+02	1.508E+05	1.013E+01
36	3.316E+04	1.811E+07	1.217E+03	5.194E+02	1.449E+05	9.737E+00
37	3.186E+04	1.740E+07	1.169E+03	4.991E+02	1.392E+05	9.355E+00
38	3.061E+04	1.672E+07	1.124E+03	4.795E+02	1.338E+05	8.988E+00
39	2.941E+04	1.607E+07	1.079E+03	4.607E+02	1.285E+05	8.636E+00
40	2.826E+04	1.544E+07	1.037E+03	4.426E+02	1.235E+05	8.297E+00
41	2.715E+04	1.483E+07	9.965E+02	4.253E+02	1.186E+05	7.972E+00
42	2.608E+04	1.425E+07	9.574E+02	4.086E+02	1.140E+05	7.659E+00
43	2.506E+04	1.369E+07	9.199E+02	3.926E+02	1.095E+05	7.359E+00
44	2.408E+04	1.315E+07	8.838E+02	3.772E+02	1.052E+05	7.070E+00
45	2.313E+04	1.264E+07	8.491E+02	3.624E+02	1.011E+05	6.793E+00
46	2.223E+04	1.214E+07	8.159E+02	3.482E+02	9.714E+04	6.527E+00
47	2.136E+04	1.167E+07	7.839E+02	3.345E+02	9.333E+04	6.271E+00
48	2.052E+04	1.121E+07	7.531E+02	3.214E+02	8.967E+04	6.025E+00
49	1.971E+04	1.077E+07	7.236E+02	3.088E+02	8.616E+04	5.789E+00
50	1.894E+04	1.035E+07	6.952E+02	2.967E+02	8.278E+04	5.562E+00

## Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
51	1.820E+04	9.941E+06	6.680E+02	2.851E+02	7.953E+04	5.344E+00
52	1.748E+04	9.552E+06	6.418E+02	2.739E+02	7.641E+04	5.134E+00
53	1.680E+04	9.177E+06	6.166E+02	2.632E+02	7.342E+04	4.933E+00
54	1.614E+04	8.817E+06	5.924E+02	2.528E+02	7.054E+04	4.739E+00
55	1.551E+04	8.472E+06	5.692E+02	2.429E+02	6.777E+04	4.554E+00
56	1.490E+04	8.139E+06	5.469E+02	2.334E+02	6.511E+04	4.375E+00
57	1.431E+04	7.820E+06	5.254E+02	2.242E+02	6.256E+04	4.203E+00
58	1.375E+04	7.514E+06	5.048E+02	2.155E+02	6.011E+04	4.039E+00
59	1.321E+04	7.219E+06	4.850E+02	2.070E+02	5.775E+04	3.880E+00
60	1.270E+04	6.936E+06	4.660E+02	1.989E+02	5.549E+04	3.728E+00
61	1.220E+04	6.664E+06	4.477E+02	1.911E+02	5.331E+04	3.582E+00
62	1.172E+04	6.403E+06	4.302E+02	1.836E+02	5.122E+04	3.442E+00
63	1.126E+04	6.152E+06	4.133E+02	1.764E+02	4.921E+04	3.307E+00
64	1.082E+04	5.910E+06	3.971E+02	1.695E+02	4.728E+04	3.177E+00
65	1.039E+04	5.679E+06	3.815E+02	1.628E+02	4.543E+04	3.052E+00
66	9.987E+03	5.456E+06	3.666E+02	1.565E+02	4.365E+04	2.933E+00
67	9.596E+03	5.242E+06	3.522E+02	1.503E+02	4.194E+04	2.818E+00
68	9.219E+03	5.036E+06	3.384E+02	1.444E+02	4.029E+04	2.707E+00
69	8.858E+03	4.839E+06	3.251E+02	1.388E+02	3.871E+04	2.601E+00
70	8.510E+03	4.649E+06	3.124E+02	1.333E+02	3.719E+04	2.499E+00
71	8.177E+03	4.467E+06	3.001E+02	1.281E+02	3.574E+04	2.401E+00
72	7.856E+03	4.292E+06	2.884E+02	1.231E+02	3.433E+04	2.307E+00
73	7.548E+03	4.124E+06	2.771E+02	1.182E+02	3.299E+04	2.216E+00
74	7.252E+03	3.962E+06	2.662E+02	1.136E+02	3.169E+04	2.130E+00
75	6.968E+03	3.806E+06	2.558E+02	1.092E+02	3.045E+04	2.046E+00
76	6.695E+03	3.657E+06	2.457E+02	1.049E+02	2.926E+04	1.966E+00
77	6.432E+03	3.514E+06	2.361E+02	1.008E+02	2.811E+04	1.889E+00
78	6.180E+03	3.376E+06	2.268E+02	9.681E+01	2.701E+04	1.815E+00
79	5.938E+03	3.244E+06	2.179E+02	9.301E+01	2.595E+04	1.744E+00
80	5.705E+03	3.116E+06	2.094E+02	8.937E+01	2.493E+04	1.675E+00
81	5.481E+03	2.994E+06	2.012E+02	8.586E+01	2.395E+04	1.609E+00
82	5.266E+03	2.877E+06	1.933E+02	8.250E+01	2.302E+04	1.546E+00
83	5.060E+03	2.764E+06	1.857E+02	7.926E+01	2.211E+04	1.486E+00
84	4.861E+03	2.656E+06	1.784E+02	7.615E+01	2.125E+04	1.427E+00
85	4.671E+03	2.552E+06	1.714E+02	7.317E+01	2.041E+04	1.372E+00
86	4.488E+03	2.452E+06	1.647E+02	7.030E+01	1.961E+04	1.318E+00
87	4.312E+03	2.355E+06	1.583E+02	6.754E+01	1.884E+04	1.266E+00
88	4.142E+03	2.263E+06	1.521E+02	6.489E+01	1.810E+04	1.216E+00
89	3.980E+03	2.174E+06	1.461E+02	6.235E+01	1.739E+04	1.169E+00
90	3.824E+03	2.089E+06	1.404E+02	5.990E+01	1.671E+04	1.123E+00
91	3.674E+03	2.007E+06	1.349E+02	5.756E+01	1.606E+04	1.079E+00
92	3.530E+03	1.928E+06	1.296E+02	5.530E+01	1.543E+04	1.037E+00
93	3.392E+03	1.853E+06	1.245E+02	5.313E+01	1.482E+04	9.959E-01
94	3.259E+03	1.780E+06	1.196E+02	5.105E+01	1.424E+04	9.569E-01
95	3.131E+03	1.710E+06	1.149E+02	4.905E+01	1.368E+04	9.194E-01
96	3.008E+03	1.643E+06	1.104E+02	4.712E+01	1.315E+04	8.833E-01
97	2.890E+03	1.579E+06	1.061E+02	4.528E+01	1.263E+04	8.487E-01
98	2.777E+03	1.517E+06	1.019E+02	4.350E+01	1.214E+04	8.154E-01
99	2.668E+03	1.457E+06	9.793E+01	4.179E+01	1.166E+04	7.834E-01
100	2.563E+03	1.400E+06	9.409E+01	4.016E+01	1.120E+04	7.527E-01
101	2.463E+03	1.345E+06	9.040E+01	3.858E+01	1.076E+04	7.232E-01

## Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
102	2.366E+03	1.293E+06	8.685E+01	3.707E+01	1.034E+04	6.948E-01
103	2.273E+03	1.242E+06	8.345E+01	3.561E+01	9.936E+03	6.676E-01
104	2.184E+03	1.193E+06	8.018E+01	3.422E+01	9.546E+03	6.414E-01
105	2.099E+03	1.146E+06	7.703E+01	3.288E+01	9.172E+03	6.163E-01
106	2.016E+03	1.102E+06	7.401E+01	3.159E+01	8.812E+03	5.921E-01
107	1.937E+03	1.058E+06	7.111E+01	3.035E+01	8.467E+03	5.689E-01
108	1.861E+03	1.017E+06	6.832E+01	2.916E+01	8.135E+03	5.466E-01
109	1.788E+03	9.770E+05	6.564E+01	2.802E+01	7.816E+03	5.251E-01
110	1.718E+03	9.387E+05	6.307E+01	2.692E+01	7.509E+03	5.046E-01
111	1.651E+03	9.019E+05	6.060E+01	2.586E+01	7.215E+03	4.848E-01
112	1.586E+03	8.665E+05	5.822E+01	2.485E+01	6.932E+03	4.658E-01
113	1.524E+03	8.325E+05	5.594E+01	2.387E+01	6.660E+03	4.475E-01
114	1.464E+03	7.999E+05	5.374E+01	2.294E+01	6.399E+03	4.300E-01
115	1.407E+03	7.685E+05	5.164E+01	2.204E+01	6.148E+03	4.131E-01
116	1.352E+03	7.384E+05	4.961E+01	2.117E+01	5.907E+03	3.969E-01
117	1.299E+03	7.094E+05	4.767E+01	2.034E+01	5.675E+03	3.813E-01
118	1.248E+03	6.816E+05	4.580E+01	1.955E+01	5.453E+03	3.664E-01
119	1.199E+03	6.549E+05	4.400E+01	1.878E+01	5.239E+03	3.520E-01
120	1.152E+03	6.292E+05	4.228E+01	1.804E+01	5.034E+03	3.382E-01
121	1.107E+03	6.045E+05	4.062E+01	1.734E+01	4.836E+03	3.250E-01
122	1.063E+03	5.808E+05	3.903E+01	1.666E+01	4.647E+03	3.122E-01
123	1.022E+03	5.581E+05	3.750E+01	1.600E+01	4.464E+03	3.000E-01
124	9.815E+02	5.362E+05	3.603E+01	1.538E+01	4.289E+03	2.882E-01
125	9.430E+02	5.152E+05	3.461E+01	1.477E+01	4.121E+03	2.769E-01
126	9.060E+02	4.950E+05	3.326E+01	1.419E+01	3.960E+03	2.660E-01
127	8.705E+02	4.755E+05	3.195E+01	1.364E+01	3.804E+03	2.556E-01
128	8.364E+02	4.569E+05	3.070E+01	1.310E+01	3.655E+03	2.456E-01
129	8.036E+02	4.390E+05	2.950E+01	1.259E+01	3.512E+03	2.360E-01
130	7.721E+02	4.218E+05	2.834E+01	1.209E+01	3.374E+03	2.267E-01
131	7.418E+02	4.052E+05	2.723E+01	1.162E+01	3.242E+03	2.178E-01
132	7.127E+02	3.893E+05	2.616E+01	1.116E+01	3.115E+03	2.093E-01
133	6.847E+02	3.741E+05	2.513E+01	1.073E+01	2.993E+03	2.011E-01
134	6.579E+02	3.594E+05	2.415E+01	1.031E+01	2.875E+03	1.932E-01
135	6.321E+02	3.453E+05	2.320E+01	9.902E+00	2.763E+03	1.856E-01
136	6.073E+02	3.318E+05	2.229E+01	9.514E+00	2.654E+03	1.783E-01
137	5.835E+02	3.188E+05	2.142E+01	9.141E+00	2.550E+03	1.713E-01
138	5.606E+02	3.063E+05	2.058E+01	8.782E+00	2.450E+03	1.646E-01
139	5.386E+02	2.943E+05	1.977E+01	8.438E+00	2.354E+03	1.582E-01
140	5.175E+02	2.827E+05	1.900E+01	8.107E+00	2.262E+03	1.520E-01
141	4.972E+02	2.716E+05	1.825E+01	7.789E+00	2.173E+03	1.460E-01

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