UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2

IN THE MATTER OF **MUNICIPALITY OF MOCA** **PO BOX 1571** **MOCA, PUERTO RICO 00676** **RESPONDENT** **IN A PROCEDING UNDER SECTION 113 (a) OF THE CLEAN AIR ACT.** **42 USC & 7413 (a)**	**COMPLAINT AND NOTICE OF OPPORTUNITY TO REQUEST A HEARING** **INDEX NO. CAA-02-2011-1216**

RESPONDENT"S INITIAL PRELIMINARY EXCHANGE

In compliance with the Order of Hon. Susan L. Biro Chief Administrative Law Judge, in the Preliminary Scheduling Order dated January 11, 2012, the Respondent in this case hereby submits its Initial Pre-Hearing Exchange.

1. **(A) A list of names of any witnesses intended to be called at hearing, identifying each as a fact witness or a expert witness, a brief narrative summary of each witness expected testimony and a curriculum vitae or resume for each identified expert witness or a statement that no witnesses will be called:**

   i. Mr. Juan C. Mercado, PE.
   Environmental Engineer
   PO Box 822
   Caguas, PR. 00726

   Mr. Juan C. Mercado is an Environmental Engineer with more than 15 year of experience working with landfill. Mr. Mercado will testify as an expert witness about the review conducted by him to the Initial Design Capacity report prepared by the Municipality consultant DMG. This Report was based on a wrong data, and trigger EPA concern if the Landfill was covered under Landfill Regulations. The data requested by EPA in 114 Letter was not available in the Municipality Records due that this Landfill was operated by the Municipality of Aguadilla for more than 20 years. Mr. Mercado was hire by the Municipality of Moca to review the Initial Capacity Design Report and to get a more feasible way to obtain the data requested by EPA. Enclosed is the Curriculum Vitae of Mr. Mercado.

ii) Mr. Jose E. Aviles
Mayor
Municipality of Moca
PO Box 1571
Moca, Puerto Rico 00676-1571

Mr. Aviles is the Mayor of Moca and will testified of the efforts conducted by the Municipality to get the requested information and the additional amount of money that was spent to make the boring in the landfill to determine the volume of solid waste deposited in it.

(B) Copies of all document records, and other exhibits intended to be introduced into evidence. Each document record or other exhibit must be identified as "Respondents" exhibit and be numbered with Arabic numerals.

Respondent's Exhibits 1 – Initial Design Capacity Report prepared by DMG

Respondent's Exhibits 2 - Letter dated August 9, 2009 with the answer to the section 114 letter.

Respondent's Exhibits 3 – Letter dated December 3, 2010- Requesting the withdraw of the Initial Design Capacity Report

Respondent's Exhibits 4 – Letter dated August 10, 2010 confirming a meeting agreement.

Respondent's Exhibit 5 – Letter dated March 4, 2011 providing to EPA the Revised Initial Design Capacity Report.

Respondent's Exhibit 6 – Letter dated September 7, 2011 from Puerto Rico Environmental Quality Board approving the Advance Initial Design Capacity Report.

(C) A statement explaining where the party wants the hearing to be held and how long the party will need to present its case. The statement must also indicate whether translation services are necessary in regard to the testimony of any witness and if so state the language to be translated.

The hearing must be held in San Juan, Puerto Rico due that all parties are residents of the Island.

Respondent's estimates it will need at least 2.5 hours to present the defense of this case.

For the benefits of the Mayor of Moca a translator to Spanish is requested.

2.

(A) A copy of any document in support of the denials of factual allegations made in Paragraphs 15, 16 and 20 of its answer;

i) Answer to Paragraph 15.

This landfill was operated for more than 20 years by the Municipality of Aguadilla and most of the information requested by EPA was not available. That was the correct answer that Respondents submit to EPA. Also, up today this information was estimated base on a boring test performed in the landfill to determine the vertical and horizontal extension of solid waste deposited historically in the landfill. The issue in this matter was the first consultant hire by the Municipality to perform the Initial Design Capacity Report do not used a technical approach to estimate the volume of solid waste in the landfill and this trigger the concern of EPA if the facility was covered or not by the Landfill regulations. At the end of the final analysis, the Moca Landfill is not covered by the Landfill Regulations. Enclosed is copy of the Puerto Rico Environmental Quality Board Letter.

ii) Answer to Paragraph 16

Due to economical restriction process to allocated public fund to perform the boring test in the landfill, the Municipality fails to provide the information requested. But at the end of the road, the Municipality was not covered by the Landfill Regulations.

iii) Answer to Paragraph 20

The information was not available on that time, due to the financial restriction to allocate money to performed and alternative way to get the information requested by EPA.

(B) A narrative statement and copy of any documents in support. Explaining in detail the factual and/or legal bases for affirmative defenses 3 and 4 as stated on page 2 of the answer, and

i) Affirmative Defense 3

The amount of penalty is excessive for the Municipality. The penalty will affect the critical financial condition of the Municipality. The income of the Municipality comes from the payment of Municipal taxes and the global economical situation affects that income.

ii) Affirmative Defense 4

Enclosed you will find the letter of Puerto Rico Environmental Quality Board that states that they accept the review of the Initial Design Capacity Report.

(C) If Respondent takes the position that the proposed penalty should be reduced or eliminated on any grounds, such as an inability to pay, provide a detail narrative statement explaining the precise factual and legal bases for its position and copy of any and all documents upon which it intends to rely in support of such position.

Due to the financial situation of the global economic the Municipality income is affected. Information related with this matter was already submitted to EPA. In the next days the Municipality will provide the same information.

I certify that today I sent the original of this document to Ms. Karen Maples, Regional Hearing Clerk, Region II, US Environmental Protection Agency, 290 Broadway Ave., 16 Floor, New York, NY 10007-1866 and Certified Mail, Return Request to Ms. Carolina Jordan-Garcia, Assistance Regional Counsel, US Environmental Protection Agency-Region 2,City View Plaza II – Suite 7000, #48 Road 165 Km 1.2, Guaynabo, Puerto Rico 00968-8069., and Copy to Hon. Lisa Buschmann, Administrative Law Judge, Office of Administrative Law Judges, US Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Ave., Washington DC 20460.

Respectfully submitted today March 15, 2012. In Ponce, Puerto Rico.

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Mercedita, Puerto Rico 00715-0750
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DMCG

Development Management & Consulting Group

Ziema Professional Plaza Suite #8
Avenida Los Patriotas # 600, Lares, Puerto Rico

February 26, 2008

HAND DELIVER

Ms. Evelyn Rodriguez, Manager
Air Quality Area
Environmental Quality Board
San Juan, Puerto Rico

Subject: **Municipal Solid Waste Landfill**
Initial Report on Design Capacity
Moca, Puerto Rico

Dear Ms. Rodriguez:

Development Management and Consulting Group, Inc. (DMCG) hereby submits, on behalf of the Autonomous Municipality of Moca (AMM), the Initial Report on Design Capacity for the Moca Municipal Solid Waste Landfill (MMSWL).

This report is submitted pursuant to the requirements of Rule 702, *"Emission Guides for the Emissions from Municipal Solid Waste Landfills"*, Section b, *"Initial Report on Design Capacity"*, of the Regulation for the Control of Atmospheric Pollution {Rule 702(b) of RCAP}.

From the attached report it is concluded that the MMSWL is an active facility for which a Title V permit does not applies. Also, the facility is not affected by any other Clean Air Act requirement. Thus, pursuant to the requirements of Rule 702, *"Emission Guides for the Emissions from Municipal Solid Waste Landfills"*, Section c, *"Permit Requirements"*, Article 1, of the aforementioned regulation {Rule 702(c)(1) of RCAP}, the AMM respectfully request that the MMSWL be exempted to comply with the permits requirements under Rules 203 and 204 of the RCAP. Nevertheless, as stated on the report, the MMSWL will comply with the necessary emissions guidelines (EG) to control its air emissions.

In case you may need additional information or have any doubt, do not hesitate to contact us at 787-897-0830 or 787-676-4795.

Cordially,
Development Management & Consulting Group, Inc.

Rafael Otero Pérez – PE, MEPM
Principal

Attachment: Initial Report on Design Capacity

DEVELOPMENT MANAGEMENT
& CONSULTING GROUP
Ziema Professional Plaza Suite #8
Avenida Los Patriotas # 600, Lares, Puerto Rico

Initial Report on Design Capacity

Moca Municipal Solid Waste Landfill

Prepared by:

Development Management & Consulting Group

February 2008

P.O. Box 142343, Arecibo, Puerto Rico 00614
Teléfono 787-897-0830 Facsimil 787-897-0870

Table of Contents

Preamble

Owner of the Facility & Operator	Autonomous Municipality of Moca
Responsible Officer & Title	Hon. José E. Avilés Santiago, Major
Facility Operations Responsible Officers & Titles	Mr. Bienvenido Soto, Municipal Public Works Director Mr. Juan Vélez, Landfill Supervisor
Physical Address	Road PR-110, Km. 16.5, Centro Ward Moca, Puerto Rico 00676
Mailing Address	PO Box 1571 Moca, Puerto Rico 00676
Telephone	(787) 877-2270
Type of Facility	Municipal Solid Waste Landfill (MSWL) use for the disposal of non hazardous waste
Operations Start Up	Approximately 1984

Moca Municipal Solid Waste Landfill

Initial Report on Design Capacity

1.0 Introduction

The Moca Municipal Solid Waste Landfill (MMSWL) has being active for more than twenty (20) years. It is located in road PR-110, Km 16.5, of Moca municipality, in the west part of Puerto Rico (See Figure 1). During its operation it has being operated by the municipal government of Moca.

Figure 1. Site Location

Currently, several municipalities, including Moca, dispose non-hazardous solid waste in MMSWL. Also, MMSWL receives waste from the private sector. The waste received consists mostly of domestic and commercial waste, debris and some shredded vegetative material.

The topography of the area is irregular with some slopes and elevations. Although, it is located in a rural area with agricultural characteristics, there is no agricultural activity in the landfill premises.

Originally, MMSWL was a lot of approximately 245,673.83 square meters. Table 1 below shows the surveyor study for the original lot. In recent years, another 75,864.64 square meters were added to the landfill operation (See Table 2). The actual extension of MMSWL is approximately 321,538.27 square meters. From that extension, at least twenty percent (20 %) or approximately 64,307.65 square meters are in use or was designated originally for solid waste disposal activities (See Figure 1).

Table 1. Surveyor Study for the Original Landfill Lot

D A T O S D E M E N S U R A

PUNTO	LINEA	(Y) NORTE	(X) ESTE	DISTANCIA	RUMBO	DESCRIPCION
1	1--	4346.4047	4721.7295	---	---	VARILLA
2	1-2	4364.1994	4822.9440	102.7197	N 80°01'40" E	VARILLA
3	2-3	4496.5495	4801.3037	134.0229	N 09°16'41" W	CERCOUE
4	3-4	4475.7879	4862.2264	64.2422	S 71°10'51" E	ALMACIGO
5	4-5	4400.8975	5081.9759	232.1660	S 71°10'51" E	TUBO
6	5-6	4373.9305	5068.8762	28.5303	S 28°30'30" W	CARR. R/W LIMIT
7	6-7	4362.6739	5062.9989	14.3300	S 21°31'13" W	CARR. R/W LIMIT
8	7-8	4344.4118	5059.5346	18.5818	S 10°44'28" W	CARR. R/W LIMIT
9	8-9	4333.1181	5059.4482	11.3001	S 00°27'13" W	CARR. R/W LIMIT
10	9-10	4314.1365	5062.9209	19.0794	S 10°29'00" E	CARR. R/W LIMIT
11	10-11	4268.2446	5076.4700	47.9446	S 16°56'17" E	CARR. R/W LIMIT
12	11-12	4238.8714	5083.5151	30.2135	S 17°06'32" E	ESQUINA
13	12-13	4244.4510	4990.4331	93.1446	N 86°38'29" W	VERDESECO
14	13-14	4242.1074	4977.3646	13.0433	S 80°09'28" W	CAUBA
15	14-15	4231.0414	4968.8524	14.3994	S 39°28'45" W	ROBLE
16	15-16	4220.5393	4957.7399	14.8174	S 44°38'35" W	ROBLE
17	16-17	4154.7018	4963.3302	66.0116	S 04°51'59" E	ALMACIGO
18	17-18	4136.3218	4965.6475	18.3174	S 07°08'32" E	CUPEY
19	18-19	4140.1548	4993.7976	28.4094	N 82°15'58" E	VERDESECO
20	19-20	4105.9905	5062.8793	77.0668	S 63°41'08" E	VARILLA
21	20-21	4081.5179	5086.6625	43.7110	S 55°57'08" W	CEREQUE
22	21-22	3947.2420	4936.3714	161.8110	S 33°35'05" W	ARBOL
23	22-23	3951.9987	4898.9020	37.7700	N 82°45'34" W	CEREQUE
24	23-24	3976.7492	4859.6002	46.4430	N 57°47'50" W	ALMACIGO
25	24-25	3987.7455	4849.2585	15.1101	N 43°20'02" W	ARBOL
26	25-26	3943.2477	4788.4168	75.3465	S 53°47'37" W	VERDESECO
27	26-27	3914.9077	4769.6105	33.9246	S 33°30'34" W	ALMACIGO
28	27-28	3876.1074	4727.4106	57.3077	S 47°24'45" W	CUPEY
29	28-29	3785.3589	4718.5802	91.2557	S 05°33'28" W	ARBOL
30	29-30	3775.3249	4712.0460	11.9274	S 33°04'22" W	ARBOL
31	30-31	3797.4077	4663.9383	52.9337	N 65°20'42" W	ZALCILLA
32	31-32	3801.6016	4628.4449	35.7531	N 83°15'49" W	ZALCILLA
33	32-33	3807.6540	4620.0754	10.0536	N 53°18'39" W	ARBOL
34	33-34	3858.5025	4630.9074	52.0991	N 10°47'51" E	ALMACIGO
35	34-35	3887.8563	4640.9416	30.8187	N 11°20'36" E	GUAVA
36	35-36	3894.9423	4562.6474	78.1938	N 85°28'57" W	ARBOL
37	36-37	3911.7107	4469.1315	95.1728	N 79°17'46" W	ALAMBRE EN ROCA
38	37-38	4003.9792	4512.0428	101.7552	N 24°36'37" E	CANELA
39	38-39	4076.2938	4548.8314	78.6044	N 28°04'33" E	CUPEY
40	39-40	4182.4382	4472.8766	127.4600	N 33°37'16" W	ALMACIGO
41	40-41	4229.7408	4486.1189	49.2693	N 16°18'11" E	PALMA
42	41-42	4242.9523	4489.5909	13.6859	N 14°44'49" E	ROBLE
43	42-43	4297.4160	4498.8484	55.1964	N 09°04'23" E	ANEIL
1	43-1	4346.4047	4721.7295	220.7500	N 77°30'03" E	VARILLA

AREA = 245,673.8263 M. C. =D= 62.5061 CUERDAS

Table 2. Surveyor Study for the Lot Added to Landfill

DATOS DE MENSURA

FINCA

PUNTO	LINEA	(Y) NORTE	(X) ESTE	DISTANCIA	RUMBO	DESCRIPCION
145		[illegible]	4697.8507			145 PLANO
144	145-144	[illegible]	4709.[illegible]	12.[illegible]	S 83°17'42" E	144 PLANO
143	144-143	[illegible]	[illegible]	[illegible]	S 78°47'27" E	143 PLANO
141	143-141	[illegible]	4759.7207	36.4812	S [illegible]°26'22" E	141 PLANO
[illegible]	[illegible]	[illegible]	4760.7563	76.[illegible]	S 01°38'07" E	ESPEQUE POSTE
[illegible]	[illegible]	[illegible]	4762.7211	19.[illegible]	S 06°54'58" E	ESPEQUE POSTE
[illegible]	[illegible]	[illegible]	4773.6150	40.[illegible]	S 14°20'16" E	ESPEQUE POSTE
[illegible]	[illegible]	[illegible]	4764.3011	21.2740	S [illegible] W	136 PLANO
[illegible]	[illegible]	[illegible]	4719.7651	63.[illegible]	S 44°56'19" W	134 PLANO
133	134-133	4622.1935	4711.0312	24.2492	S 21°06'42" W	133 PLANO
3276	133-3276	4627.6201	[illegible]	15.7030	N 69°24'03" W	ESPEQUE POSTE
[illegible]	[illegible]	[illegible]	4614.6154	87.1547	N 69°36'56" W	BARRA ALAMBRE
[illegible]	[illegible]	[illegible]	4575.6217	41.6101	N 69°[illegible]'20" W	BARRA ALAMBRE
[illegible]	[illegible]	4675.1062	4560.9005	7.1423	N 69°02'37" W	ESTACA
[illegible]	[illegible]	[illegible]	[illegible]	6.2840	N 73°47'08" W	BARRA ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	6.4593	N 70°12'08" W	BARRA ALAMBRE
[illegible]	[illegible]	[illegible]	4550.9956	11.6656	S 09°21'31" E	ESPEQUE ALAMBRE
[illegible]	[illegible]	[illegible]	4551.1260	10.4940	S 05°49'[illegible] E	ESPEQUE ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	6.0594	S 07°11'25" E	ESPEQUE ALAMBRE
[illegible]	[illegible]	[illegible]	4557.3632	26.1262	S 05°19'50" W	TRONCO ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	10.1839	S 08°29'04" E	ARBOL ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	S 20°[illegible]'09" E	BARRA ALAMBRE
[illegible]	[illegible]	[illegible]	4564.[illegible]	36.7718	S 07°02'11" E	BARRA ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	21.2005	S 02°48'40" E	BARRA ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	26.6747	S [illegible] E	BARRA ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	6.4323	S 05°13'01" E	ESPEQUE ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	10.7301	S 07°37'09" E	BARRA ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	S 08°14'50" E	MANGO
009	[illegible]	[illegible]	[illegible]	12.5746	S 62°51'44" E	009 PLANO
[illegible]	[illegible]	[illegible]	4604.3464	15.[illegible]	S 84°37'46" E	ROBLE ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	1.[illegible]	S 70°48'40" E	[illegible] ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	11.[illegible]	N 05°11'40" E	ARBOL ALAMBRE
[illegible]	[illegible]	[illegible]	4623.[illegible]	8.1854	N 69°05'31" E	ESPEQUE ALAMBRE
[illegible]	[illegible]	[illegible]	4661.[illegible]	37.6091	N 88°04'23" E	ARBOL ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	S 88°55'51" E	ARBOL ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	S [illegible] E	BARRA
[illegible]	[illegible]	[illegible]	4675.1949	[illegible]	S [illegible]°25'53" E	BARRA
304	[illegible]	[illegible]	4719.5290	[illegible]	S 26°25'40" E	304 PLANO
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N 80°29'41" E	390 PLANO
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N 09°04'56" W	ALAMBRADA
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N 07°13'07" W	ESPEQUE ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	19.4924	N 16°35'14" E	ALMACIGO
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N 08°[illegible]'32" E	[illegible]
[illegible]	[illegible]	4601.9384	[illegible]	[illegible]	N 08°47'50" E	ARBOL ALAMBRE
[illegible]	[illegible]	[illegible]	[illegible]	166.2932	N 07°36'43" E	BARRA
[illegible]	[illegible]	[illegible]	4866.4465	[illegible]	N 18°17'08" E	ARBOL
145	[illegible]	[illegible]	4697.8507	178.[illegible]	S 70°44'43" W	145 PLANO

AREA = 75,864.6397 M.C. = 19.3020 CUERDAS

Actual records and inventories kept by MMSWL administration shows that approximately 1,107 cubic yards of waste are disposed daily or nearly 403,828 cubic yards per year (depending on holidays and non-working days). For fiscal year 2007 – 2008, the projection is to receive 1,326 cubic yards per day (483,718 cubic yards for the year). The table below presents an estimated average distribution of waste received in the facility for the last few years (See Appendix A for documentation on waste disposal).

Table 3. Average Yearly Waste Disposal Distribution

Municipal Waste (Yds/Year)	Private Waste (Yds/Year)	Total (Yds/Year)
253,467	150,361	403,828

2.0 *Regulatory Background*

The Puerto Rico Environmental Quality Board (EQB) and the United States Environmental Protection Agency (EPA) have adopted sets of regulations for permits requirements and emissions standards for non-hazardous municipal solid waste landfills.

EQB has established in their Regulation for the Management of Non Hazardous Waste, Rule 547. A - Control of Explosive Gases, that:

> *"Facilities that receives more than 2.5 million cubic meters of solid waste per year are responsible to obtain a permit from EQB for its air emissions, pursuant to the requirements of the Regulation for the Control of Atmospheric Pollution."*

In Addition, EQB has established in their Regulation for the Control of Atmospheric Pollution, Rule 702 (a) – Affected Installations; that any municipal waste landfill that meets the following criteria must comply with emissions control requirements:

> *(1) Any facility that has accepted waste after November 8, 1987 or has available capacity for future expansion;*
> *(2) Municipal solid waste landfills that have a design capacity greater than or equal to 2.5 million mega grams and 2.5 million cubic meters; and*
> *(3) A facility with an annual emission rate equal or greater than 50 mega grams per year of non-methane organic compounds (NMOC).*

EQB in Rule 702 (c) (1) of the Regulation for the Control of Atmospheric Pollution establishes that a Title V permit is required for:

> *"A facility that has a design capacity greater than or equal to 2.5 million mega grams or 2.5 million cubic meters. If the facility is active and not requires a Title V permit, it will be also exempted from the permit requirements of Rule 203 and 204 of the Regulation for the Control of Atmospheric Pollution pursuant that a written exemption statement is submitted with the initial design capacity report of the landfill."*

Meanwhile, EPA has adopted sets of requirements in the regulations at 40 CFR, Parts 60 and 70, that establishes that the following kind of source must comply with emissions guidelines (EG) and/or applies for a Title V permit, respectively:

> *"Municipal solid waste landfills that have a design capacity greater than or equal to 2.5 million mega grams or 2.5 million cubic meters."*

Based on the regulations criteria aforementioned, in the following section is presented an applicability assessment in terms of the MMSWL potential to obtain a permit or comply with EG for its air emissions.

3.0 Applicability Assessment

Using the records and waste disposal inventory, an estimate of the amount of waste disposed annually in the landfill can be calculated in order to demonstrate

applicability for Rule 547.A of the EQB Regulation for the Management of Non Hazardous Waste.

The average amount of waste received for the last two years in the landfill (Table 3) is 403,828 cubic yards, using this amount we have that:

$$\frac{403{,}828 \text{ cubic yards}}{\text{year}} \left| \frac{1 \text{ cubic meter}}{1.31 \text{ cubic yards}^{1}} \right. =$$

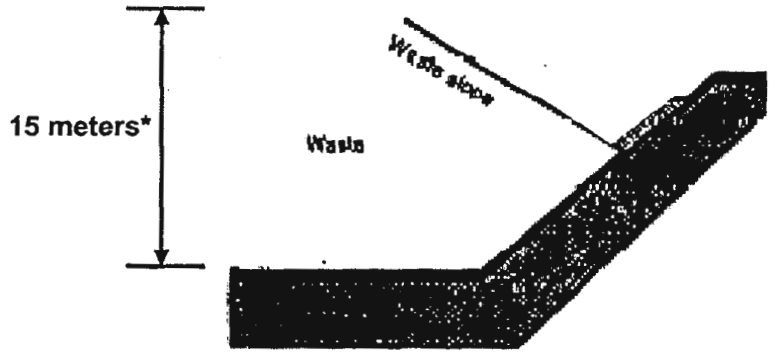
$$= \underline{308{,}265.65} \text{ cubic meters per year}$$

The above calculation demonstrated that the average volume of waste received yearly in the landfill is below the regulatory applicability threshold (308,265.65 < 2,500,000). Therefore, an ***air emissions permit*** from EQB is ***not applicable*** under the requirements of Rule 547.A of the EQB Regulation for the Management of Non Hazardous Waste.

For the consideration of the design criteria, using the designated area of the landfill for disposal, and estimating the level or high of waste that can be deposited, the design capacity of the landfill can be calculated.

The actual designated disposal area of the landfill is 64,307.65 square meters and it is assumed a worst case usage of 100 % of that area. Also, it is assumed a worst case high for compacted waste of 15 meters across the whole area (See Figure 2):

Figure 2. Disposed Waste High



* This amount is based on compacted meters of waste. This waste high represents approximately 45 % of the waste actual high before compacted.

[1] Conversion from Federal Register / Vol. 61, No. 49 / Tuesday, March 12, 1996 / Rules and Regulations / Page 9906

Therefore,

Landfill Volume Design Capacity = Total Available Area X Waste Disposal High

= (64,307.65 square meters) X (15/0.45) meters

= 2,143,588.33 cubic meters

The cubic meter of waste weights approximately 1,000 pounds, so the density of the waste can be assumed as 1,000 lbs/cubic meter. This lead to the following calculation in terms of the mass of waste that can be received by design:

Landfill Mass Design Capacity = Landfill Volume Design Capacity
X Waste Density

= (2,143,588.33 cubic meters) X (1,000 lbs/cubic meter)

= 2,143,588,330 lbs

$$\frac{2{,}143{,}588{,}330 \text{ lbs}}{\left|\ \frac{1 \text{ mega gram}}{2{,}204.6 \text{ lbs}}\right.} =$$

= 972,325.29 mega grams

The design capacity (volume and mass) estimated above demonstrates that the landfill **may need to comply with EG to control emissions** (NSPS), especially non-methane organic compounds (NMOC), but **not with a Title V permit** pursuant to the requirements of Rule 702 (c)(1) of the Regulation for the Control of Atmospheric Pollution and/or 40 CFR Parts 60 and 70. As the MMSWL is an active facility and a Title V permit does not applies, **permits under Rules 203 and 204 of the Regulation for the Control of Atmospheric Pollution does not applies**, also pursuant to the requirements of Rule 702 (c)(1). Next section presents emissions estimates for the MMSWL in terms of applicability with EG.

4.0 Landfill Gas Emissions Estimate

The MMSWL gas emissions were estimated using EPA's Landfill Gas Emissions Model (LandGEM), Version 3.02.

LandGEM is an automated tool with a Microsoft Excel interface that can be used to estimate emissions rates for total landfill gas, methane, carbon dioxide, non-methane organic compounds (NMOC), and individual air pollutants from municipal solid waste landfills.

[2] Conversion from Federal Register / Vol. 61, No. 49 / Tuesday, March 12, 1996 / Rules and Regulations / Page 9906

The model contains two sets of default parameters, Clean Air Act (CAA) defaults and inventory defaults. The CAA defaults are based on federal regulations for MSW landfills laid out by the CAA and can be used for determining whether a landfill is subject to the control requirements of these regulations. The inventory defaults are based on emission factors in EPA's Compilation of Air Pollutant Emission Factors (AP-42) and can be used to generate emission estimates for use in emission inventories and air permits in the absence of site-specific test data.

In Appendix B can be found a report modeled with LandGEM for MMSWL. For the model it was assumed an estimated useful life of the landfill until year 2020. For the purpose of the calculations for emissions estimate, it was used for years 2005 – 2006, 2006 – 2007 and 2007 – 2008 the information provided by the facility and included in Appendix A. Since there is no data on file for previous years, to calculate the waste disposed it was assumed a constant yearly increase of five percent (5 %), which is based on the yearly average economic inflation rate. This indicator is consistent with the acquisition level of the population that eventually can be translated into a proportional amount of waste generated. Table 4 presents the waste disposal estimates for the different years. The model by default assumed for the year 2008 and so forth until year 2019 a constant yearly volume of waste disposal similar to the actual year (2007). According to the model, the emissions estimate for year 2008 shows that ***NMOC actual emissions*** are approximately ***358 Mg/yr***.

Table 4. Yearly Waste Disposed

Year	Mg/year	Year	Mg/year
1984	48,901.64	1996	90,498.24
1985	51,475.41	1997	95,261.31
1986	54,184.64	1998	100,275.06
1987	57,036.46	1999	105,552.70
1988	60,038.38	2000	111,108.10
1989	63,198.30	2001	116,955.90
1990	66,524.52	2002	123,111.47
1991	70,025.82	2003	129,591.02
1992	73,711.28	2004	136,411.60
1993	77,590.93	2005	143,591.16
1994	81,674.66	2006	136,065.60
1995	85,973.33	2007	167,490.87

EQB in their Regulation for the Control of Atmospheric Pollution, Rule 702 (a); and EPA in the Standards of Performance for New Stationary Sources (NSPS) and Guidelines for Control Existing Sources: Municipal Solid Waste Landfills covered under 40 CFR Parts 51, 52 and 60; requires the periodic calculation of the NMOC emission rate at each affected or designated facility. Those that emit more than 50 Mg/yr are required to install controls. Therefore, from the emissions

estimate obtained, MMSWL is required to install emissions controls, which are discussed in the next section.

5.0 Controls to Comply with EG

According to the EQB Regulation for the Control of Atmospheric Pollution, Rule 702 (a) – Affected Installations, any municipal waste landfill that meets the following must comply with emissions control requirements:

> *"A facility with an annual emission rate equal or greater than 50 mega grams per year of non-methane organic compounds (NMOC)."*

Therefore, since the actual emissions form MMSWL exceeds the 50 mega grams per year of NMOC (358 Mg/yr) emissions control requirements are necessary.

As established in EQB Regulation for the Control of Atmospheric Pollution, Rule 702 (f), the operator of MMSWL must submit a design plan for a system to collect and control the landfill emissions (gases). This design plan will be submitted within a year of this report and will be in compliance with the design requirements of Rule 702 (f)(1)(iv) of EQB Regulation for the Control of Atmospheric Pollution.

A preliminary design for a collection and control system is being developed to be submitted to EQB and obtain its approval. The design will be based on the migration of the gases laterally following land contours based on operational areas towards less resistance areas (outside covered areas). In the area, underlying limestone rocks are essentially impermeable so migration downwards should be kept to a minimum. Waste disposal areas are mainly located to the center of the site and migration is expected laterally towards the north and south side of the area, although migration is potential to areas where waste were disposed outside the operational areas and uncovered areas (probably slopes to the south). Buildings and man-made structures are not within the MMSWL so the risk of gases entering buildings is a minimum. Nevertheless, the system design will include such areas.

The proposed system will consists of the sampling of soil gas within the property boundary through the use of dedicated probes, in the form of monitoring wells, as well as sampling of air within existing facility structures. The location of the monitoring probes will be highly dependent on the results of a preliminary subsoil investigation at the facility.

Monitoring of gas concentration in the facility will be a simple process involving walking and inspecting specific areas with a portable instrument such as an explosimeter, a flame ionization detector (FID) or a lower explosion level (LEL) detector. This gas monitoring will eventually provide the necessary data for the design of a gas collecting and/or treatment system in case needed.

6.0 Conclusion

The applicability assessment presented above demonstrates the following:

1) The MMSWL does ***not require*** an ***air emissions permit*** pursuant to the requirements of Rule 547. A of the Regulation for the Management of Non Hazardous Waste.

2) The MMSWL does ***not require a Title V permit or permits under Rules 204 and 204*** pursuant to the requirements of Rule 702 (c) (1) of the EQB Regulation for the Control of Atmospheric Pollution.

3) The MMSWL does require to comply with EG to control emissions as required by EQB Regulation for the Control of Atmospheric Pollution, Rule 702 (a), and NSPS.

Appendix A

Waste Disposal Documents

2005 – 2006 Waste Disposal

Estado Libre Asociado de Puerto Rico
Municipio Autónomo de Moca
Departamento de Auditoría Interna
Apartado 1571, Moca, Puerto Rico 00676
Tel & Fax (787) 818-3370

De acuerdo a reunión celebrada el 19 de enero de 2007, envío información solicitada sobre las yardas desperdicios sólidos depositadas en el vertedero municipal de Moca para el año fiscal 2005-2006:

Mes	Yardas Privadas	Yardas Municipios	Total
Julio	14,660	15,403	30,063
Agosto	13,973	28,359	42,332
Septiembre	12,480	25,963	38,443
Octubre	9,932	20,260	30,192
Noviembre	11,960	19,940	31,900
Diciembre	13,276	23,783	37,059
Enero	13,674	21,428	35,102
Febrero	12,520	19,582	32,102
Marzo	13,985	22,880	36,865
Abril	10,718	19,652	30,370
Mayo	14,106	21,543	35,649
Junio	12,954	21,664	34,618
	154,238	260,457	414,695

Los datos suministrados se desprenden de los informes mensuales preparados por el Departamentos de Finanzas.

Cordialmente,

María del C. Bosques Medina

María del C. Bosques Mejías
Auditora Interna

2006 -2007 Waste Disposal

ESTADO LIBRE ASOCIADO DE PUERTO RICO
MUNICIPIO AUTÓNOMO
Departamento de Finanzas
P.O. Box 1571, Moca, PR 00676 • Tel. (787) 877-2270 • Fax (787) 877-3560

24 de octubre de 2007

Ing. Wilson Román, Director
Oficina Ordenamiento Territorial
Municipio de Moca, P.R.

Ingeniero Román:

Informe de desglose de yardas tiradas de desperdicios sólidos en el Vertedero Municipal, Año Fiscal 2006-2007.

MES	CANTIDAD
Julio	29,519
Agosto	33,868
Septiembre	19,089
Octubre	31,638
Noviembre	32,793
Diciembre	31,272
Enero	33,247
Febrero	27,260
Marzo	31,260
Abril	41,359
Mayo	40,901
Junio	40,755

Para su conocimiento y acción correspondiente.

Atentamente,

Virgenmina Medina
Directora Finanzas y Presupuesto

2007 -2008 Waste Disposal

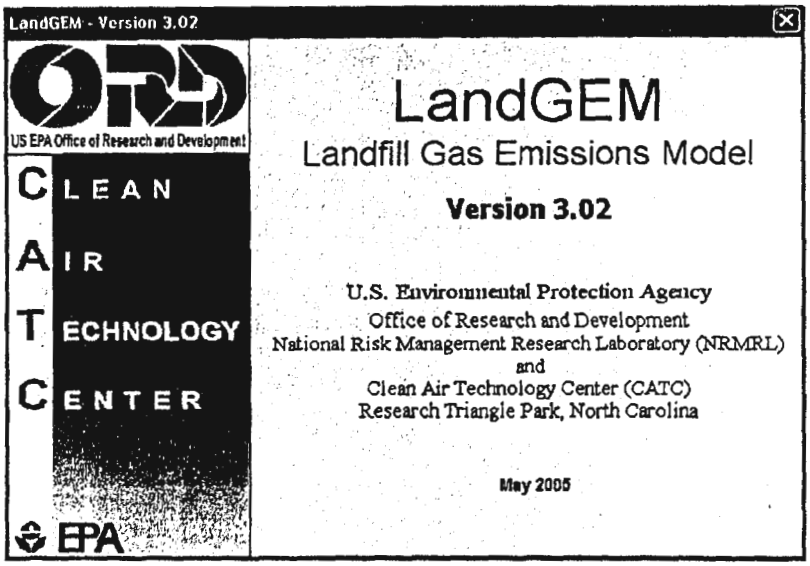
CONTRATOS DEL VERTEDERO
AÑO FISCAL 2007 - 2008

NUM. CONT.	NOMBRE	VIGENCIA DESDE HASTA	YARDAS
2007-000319	DIVERSIFICAL FOOD MANUFACT.	15-12-06 A 30-06-07	24
2007-000325	FLEXIBLE PACKAGING GROUP	20-12-06 A 30-06-07	630
2007-000357	CESAR VARGAS VELAZQUEZ	26-01-07 A 30-06-07	4
2007-000360	JESUS M. RUIZ BRIGNONI	25-01-07 A 30-06-07	0
2007-000362	PEREZ ELECTRIC	26-01-07 A 30-06-07	10
2007-000373	PUERTO RICO SOLAR	05-02-07 A 30-06-07	17
2007-000374	EMPRESAS JOSE MENDOZA	06-02-07 A 30-06-07	2
2007-000377	LUIS VARGAS TORRES	12-02-07 A 30-06-07	6
2007-000388	ENRIQUE AVILES RAMIREZ	13-02-07 A 30-06-07	2
2007-000398	ARITEL, INC.	23-02-07 A 30-06-07	72
2007-000414	ANGEL B. ALERS PEREZ	12-03-07 A 30-06-07	2
2007-000444	ROBERTO HERNANDEZ BARBOSA	20-03-07 A 30-06-07	8
2007-000457	AUTORIDAD DE LOS PUERTOS	01-04-07 A 30-06-08	4
2007-000460	DEPARTAMENTO DE JUSTICIA	01-05-07 A 30-06-08	0
2007-000461	MUNICIPIO DE AGUADILLA	01-04-07 A 30-06-07	34,515
2007-000554	DIVERSIFICAL FOOD.	01-07-07 A 30-06-08	0
2007-000558	ATG CONTRACTOR	01-07-07 A 30-06-08	152
2006-000637	NEREIDA FALTO DE COLE	01-07-07 A 30-06-08	1290
2006-000642	ATG CONTRACTORS, INC.	01-07-06 A 30-06-07	512
2006-000647	JOSE R. CRUZ AGUSTINI	01-07-06 A 30-06-07	0
2007-000470	ORLANDO LOPEZ HUERTAS	11-04-07 A 30-06-08	18
2007-000474	SUEÑOS DE LOZAS	10-04-07 A 30-06-08	2
2007-000489	CARLOS CORDERO CRESPO	23-04-07 A 30-06-08	2
2007-000490	FELIX DAVILA VEGA	25-04-07 A 30-06-08	6
2007-000491	TELEPHONE ELECTRIC	01-05-07 A 30-06-08	0
2007-000494	ANTONIO A. CRUZ SEGUINOT	03-05-07 A 30-06-08	0
2007-000578	MUNICIPIO DE AGUADILLA	01-07-07 A 30-06-08	0
2007-000579	NEREIDA FALTO DE COLE	01-07-07 A 30-06-08	270
2007-000595	CORP COMUNITARIA RECICLAJE NOROESTE	02-07-07 A 30-06-08	380
2007-000608	DAVID CHICO HERNANDEZ	01-07-07 A 30-06-08	106
2007-000609	JUAN A. CHICO MARTINEZ	19-06-07 A 30-06-08	0
2007-000610	EFRAIN AVILA HERNANDEZ	02-07-07 A 30-06-08	24
2007-000617	AFG DEVELOPER	01-07-07 A 30-06-08	0
2007-000620	BENIGNO CASTILLO CRUZ	01-07-07 A 30-06-08	0
2007-000624	LUIS M. MERCED O'NEILL	01-07-07 A 30-06-08	3
2007-000625	JESUS ALVAREZ GOMEZ	01-07-07 A 30-06-08	0
2007-000626	ANGEL ILLAS	01-07-07 A 30-06-08	0
2007-000639	ANGEL ALERS PEREZ	02-07-07 A 30-06-08	0
2007-000640	ATLANTIC WASTE	02-07-07 A 30-06-08	150
2007-000642	ROLANDO HERNANDEZ TORRES	02-07-07 A 30-06-08	11
2007-000651	HEROITO ACEVEDO LOPEZ	02-07-07 A 30-06-08	2
2007-000659	R.C. ENGINEERING, INC.	07-07-07 A 30-06-08	5
2007-000662	LUIS BRITO CRUZ	29-06-07 A 30-06-08	0
2007-000663	TCG CORNESTONE	29-06-07 A 30-06-08	27
2007-000665	VISSEPO & DIEZ	02-06-07 A 30-06-08	0

NUM. CONT.	NOMBRE	VIGENCIA DESDE HASTA	YARDAS
2008-000002	JOB CORPS (RES-CARE, INC.)	02-07-07 A 30-06-08	8
2008-000007	MUNICIPIO DE LAS MARIAS	06-07-07 A 30-06-08	862
2008-000008	PEREZ ELECTRIC	02-07-07 A 30-06-08	0
2008-000010	AGUSTIN BARRETO PEREZ	05-07-07 A 30-06-08	0
2008-000016	ALICIA GONZALEZ CRUZ	09-07-07 A 30-06-08	0
2008-000017	BONIFACIO MORALES CORDERO	11-07-07 A 30-06-08	0
2008-000025	NIEVES DISPOSAL	11-07-07 A 30-06-08	1,194
2008-000029	TOLEDO ENGINEERING	17-07-07 A 30-06-08	8
2008-000030	LUIS E. SANTIAGO	13-07-07 A 30-06-08	0
2008-000032	OSVALDO DELGADO BATISTA	17-07-07 A 30-06-08	0
2008-000037	LADISLAO PELLOT PELLOT	30-07-07 A 30-06-08	5
2008-000063	CESAR VARGAS VELAZQUEZ	07-08-07 A 30-06-08	0
2008-000080	VALENTIN HERMANOS CONTRACT	15-08-07 A 30-06-08	0

Appendix B

Gas Emissions Estimates



Summary Report

Landfill Name or Identifier: Moca Municipal Solid Waste Landfill (MMSWL)

Date: Tuesday, February 26, 2008

Description/Comments:

The MMSWL has being active for more than twenty (20) years and for the model was assumed a useful life until year 2020. Other model assumptions are detailed in section titled Landfill Gas Emissions Estimate of the detail written report from which this calculations constitutes the Appendix B.

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	**1984**	
Landfill Closure Year (with 80-year limit)	**2020**	
Actual Closure Year (without limit)	***2020***	
Have Model Calculate Closure Year?	**No**	
Waste Design Capacity	**972,325**	*megagrams*

MODEL PARAMETERS

Methane Generation Rate, k	**0.050**	*year^{-1}*
Potential Methane Generation Capacity, L_o	**170**	*m^3/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)*
1984	48,902	53,792	0	0
1985	51,475	56,623	48,902	53,792
1986	54,185	59,603	100,377	110,415
1987	57,036	62,740	154,562	170,018
1988	60,038	66,042	211,598	232,758
1989	63,198	69,518	271,637	298,800
1990	66,525	73,177	334,835	368,318
1991	70,026	77,028	401,359	441,495
1992	73,711	81,083	471,385	518,524
1993	77,591	85,350	545,097	599,606
1994	81,675	89,842	622,687	684,956
1995	85,973	94,571	704,362	774,798
1996	90,498	99,548	790,335	869,369
1997	95,261	104,787	880,834	968,917
1998	100,275	110,303	976,095	1,073,705
1999	105,553	116,108	1,076,370	1,184,007
2000	111,108	122,219	1,181,923	1,300,115
2001	116,956	128,651	1,293,031	1,422,334
2002	123,111	135,423	1,409,987	1,550,985
2003	129,591	142,550	1,533,098	1,686,408
2004	136,412	150,053	1,662,689	1,828,958
2005	143,591	157,950	1,799,101	1,979,011
2006	136,066	149,672	1,942,692	2,136,961
2007	167,491	184,240	2,078,758	2,286,633
2008	167,491	184,240	2,246,249	2,470,873
2009	167,491	184,240	2,413,739	2,655,113
2010	167,491	184,240	2,581,230	2,839,353
2011	167,491	184,240	2,748,721	3,023,593
2012	167,491	184,240	2,916,212	3,207,833
2013	167,491	184,240	3,083,703	3,392,073
2014	167,491	184,240	3,251,194	3,576,313
2015	167,491	184,240	3,418,685	3,760,553
2016	167,491	184,240	3,586,176	3,944,793
2017	167,491	184,240	3,753,666	4,129,033
2018	167,491	184,240	3,921,157	4,313,273
2019	167,491	184,240	4,088,648	4,497,513
2020	0	0	4,256,139	4,681,753
2021	0	0	4,256,139	4,681,753
2022	0	0	4,256,139	4,681,753
2023	0	0	4,256,139	4,681,753

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2024	0	0	4,256,139	4,681,753
2025	0	0	4,256,139	4,681,753
2026	0	0	4,256,139	4,681,753
2027	0	0	4,256,139	4,681,753
2028	0	0	4,256,139	4,681,753
2029	0	0	4,256,139	4,681,753
2030	0	0	4,256,139	4,681,753
2031	0	0	4,256,139	4,681,753
2032	0	0	4,256,139	4,681,753
2033	0	0	4,256,139	4,681,753
2034	0	0	4,256,139	4,681,753
2035	0	0	4,256,139	4,681,753
2036	0	0	4,256,139	4,681,753
2037	0	0	4,256,139	4,681,753
2038	0	0	4,256,139	4,681,753
2039	0	0	4,256,139	4,681,753
2040	0	0	4,256,139	4,681,753
2041	0	0	4,256,139	4,681,753
2042	0	0	4,256,139	4,681,753
2043	0	0	4,256,139	4,681,753
2044	0	0	4,256,139	4,681,753
2045	0	0	4,256,139	4,681,753
2046	0	0	4,256,139	4,681,753
2047	0	0	4,256,139	4,681,753
2048	0	0	4,256,139	4,681,753
2049	0	0	4,256,139	4,681,753
2050	0	0	4,256,139	4,681,753
2051	0	0	4,256,139	4,681,753
2052	0	0	4,256,139	4,681,753
2053	0	0	4,256,139	4,681,753
2054	0	0	4,256,139	4,681,753
2055	0	0	4,256,139	4,681,753
2056	0	0	4,256,139	4,681,753
2057	0	0	4,256,139	4,681,753
2058	0	0	4,256,139	4,681,753
2059	0	0	4,256,139	4,681,753
2060	0	0	4,256,139	4,681,753
2061	0	0	4,256,139	4,681,753
2062	0	0	4,256,139	4,681,753
2063	0	0	4,256,139	4,681,753

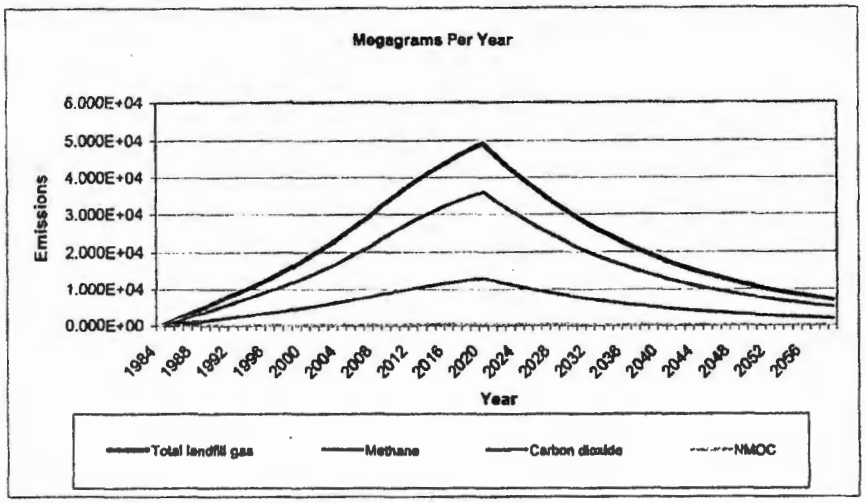
Pollutant Parameters

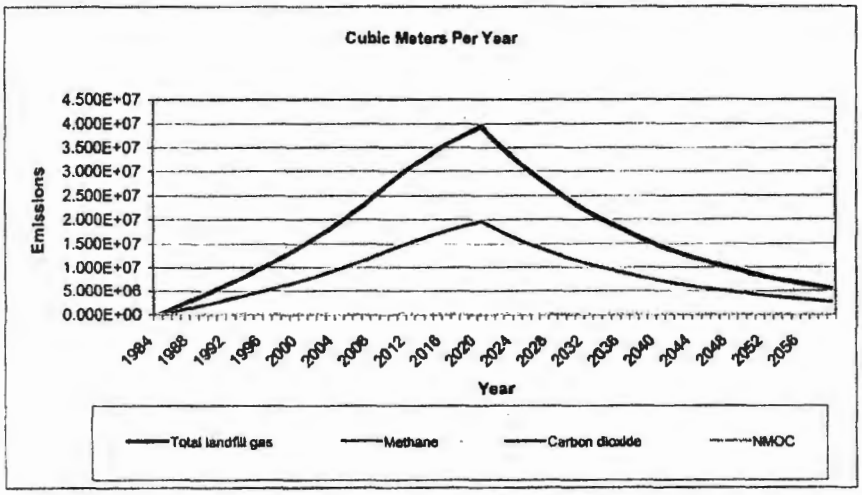
	Compound	Gas / Pollutant Default Parameters: Concentration (ppmv)	Molecular Weight	User-specified Pollutant Parameters: Concentration (ppmv)	Molecular Weight
Gases	Total landfill gas		0.00		
	Methane		16.04		
	Carbon dioxide		44.01		
	NMOC	4,000	86.18		
Pollutants	1,1,1-Trichloroethane (methyl chloroform)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

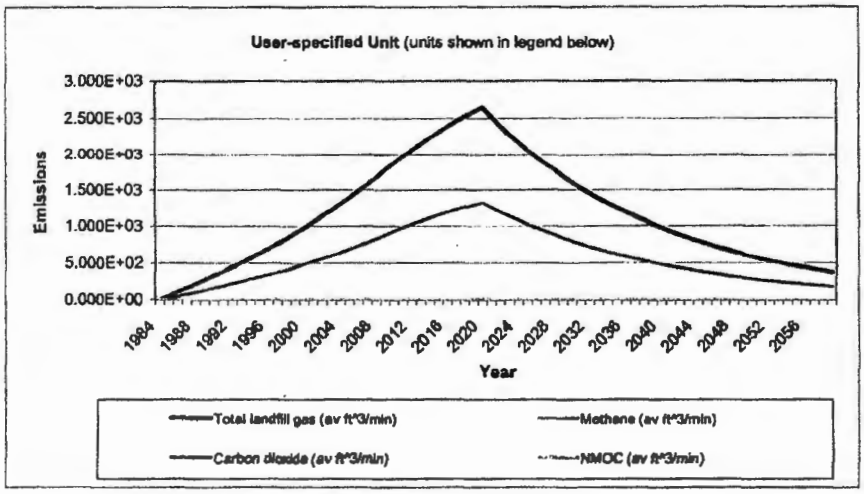
Pollutant Parameters (Continued)

		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
6.000E+04
5.000E+04
4.000E+04
3.000E+04
2.000E+04
1.000E+04
0.000E+00
1984 1988 1992 1996 2000 2004 2008 2012 2016 2020 2024 2028 2032 2036 2040 2044 2048 2052 2056
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


Cubic Meters Per Year
Emissions
4.500E+07
4.000E+07
3.500E+07
3.000E+07
2.500E+07
2.000E+07
1.500E+07
1.000E+07
5.000E+06
0.000E+00
1984 1988 1992 1996 2000 2004 2008 2012 2016 2020 2024 2028 2032 2036 2040 2044 2048 2052 2056
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


User-specified Unit (units shown in legend below)
Emissions
3.000E+03
2.500E+03
2.000E+03
1.500E+03
1.000E+03
5.000E+02
0.000E+00
1984 1988 1992 1996 2000 2004 2008 2012 2016 2020 2024 2028 2032 2036 2040 2044 2048 2052 2056
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)
1984	0	0	0	0	0	0
1985	1.015E+03	8.129E+05	5.462E+01	2.712E+02	4.065E+05	2.731E+01
1986	2.034E+03	1.629E+06	1.095E+02	5.434E+02	8.145E+05	5.473E+01
1987	3.060E+03	2.450E+06	1.646E+02	8.173E+02	1.225E+06	8.232E+01
1988	4.095E+03	3.279E+06	2.203E+02	1.094E+03	1.639E+06	1.102E+02
1989	5.141E+03	4.117E+06	2.766E+02	1.373E+03	2.059E+06	1.383E+02
1990	6.203E+03	4.967E+06	3.337E+02	1.657E+03	2.483E+06	1.669E+02
1991	7.281E+03	5.830E+06	3.917E+02	1.945E+03	2.915E+06	1.959E+02
1992	8.380E+03	6.710E+06	4.509E+02	2.238E+03	3.355E+06	2.254E+02
1993	9.501E+03	7.608E+06	5.112E+02	2.538E+03	3.804E+06	2.556E+02
1994	1.065E+04	8.527E+06	5.729E+02	2.844E+03	4.264E+06	2.865E+02
1995	1.182E+04	9.469E+06	6.362E+02	3.159E+03	4.734E+06	3.181E+02
1996	1.303E+04	1.044E+07	7.012E+02	3.481E+03	5.218E+06	3.506E+02
1997	1.428E+04	1.143E+07	7.681E+02	3.813E+03	5.716E+06	3.840E+02
1998	1.556E+04	1.246E+07	8.370E+02	4.156E+03	6.229E+06	4.185E+02
1999	1.688E+04	1.352E+07	9.082E+02	4.509E+03	6.759E+06	4.541E+02
2000	1.825E+04	1.461E+07	9.818E+02	4.874E+03	7.306E+06	4.909E+02
2001	1.967E+04	1.575E+07	1.058E+03	5.253E+03	7.873E+06	5.290E+02
2002	2.113E+04	1.692E+07	1.137E+03	5.645E+03	8.462E+06	5.685E+02
2003	2.266E+04	1.814E+07	1.219E+03	6.052E+03	9.072E+06	6.096E+02
2004	2.424E+04	1.941E+07	1.304E+03	6.476E+03	9.707E+06	6.522E+02
2005	2.589E+04	2.073E+07	1.393E+03	6.916E+03	1.037E+07	6.966E+02
2006	2.761E+04	2.211E+07	1.486E+03	7.375E+03	1.106E+07	7.428E+02
2007	2.909E+04	2.329E+07	1.565E+03	7.770E+03	1.165E+07	7.826E+02
2008	3.115E+04	2.494E+07	1.676E+03	8.320E+03	1.247E+07	8.379E+02
2009	3.311E+04	2.651E+07	1.781E+03	8.843E+03	1.325E+07	8.906E+02
2010	3.497E+04	2.800E+07	1.881E+03	9.340E+03	1.400E+07	9.407E+02
2011	3.674E+04	2.942E+07	1.977E+03	9.814E+03	1.471E+07	9.884E+02
2012	3.843E+04	3.077E+07	2.067E+03	1.026E+04	1.538E+07	1.034E+03
2013	4.003E+04	3.205E+07	2.154E+03	1.069E+04	1.603E+07	1.077E+03
2014	4.155E+04	3.327E+07	2.236E+03	1.110E+04	1.664E+07	1.118E+03
2015	4.300E+04	3.444E+07	2.314E+03	1.149E+04	1.722E+07	1.157E+03
2016	4.438E+04	3.554E+07	2.388E+03	1.186E+04	1.777E+07	1.194E+03
2017	4.570E+04	3.659E+07	2.459E+03	1.221E+04	1.830E+07	1.229E+03
2018	4.694E+04	3.759E+07	2.526E+03	1.254E+04	1.880E+07	1.263E+03
2019	4.813E+04	3.854E+07	2.590E+03	1.286E+04	1.927E+07	1.295E+03
2020	4.926E+04	3.945E+07	2.650E+03	1.316E+04	1.972E+07	1.325E+03
2021	4.686E+04	3.752E+07	2.521E+03	1.252E+04	1.876E+07	1.261E+03
2022	4.457E+04	3.569E+07	2.398E+03	1.191E+04	1.785E+07	1.199E+03
2023	4.240E+04	3.395E+07	2.281E+03	1.133E+04	1.698E+07	1.141E+03
2024	4.033E+04	3.230E+07	2.170E+03	1.077E+04	1.615E+07	1.085E+03
2025	3.837E+04	3.072E+07	2.064E+03	1.025E+04	1.536E+07	1.032E+03
2026	3.649E+04	2.922E+07	1.963E+03	9.748E+03	1.461E+07	9.817E+02
2027	3.471E+04	2.780E+07	1.868E+03	9.273E+03	1.390E+07	9.339E+02
2028	3.302E+04	2.644E+07	1.777E+03	8.820E+03	1.322E+07	8.883E+02
2029	3.141E+04	2.515E+07	1.690E+03	8.390E+03	1.258E+07	8.450E+02
2030	2.988E+04	2.393E+07	1.608E+03	7.981E+03	1.196E+07	8.038E+02
2031	2.842E+04	2.276E+07	1.529E+03	7.592E+03	1.138E+07	7.646E+02
2032	2.704E+04	2.165E+07	1.455E+03	7.221E+03	1.082E+07	7.273E+02
2033	2.572E+04	2.059E+07	1.384E+03	6.869E+03	1.030E+07	6.918E+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)
2034	2.446E+04	1.959E+07	1.316E+03	6.534E+03	9.794E+06	6.581E+02
2035	2.327E+04	1.863E+07	1.252E+03	6.216E+03	9.317E+06	6.260E+02
2036	2.213E+04	1.772E+07	1.191E+03	5.912E+03	8.862E+06	5.955E+02
2037	2.106E+04	1.686E+07	1.133E+03	5.624E+03	8.430E+06	5.664E+02
2038	2.003E+04	1.604E+07	1.078E+03	5.350E+03	8.019E+06	5.388E+02
2039	1.905E+04	1.526E+07	1.025E+03	5.089E+03	7.628E+06	5.125E+02
2040	1.812E+04	1.451E+07	9.750E+02	4.841E+03	7.256E+06	4.875E+02
2041	1.724E+04	1.380E+07	9.275E+02	4.605E+03	6.902E+06	4.637E+02
2042	1.640E+04	1.313E+07	8.822E+02	4.380E+03	6.565E+06	4.411E+02
2043	1.560E+04	1.249E+07	8.392E+02	4.166E+03	6.245E+06	4.196E+02
2044	1.484E+04	1.188E+07	7.983E+02	3.963E+03	5.941E+06	3.991E+02
2045	1.411E+04	1.130E+07	7.594E+02	3.770E+03	5.651E+06	3.797E+02
2046	1.343E+04	1.075E+07	7.223E+02	3.586E+03	5.375E+06	3.612E+02
2047	1.277E+04	1.023E+07	6.871E+02	3.411E+03	5.113E+06	3.435E+02
2048	1.215E+04	9.727E+06	6.536E+02	3.245E+03	4.864E+06	3.268E+02
2049	1.156E+04	9.253E+06	6.217E+02	3.087E+03	4.626E+06	3.109E+02
2050	1.099E+04	8.802E+06	5.914E+02	2.936E+03	4.401E+06	2.957E+02
2051	1.046E+04	8.372E+06	5.625E+02	2.793E+03	4.186E+06	2.813E+02
2052	9.946E+03	7.964E+06	5.351E+02	2.657E+03	3.982E+06	2.676E+02
2053	9.461E+03	7.576E+06	5.090E+02	2.527E+03	3.788E+06	2.545E+02
2054	8.999E+03	7.206E+06	4.842E+02	2.404E+03	3.603E+06	2.421E+02
2055	8.560E+03	6.855E+06	4.606E+02	2.287E+03	3.427E+06	2.303E+02
2056	8.143E+03	6.520E+06	4.381E+02	2.175E+03	3.260E+06	2.191E+02
2057	7.746E+03	6.202E+06	4.167E+02	2.069E+03	3.101E+06	2.084E+02
2058	7.368E+03	5.900E+06	3.964E+02	1.968E+03	2.950E+06	1.982E+02
2059	7.009E+03	5.612E+06	3.771E+02	1.872E+03	2.806E+06	1.885E+02
2060	6.667E+03	5.339E+06	3.587E+02	1.781E+03	2.669E+06	1.793E+02
2061	6.342E+03	5.078E+06	3.412E+02	1.694E+03	2.539E+06	1.706E+02
2062	6.032E+03	4.830E+06	3.246E+02	1.611E+03	2.415E+06	1.623E+02
2063	5.738E+03	4.595E+06	3.087E+02	1.533E+03	2.297E+06	1.544E+02
2064	5.458E+03	4.371E+06	2.937E+02	1.458E+03	2.185E+06	1.468E+02
2065	5.192E+03	4.158E+06	2.794E+02	1.387E+03	2.079E+06	1.397E+02
2066	4.939E+03	3.955E+06	2.657E+02	1.319E+03	1.977E+06	1.329E+02
2067	4.698E+03	3.762E+06	2.528E+02	1.255E+03	1.881E+06	1.264E+02
2068	4.469E+03	3.579E+06	2.404E+02	1.194E+03	1.789E+06	1.202E+02
2069	4.251E+03	3.404E+06	2.287E+02	1.135E+03	1.702E+06	1.144E+02
2070	4.044E+03	3.238E+06	2.176E+02	1.080E+03	1.619E+06	1.088E+02
2071	3.846E+03	3.080E+06	2.069E+02	1.027E+03	1.540E+06	1.035E+02
2072	3.659E+03	2.930E+06	1.969E+02	9.773E+02	1.465E+06	9.843E+01
2073	3.480E+03	2.787E+06	1.873E+02	9.297E+02	1.393E+06	9.363E+01
2074	3.311E+03	2.651E+06	1.781E+02	8.843E+02	1.326E+06	8.906E+01
2075	3.149E+03	2.522E+06	1.694E+02	8.412E+02	1.261E+06	8.472E+01
2076	2.996E+03	2.399E+06	1.612E+02	8.002E+02	1.199E+06	8.059E+01
2077	2.850E+03	2.282E+06	1.533E+02	7.611E+02	1.141E+06	7.666E+01
2078	2.711E+03	2.170E+06	1.458E+02	7.240E+02	1.085E+06	7.292E+01
2079	2.578E+03	2.065E+06	1.387E+02	6.887E+02	1.032E+06	6.936E+01
2080	2.453E+03	1.964E+06	1.320E+02	6.551E+02	9.820E+05	6.598E+01
2081	2.333E+03	1.868E+06	1.255E+02	6.232E+02	9.341E+05	6.276E+01
2082	2.219E+03	1.777E+06	1.194E+02	5.928E+02	8.885E+05	5.970E+01
2083	2.111E+03	1.690E+06	1.136E+02	5.639E+02	8.452E+05	5.679E+01
2084	2.008E+03	1.608E+06	1.080E+02	5.364E+02	8.040E+05	5.402E+01

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2085	1.910E+03	1.530E+06	1.028E+02	5.102E+02	7.648E+05	5.138E+01
2086	1.817E+03	1.455E+06	9.776E+01	4.853E+02	7.275E+05	4.888E+01
2087	1.728E+03	1.384E+06	9.299E+01	4.617E+02	6.920E+05	4.649E+01
2088	1.644E+03	1.316E+06	8.845E+01	4.391E+02	6.582E+05	4.423E+01
2089	1.564E+03	1.252E+06	8.414E+01	4.177E+02	6.261E+05	4.207E+01
2090	1.488E+03	1.191E+06	8.004E+01	3.973E+02	5.956E+05	4.002E+01
2091	1.415E+03	1.133E+06	7.613E+01	3.780E+02	5.665E+05	3.807E+01
2092	1.346E+03	1.078E+06	7.242E+01	3.595E+02	5.389E+05	3.621E+01
2093	1.280E+03	1.025E+06	6.889E+01	3.420E+02	5.126E+05	3.444E+01
2094	1.218E+03	9.753E+05	6.553E+01	3.253E+02	4.876E+05	3.276E+01
2095	1.159E+03	9.277E+05	6.233E+01	3.095E+02	4.638E+05	3.117E+01
2096	1.102E+03	8.824E+05	5.929E+01	2.944E+02	4.412E+05	2.965E+01
2097	1.048E+03	8.394E+05	5.640E+01	2.800E+02	4.197E+05	2.820E+01
2098	9.972E+02	7.985E+05	5.365E+01	2.663E+02	3.992E+05	2.682E+01
2099	9.485E+02	7.595E+05	5.103E+01	2.534E+02	3.798E+05	2.552E+01
2100	9.023E+02	7.225E+05	4.854E+01	2.410E+02	3.612E+05	2.427E+01
2101	8.583E+02	6.873E+05	4.618E+01	2.292E+02	3.436E+05	2.309E+01
2102	8.164E+02	6.537E+05	4.392E+01	2.181E+02	3.269E+05	2.196E+01
2103	7.766E+02	6.219E+05	4.178E+01	2.074E+02	3.109E+05	2.089E+01
2104	7.387E+02	5.915E+05	3.974E+01	1.973E+02	2.958E+05	1.987E+01
2105	7.027E+02	5.627E+05	3.781E+01	1.877E+02	2.813E+05	1.890E+01
2106	6.684E+02	5.352E+05	3.596E+01	1.785E+02	2.676E+05	1.798E+01
2107	6.358E+02	5.091E+05	3.421E+01	1.698E+02	2.546E+05	1.710E+01
2108	6.048E+02	4.843E+05	3.254E+01	1.615E+02	2.421E+05	1.627E+01
2109	5.753E+02	4.607E+05	3.095E+01	1.537E+02	2.303E+05	1.548E+01
2110	5.472E+02	4.382E+05	2.944E+01	1.462E+02	2.191E+05	1.472E+01
2111	5.206E+02	4.168E+05	2.801E+01	1.390E+02	2.084E+05	1.400E+01
2112	4.952E+02	3.965E+05	2.664E+01	1.323E+02	1.983E+05	1.332E+01
2113	4.710E+02	3.772E+05	2.534E+01	1.258E+02	1.886E+05	1.267E+01
2114	4.480E+02	3.588E+05	2.411E+01	1.197E+02	1.794E+05	1.205E+01
2115	4.262E+02	3.413E+05	2.293E+01	1.138E+02	1.706E+05	1.147E+01
2116	4.054E+02	3.246E+05	2.181E+01	1.083E+02	1.623E+05	1.091E+01
2117	3.856E+02	3.088E+05	2.075E+01	1.030E+02	1.544E+05	1.037E+01
2118	3.668E+02	2.937E+05	1.974E+01	9.798E+01	1.469E+05	9.868E+00
2119	3.489E+02	2.794E+05	1.877E+01	9.321E+01	1.397E+05	9.387E+00
2120	3.319E+02	2.658E+05	1.786E+01	8.866E+01	1.329E+05	8.929E+00
2121	3.157E+02	2.528E+05	1.699E+01	8.434E+01	1.264E+05	8.494E+00
2122	3.003E+02	2.405E+05	1.616E+01	8.022E+01	1.202E+05	8.079E+00
2123	2.857E+02	2.288E+05	1.537E+01	7.631E+01	1.144E+05	7.685E+00
2124	2.718E+02	2.176E+05	1.462E+01	7.259E+01	1.088E+05	7.311E+00

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
1984	0	0	0	0	0	0
1985	7.440E+02	4.065E+05	2.731E+01	1.166E+01	3.252E+03	2.185E-01
1986	1.491E+03	8.145E+05	5.473E+01	2.336E+01	6.516E+03	4.378E-01
1987	2.243E+03	1.225E+06	8.232E+01	3.513E+01	9.801E+03	6.585E-01
1988	3.001E+03	1.639E+06	1.102E+02	4.701E+01	1.312E+04	8.812E-01
1989	3.768E+03	2.059E+06	1.383E+02	5.903E+01	1.647E+04	1.106E+00
1990	4.546E+03	2.483E+06	1.669E+02	7.121E+01	1.987E+04	1.335E+00
1991	5.336E+03	2.915E+06	1.959E+02	8.360E+01	2.332E+04	1.567E+00
1992	6.141E+03	3.355E+06	2.254E+02	9.621E+01	2.684E+04	1.803E+00
1993	6.963E+03	3.804E+06	2.556E+02	1.091E+02	3.043E+04	2.045E+00
1994	7.804E+03	4.264E+06	2.865E+02	1.223E+02	3.411E+04	2.292E+00
1995	8.666E+03	4.734E+06	3.181E+02	1.358E+02	3.788E+04	2.545E+00
1996	9.552E+03	5.218E+06	3.506E+02	1.496E+02	4.175E+04	2.805E+00
1997	1.046E+04	5.716E+06	3.840E+02	1.639E+02	4.573E+04	3.072E+00
1998	1.140E+04	6.229E+06	4.185E+02	1.786E+02	4.983E+04	3.348E+00
1999	1.237E+04	6.759E+06	4.541E+02	1.938E+02	5.407E+04	3.633E+00
2000	1.337E+04	7.306E+06	4.909E+02	2.095E+02	5.845E+04	3.927E+00
2001	1.441E+04	7.873E+06	5.290E+02	2.258E+02	6.299E+04	4.232E+00
2002	1.549E+04	8.462E+06	5.685E+02	2.426E+02	6.769E+04	4.548E+00
2003	1.661E+04	9.072E+06	6.096E+02	2.601E+02	7.258E+04	4.876E+00
2004	1.777E+04	9.707E+06	6.522E+02	2.783E+02	7.765E+04	5.218E+00
2005	1.898E+04	1.037E+07	6.966E+02	2.973E+02	8.294E+04	5.573E+00
2006	2.024E+04	1.106E+07	7.428E+02	3.170E+02	8.844E+04	5.942E+00
2007	2.132E+04	1.165E+07	7.826E+02	3.340E+02	9.317E+04	6.260E+00
2008	2.283E+04	1.247E+07	8.379E+02	3.576E+02	9.977E+04	6.703E+00
2009	2.426E+04	1.325E+07	8.906E+02	3.801E+02	1.060E+05	7.125E+00
2010	2.563E+04	1.400E+07	9.407E+02	4.015E+02	1.120E+05	7.526E+00
2011	2.693E+04	1.471E+07	9.884E+02	4.218E+02	1.177E+05	7.907E+00
2012	2.816E+04	1.538E+07	1.034E+03	4.412E+02	1.231E+05	8.270E+00
2013	2.934E+04	1.603E+07	1.077E+03	4.596E+02	1.282E+05	8.615E+00
2014	3.045E+04	1.664E+07	1.118E+03	4.771E+02	1.331E+05	8.943E+00
2015	3.152E+04	1.722E+07	1.157E+03	4.937E+02	1.377E+05	9.255E+00
2016	3.253E+04	1.777E+07	1.194E+03	5.096E+02	1.422E+05	9.552E+00
2017	3.349E+04	1.830E+07	1.229E+03	5.246E+02	1.464E+05	9.834E+00
2018	3.441E+04	1.880E+07	1.263E+03	5.390E+02	1.504E+05	1.010E+01
2019	3.528E+04	1.927E+07	1.295E+03	5.526E+02	1.542E+05	1.036E+01
2020	3.610E+04	1.972E+07	1.325E+03	5.656E+02	1.578E+05	1.060E+01
2021	3.434E+04	1.876E+07	1.261E+03	5.380E+02	1.501E+05	1.008E+01
2022	3.267E+04	1.785E+07	1.199E+03	5.118E+02	1.428E+05	9.593E+00
2023	3.107E+04	1.698E+07	1.141E+03	4.868E+02	1.358E+05	9.125E+00
2024	2.956E+04	1.615E+07	1.085E+03	4.631E+02	1.292E+05	8.680E+00
2025	2.812E+04	1.536E+07	1.032E+03	4.405E+02	1.229E+05	8.257E+00
2026	2.675E+04	1.461E+07	9.817E+02	4.190E+02	1.169E+05	7.854E+00
2027	2.544E+04	1.390E+07	9.339E+02	3.986E+02	1.112E+05	7.471E+00
2028	2.420E+04	1.322E+07	8.883E+02	3.791E+02	1.058E+05	7.106E+00
2029	2.302E+04	1.258E+07	8.450E+02	3.606E+02	1.006E+05	6.760E+00
2030	2.190E+04	1.196E+07	8.038E+02	3.430E+02	9.570E+04	6.430E+00
2031	2.083E+04	1.138E+07	7.646E+02	3.263E+02	9.103E+04	6.117E+00
2032	1.981E+04	1.082E+07	7.273E+02	3.104E+02	8.659E+04	5.818E+00
2033	1.885E+04	1.030E+07	6.918E+02	2.953E+02	8.237E+04	5.535E+00

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2034	1.793E+04	9.794E+06	6.581E+02	2.809E+02	7.835E+04	5.265E+00
2035	1.705E+04	9.317E+06	6.260E+02	2.672E+02	7.453E+04	5.008E+00
2036	1.622E+04	8.862E+06	5.955E+02	2.541E+02	7.090E+04	4.764E+00
2037	1.543E+04	8.430E+06	5.664E+02	2.417E+02	6.744E+04	4.531E+00
2038	1.468E+04	8.019E+06	5.388E+02	2.299E+02	6.415E+04	4.310E+00
2039	1.396E+04	7.628E+06	5.125E+02	2.187E+02	6.102E+04	4.100E+00
2040	1.328E+04	7.256E+06	4.875E+02	2.081E+02	5.805E+04	3.900E+00
2041	1.263E+04	6.902E+06	4.637E+02	1.979E+02	5.522E+04	3.710E+00
2042	1.202E+04	6.565E+06	4.411E+02	1.883E+02	5.252E+04	3.529E+00
2043	1.143E+04	6.245E+06	4.196E+02	1.791E+02	4.996E+04	3.357E+00
2044	1.087E+04	5.941E+06	3.991E+02	1.703E+02	4.752E+04	3.193E+00
2045	1.034E+04	5.651E+06	3.797E+02	1.620E+02	4.521E+04	3.037E+00
2046	9.839E+03	5.375E+06	3.612E+02	1.541E+02	4.300E+04	2.889E+00
2047	9.359E+03	5.113E+06	3.435E+02	1.466E+02	4.090E+04	2.748E+00
2048	8.903E+03	4.864E+06	3.268E+02	1.395E+02	3.891E+04	2.614E+00
2049	8.469E+03	4.626E+06	3.109E+02	1.327E+02	3.701E+04	2.487E+00
2050	8.056E+03	4.401E+06	2.957E+02	1.262E+02	3.521E+04	2.366E+00
2051	7.663E+03	4.186E+06	2.813E+02	1.200E+02	3.349E+04	2.250E+00
2052	7.289E+03	3.982E+06	2.676E+02	1.142E+02	3.186E+04	2.140E+00
2053	6.934E+03	3.788E+06	2.545E+02	1.086E+02	3.030E+04	2.036E+00
2054	6.595E+03	3.603E+06	2.421E+02	1.033E+02	2.882E+04	1.937E+00
2055	6.274E+03	3.427E+06	2.303E+02	9.828E+01	2.742E+04	1.842E+00
2056	5.968E+03	3.260E+06	2.191E+02	9.349E+01	2.608E+04	1.752E+00
2057	5.677E+03	3.101E+06	2.084E+02	8.893E+01	2.481E+04	1.667E+00
2058	5.400E+03	2.950E+06	1.982E+02	8.459E+01	2.360E+04	1.586E+00
2059	5.137E+03	2.806E+06	1.885E+02	8.047E+01	2.245E+04	1.508E+00
2060	4.886E+03	2.669E+06	1.793E+02	7.654E+01	2.135E+04	1.435E+00
2061	4.648E+03	2.539E+06	1.706E+02	7.281E+01	2.031E+04	1.365E+00
2062	4.421E+03	2.415E+06	1.623E+02	6.926E+01	1.932E+04	1.298E+00
2063	4.205E+03	2.297E+06	1.544E+02	6.588E+01	1.838E+04	1.235E+00
2064	4.000E+03	2.185E+06	1.468E+02	6.267E+01	1.748E+04	1.175E+00
2065	3.805E+03	2.079E+06	1.397E+02	5.961E+01	1.663E+04	1.117E+00
2066	3.620E+03	1.977E+06	1.329E+02	5.670E+01	1.582E+04	1.063E+00
2067	3.443E+03	1.881E+06	1.264E+02	5.394E+01	1.505E+04	1.011E+00
2068	3.275E+03	1.789E+06	1.202E+02	5.131E+01	1.431E+04	9.618E-01
2069	3.115E+03	1.702E+06	1.144E+02	4.881E+01	1.362E+04	9.149E-01
2070	2.964E+03	1.619E+06	1.088E+02	4.643E+01	1.295E+04	8.702E-01
2071	2.819E+03	1.540E+06	1.035E+02	4.416E+01	1.232E+04	8.278E-01
2072	2.682E+03	1.465E+06	9.843E+01	4.201E+01	1.172E+04	7.874E-01
2073	2.551E+03	1.393E+06	9.363E+01	3.996E+01	1.115E+04	7.490E-01
2074	2.426E+03	1.326E+06	8.906E+01	3.801E+01	1.060E+04	7.125E-01
2075	2.308E+03	1.261E+06	8.472E+01	3.616E+01	1.009E+04	6.777E-01
2076	2.195E+03	1.199E+06	8.059E+01	3.439E+01	9.595E+03	6.447E-01
2077	2.088E+03	1.141E+06	7.666E+01	3.272E+01	9.127E+03	6.132E-01
2078	1.987E+03	1.085E+06	7.292E+01	3.112E+01	8.682E+03	5.833E-01
2079	1.890E+03	1.032E+06	6.936E+01	2.960E+01	8.258E+03	5.549E-01
2080	1.797E+03	9.820E+05	6.598E+01	2.816E+01	7.856E+03	5.278E-01
2081	1.710E+03	9.341E+05	6.276E+01	2.679E+01	7.473E+03	5.021E-01
2082	1.626E+03	8.885E+05	5.970E+01	2.548E+01	7.108E+03	4.776E-01
2083	1.547E+03	8.452E+05	5.679E+01	2.424E+01	6.761E+03	4.543E-01
2084	1.472E+03	8.040E+05	5.402E+01	2.305E+01	6.432E+03	4.321E-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)
2085	1.400E+03	7.648E+05	5.138E+01	2.193E+01	6.118E+03	4.111E-01
2086	1.332E+03	7.275E+05	4.888E+01	2.086E+01	5.820E+03	3.910E-01
2087	1.267E+03	6.920E+05	4.649E+01	1.984E+01	5.536E+03	3.720E-01
2088	1.205E+03	6.582E+05	4.423E+01	1.888E+01	5.266E+03	3.538E-01
2089	1.146E+03	6.261E+05	4.207E+01	1.795E+01	5.009E+03	3.366E-01
2090	1.090E+03	5.956E+05	4.002E+01	1.708E+01	4.765E+03	3.201E-01
2091	1.037E+03	5.665E+05	3.807E+01	1.625E+01	4.532E+03	3.045E-01
2092	9.865E+02	5.389E+05	3.621E+01	1.545E+01	4.311E+03	2.897E-01
2093	9.384E+02	5.126E+05	3.444E+01	1.470E+01	4.101E+03	2.755E-01
2094	8.926E+02	4.876E+05	3.276E+01	1.398E+01	3.901E+03	2.621E-01
2095	8.491E+02	4.638E+05	3.117E+01	1.330E+01	3.711E+03	2.493E-01
2096	8.077E+02	4.412E+05	2.965E+01	1.265E+01	3.530E+03	2.372E-01
2097	7.683E+02	4.197E+05	2.820E+01	1.204E+01	3.358E+03	2.256E-01
2098	7.308E+02	3.992E+05	2.682E+01	1.145E+01	3.194E+03	2.146E-01
2099	6.952E+02	3.798E+05	2.552E+01	1.089E+01	3.038E+03	2.041E-01
2100	6.613E+02	3.612E+05	2.427E+01	1.036E+01	2.890E+03	1.942E-01
2101	6.290E+02	3.436E+05	2.309E+01	9.854E+00	2.749E+03	1.847E-01
2102	5.983E+02	3.269E+05	2.196E+01	9.373E+00	2.615E+03	1.757E-01
2103	5.691E+02	3.109E+05	2.089E+01	8.916E+00	2.487E+03	1.671E-01
2104	5.414E+02	2.958E+05	1.987E+01	8.481E+00	2.366E+03	1.590E-01
2105	5.150E+02	2.813E+05	1.890E+01	8.068E+00	2.251E+03	1.512E-01
2106	4.899E+02	2.676E+05	1.798E+01	7.674E+00	2.141E+03	1.438E-01
2107	4.660E+02	2.546E+05	1.710E+01	7.300E+00	2.037E+03	1.368E-01
2108	4.433E+02	2.421E+05	1.627E+01	6.944E+00	1.937E+03	1.302E-01
2109	4.216E+02	2.303E+05	1.548E+01	6.605E+00	1.843E+03	1.238E-01
2110	4.011E+02	2.191E+05	1.472E+01	6.283E+00	1.753E+03	1.178E-01
2111	3.815E+02	2.084E+05	1.400E+01	5.977E+00	1.667E+03	1.120E-01
2112	3.629E+02	1.983E+05	1.332E+01	5.685E+00	1.586E+03	1.066E-01
2113	3.452E+02	1.886E+05	1.267E+01	5.408E+00	1.509E+03	1.014E-01
2114	3.284E+02	1.794E+05	1.205E+01	5.144E+00	1.435E+03	9.642E-02
2115	3.124E+02	1.706E+05	1.147E+01	4.893E+00	1.365E+03	9.172E-02
2116	2.971E+02	1.623E+05	1.091E+01	4.655E+00	1.299E+03	8.725E-02
2117	2.826E+02	1.544E+05	1.037E+01	4.428E+00	1.235E+03	8.299E-02
2118	2.688E+02	1.469E+05	9.868E+00	4.212E+00	1.175E+03	7.895E-02
2119	2.557E+02	1.397E+05	9.387E+00	4.006E+00	1.118E+03	7.510E-02
2120	2.433E+02	1.329E+05	8.929E+00	3.811E+00	1.063E+03	7.143E-02
2121	2.314E+02	1.264E+05	8.494E+00	3.625E+00	1.011E+03	6.795E-02
2122	2.201E+02	1.202E+05	8.079E+00	3.448E+00	9.620E+02	6.464E-02
2123	2.094E+02	1.144E+05	7.685E+00	3.280E+00	9.151E+02	6.148E-02
2124	1.992E+02	1.088E+05	7.311E+00	3.120E+00	8.704E+02	5.848E-02

ALBERTO L. RAMOS LAW OFFICES

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FAX. (787) 284-6292

alberto_ramosperez@yahoo.com

August 7, 2009

Ms. Tere Rodriguez, Chief
Multimedia Permits and Compliance Branch
US Environmental Protection Agency
Caribbean Environmental Protection Division
1492 Ponce de León Ave. Suite 417
San Juan, PR. 00907-4127

RE: MOCA LANDFILL
CAA-SECTION 114 LETTER REF. NO. CAA-02-2009-1469

Dear Ms. Rodriguez:

On behalf of the Municipality of Moca and its major Jose E. Aviles, our office is answering the section 114 letter sent by EPA and dated June 2, 2009

The hard copies of the supplemental information will be deliver to you office with the original of this response on Monday August 10, 2009.

Please apology the delay, but our office was close from July 15, to August 3, 2009.

If you have any question or need additional information, please contact me at (787) 284-2971.

Cordially;

ALBERTO L. RAMOS LAW OFFICES

Alberto L. Ramos, Esq.
Environmental Counsel

Xc: Mr. José E. Avilés, Major

MOCA LANDFILL
ANSWER TO SECTION 114 REQUEST OF INFORMATION

I. BACKGROUND

A. Company History

1. There is no record that shows the exact date that the Municipal Landfill start receiving waste. According to our records, there is a Planning consult submitted to the Puerto Rico Planning Board in 1972 for the first 60 cuerdas and other of 1980 for the last 20 cuerdas.

2. The legal owner of the facility is the Municipality of Moca, the name of the Major is Jose E. Aviles Santiago.

    a. No air pollution control device is used to control the air emission in the landfill. The reason is because is not needed.
    b. Enclosed you will find copy of the operational permit to manage and dispose of the solid waste.

II. NEW SOURCE PERFORMANCE STANDARD (NSPS) 40 CFR 60 SUBPART A

A. General Provision

1. Subpart WWW- Standard of Performance for Municipal Solid Waste Landfill applies to Landfill that commences construction, reconstruction or modifications on or after May 30, 1991.

Subpart AAAA- Standard of Performance for Small Municipal Waste Combustion units for which construction is commended after August 30, 1999 or for which modification or reconstruction is commenced after June 6, 2001.

2. Enclosed you will find copy of the GCCS plans submitted to EQB for revision and approval.

3. GCCS is not approved by EQB yet.

4. No performance test is done.

III. NEW SOURCE PERFORMANCE STANDARD (NSPS) 40CFR 60 SUBPART WWW AND PUERTO RICO LANDFILL STATE PLAN-PART VII OF THE PRRCAP

A. Applicability

1. According to PR Planning Board approval, we can states that operation start during 1973. Enclosed you will find copy of Planning Board approval. We states that Subpart WWW does not apply to Moca Municipal Landfill.

2. As state before there is a consult for additional 20 cuerdas approved by the Planning Board in 1980. No design plans exist.

3. The requested information is not available.

4. The technical personnel from the Municipality of Moca does not have the expertise to prepare the require calculations. This part need to be contracted to outside consultant.

5. This information is not available.

6. Landfill gas is not collected because the GCCS Plan is not approved by EQB.

7. In relation with the closure date of the landfill the Municipality of Moca is evaluating a plan to close some areas of the landfill.

B. Standard for gas collection and control system

1. Plan is provided attached.
2. EQB approves the Plan on June 8, 2009 the Municipality is now working in the bid process.
3. Information requested is not available.
4. Information requested is not available.
5. Information is not available.
6. Information is not available.
7. Information is not available.

C. Monitoring

1. Information not available.
2. Information not available.
3. Information not available.
4. Information not available.

D. Reporting

1. Information not available.
2. Information will be submitted later.
3. Information not available.
4. Information not available.
5. Information not available.

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alberto_ramosperez@yahoo.com

December 3, 2010

Ms. Tere Rodriguez, Chief
Multimedia Permits & Compliance
US Environmental Protection Agency
Caribbean Environmental Protection Division
1492 Ponce de Leon Ave. Suite 417
San Juan, PR. 00907-4127

MOCA LANDFILL
CAA-02-2009-1469

Dear Ms. Rodriguez:

On behalf of the Municipality of Moca, we want to withdraw the Initial Design Capacity Report prepared by our former Consultant Development Management & Consulting Group. This request is base on an initial review by our new consultant who's understand that the information used to prepare the Report was no correct specifically the amount of cuerdas (acres) used to make the determination of cubic yards of solid waste deposited in the site.

A meeting was schedule for December 16, 2010, to discuss the preliminary data obtained by our consultants that will be presented to EPA as a base to this request and the opportunity to present a new Initial Design Capacity Report with data more accurate and reliable.

We are requesting that this petition by granted by your agency.

Cordially,
ALBERTO L. RAMOS LAW OFFICES

Alberto L. Ramos

Xc: Hon. Jose Enrique Aviles

ALBERTO L. RAMOS LAW OFFICES

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August 10, 2010

Ms. Carolina Jordan
Assistance Regional Counsel
US EPA- Region 2
1492 Ponce de Leon Ave.
Centro Europa Building Suite 417
Santurce, Puerto Rico 00907-4127

ANSWER TO COMPLIANCE ORDER
IN THE MATTER OF MUNICIPALITY OF MOCA
INDEX NO. CAA-02-2010-1010

Dear Ms. Jordan:

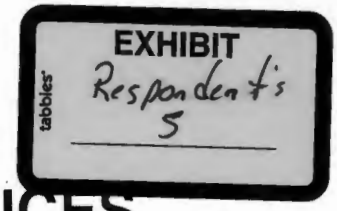
Confirming our meeting held today between the Municipality Technical Consultants and Mr. Francisco Claudio from EPA, the Municipality will revised the design capacity criteria submitted to EQB by our former consultants DMG on 2008. The information requested as part of the Compliance Order will be submitted within the 45 days granted by the Order.

Cordially,

ALBERTO L. RAMOS LAW OFFICES

Alberto L. Ramos

Xc: Mr. Jose E. Aviles, Major of Moca
Mr. Juan C. Mercado
Dr. Jay Piñero
Mr. Francisco Claudio, EPA



ALBERTO L. RAMOS LAW OFFICES

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MERCEDITA, PUERTO RICO 00715-0750

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CONSTANCIA DEVELOPMENT
PONCE, PUERTO RICO 00717-2400

TEL. (787) 284-2971
FAX. (787) 284-6292

alberto_ramosperez@yahoo.com

March 4, 2011

Ms. Teresita Rodriguez, Chief
Multimedia Permits and Compliance Branch
Caribbbean Environmental Portection Division
1492 Ponce de Leon Ave. Suite 417
San Juan, Puerto Rico 00907-4127

Re: In the Matter of Municipality of Moca
Index No. CAA-02-2010-1010
Rationale and Proposed Approach for Re-Submittal of the Design Capacity Report for the Moca Municipal Solid Waste Landfill to the US EPA

Dear Ms. Rodriguez:

An initial design capacity report (Initial Report on Design Capacity – Moca Municipal Solid Waste Landfill) was prepared for the Moca Municipal Solid Waste Landfill (Site) in February 2008 by Development Management and Consulting Group. The results of the initial design capacity report suggested that a gas collection and control system (GCCS) would need to be installed at the Site. However, upon re-analysis of current and historical topographic information and additional pertinent information since the submittal of the initial design capacity report, the Municipality of Moca respectfully requests permission to re-submit the initial design capacity report for the Site. The purpose of this letter is to provide the US EPA with additional background information and the proposed approach for establishing the design capacity that will be used in a revised initial design capacity report.

The emission guidelines (EG) for MSW landfills, found in 40 CFR Part 60, Subpart Cc, requires MSW landfills that accepted waste after November 8, 1987 to submit an initial design capacity report to assess whether the design capacity exceeds 2.5 million m^3 or 2.5 million Mg. If the initial design capacity report indicates that the capacity is less than the above-referenced threshold values, then the facility is not required to comply with gas collection and control system requirements of 40 CFR 60.752(b)(2) and is not required to calculate a non-methane organic compound (NMOC) emission rate.

The above-referenced regulations allow for a landfill's design capacity to be calculated on a volumetric basis or on a weight basis – if either number is found to be less than the regulatory threshold, then no further action is required by the facility unless the facility's design capacity increases in the future (e.g., as part of a regulatory-approved lateral or vertical expansion). At the time that a facility's design capacity exceeds 2.5 million m3 or 2.5 million Mg, then the facility is required to calculate the non-methane organic compound (NMOC) emission rate. If a facility's design capacity does not exceed the 2.5 million (m3 or Mg) threshold, then calculating the NMOC emissions is not required.

The initial design capacity report prepared for the Site in February 2008 calculated a volumetric "design capacity" of 2,143,588.33 m3 and a weight-based "design capacity" of 972,325.29 Mg. We place the words "design capacity" in quotations because the calculated numbers in this report were that of the in-place waste (i.e., the amount of waste that was present at the landfill at the time the report was prepared). The following is the definition of design capacity per the US EPA's New Source Performance Standards, 40 CFR 60 Subpart WWW (emphasis added):

> *Design capacity means the **maximum amount of solid waste a landfill can accept**, as indicated in terms of volume or mass in the most recent permit issued by the State, local, or Tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site specific density, which must be recalculated annually. Per the EG, the report should have ceased at that point and stated that, since the facility's design capacity does not exceed 2.5 million (m^3 or Mg) that calculation of the NMOC emission rate is not required.*

We are not aware of any permit that has been issued for the Site that specifies a maximum volume or mass allowable for the facility. Absent this information, the best available approach would be to calculate the design capacity assuming a final grade configuration and bottom elevation for the current disposal footprint at the Site. Since the previous initial design capacity report suggested that a GCCS may be required, and given that the design capacity calculated in the previous report did not reflect the design capacity as defined in the US EPA regulations, we propose to re-calculate the design capacity (as defined by US EPA regulations) by assuming a final grade configuration for the landfill and calculating a volume or mass and re-submit the initial design capacity report for the Moca Landfill.

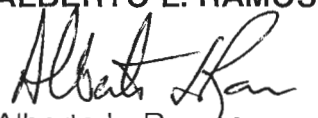
The Municipality of Moca has retained ITG Technical Group (Caguas, PR) and Innovative Waste Consulting Services, LLC (IWCS, Gainesville, FL) to prepare a revised initial design capacity report for the Site. The overall approach that is being proposed is to establish a final grade configuration, establish an approximate "limits of waste" at the site, and estimate a landfill bottom elevation, then calculate the volumetric design capacity using a computer-based drawing program such as AutoCAD.

Based on the experience of ITG and IWCS in MSW landfill designs at other facilities in Puerto Rico, it is expected that the maximum allowable final side slope configuration for the Site would be 3 horizontal to 1 vertical. In addition to identifying a final side slope configuration, the design capacity calculation will include establishing an approximate "limits of waste" which will be identified based on available historical information from Site operators as well as a limited field study that will involve advancing several test pits (minimum of 6) using mobile landfill equipment at the site. The purpose of the test pits will be to spot check the anticipated limits of waste so that a more defined waste boundary can be established for the purposes of calculating the design capacity. The approximate dimensions of each test pit will be 6 ft wide, 12 ft long, and 3 ft deep. The locations of each test pit will be surveyed in the field and each pit will be visually observed to identify the presence of buried MSW. If waste is encountered in a given test pit, an additional test pit will be advanced approximately 15 ft away until no waste is encountered.

Lastly, a waste bottom grade elevation will be assumed as part of the revised design capacity report. Based on a United States Geological Survey (USGS) quadrangle map published in 1968 (which is earlier than 1984, when waste filling first began at the Site), we will assume that the pre-existing grades at the Site were at a uniform elevation of 225 m, which we expect will be a conservative (in favor of resulting in a larger design capacity) figure to use. Detailed bottom elevation data do not exist for the site and using the USGS quadrangle map represents the best available historical information that can be used to estimate a pre-landfilling bottom elevation for the Site. Figure 1 shows the 1968 USGS quadrangle map.

We respectfully request a meeting to provide our rationale in order that you consider our approach and provide us with an expedited response so that we may proceed with completing and submitting the initial design capacity report for the Moca Landfill as soon as possible. Once receiving the US EPA's approval of our approach, we propose to execute the test pit field effort and submit the revised design capacity report to the US EPA within 21 days.

Sincerely,
ALBERTO L. RAMOS LAW OFFICES

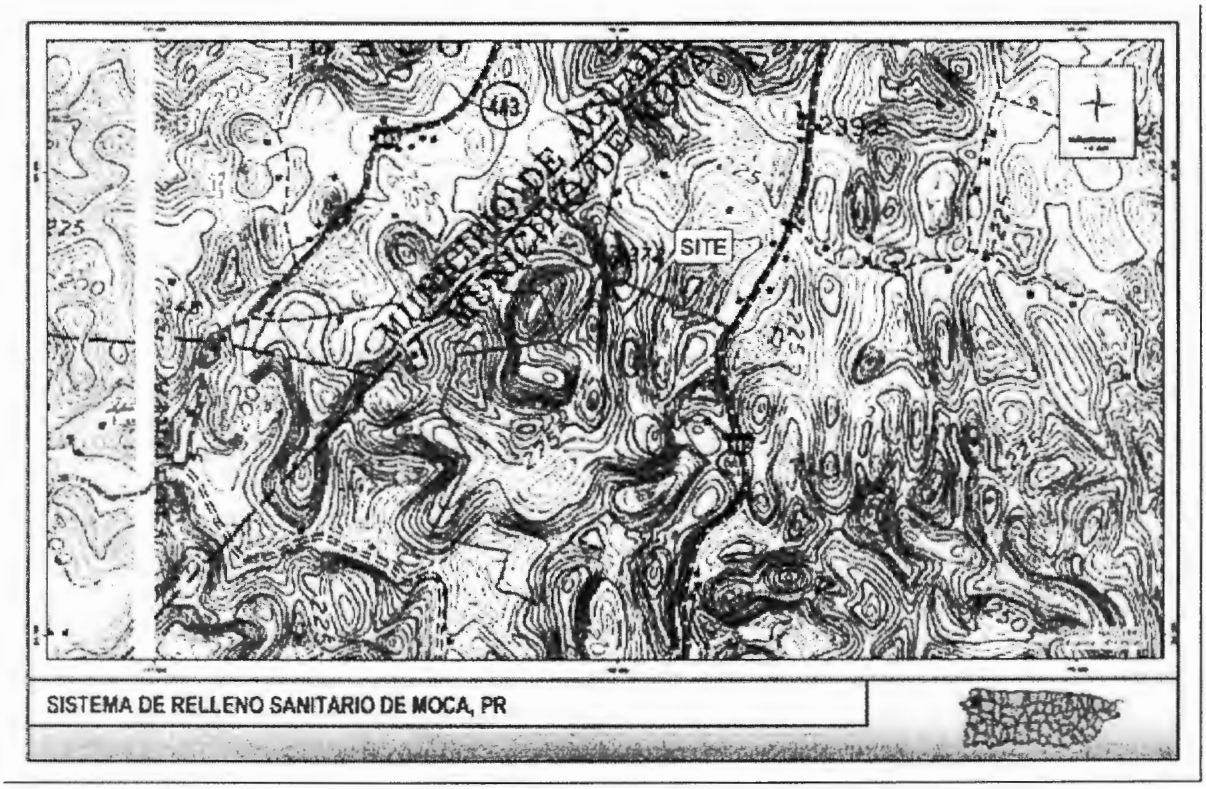


Alberto L. Ramos

Xc: Hon. Jose E. Aviles Santiago, Major
Eng. Juan Carlos Mercado, ITG
Ms. Carolina Jordan, Esq.
Mr. Francisco Claudio

ATTACHMENT

1968 USGS QUADRANGLE MAP FOR MOCA, PUERTO RICO



Note: The red line shows the Moca Municipal Solid Waste Landfill's property boundary and the elevation contours suggest a minimum pre-landfilling grade of 225 m

GOBIERNO DE PUERTO RICO
OFICINA DEL GOBERNADOR
JUNTA DE CALIDAD AMBIENTAL

Área Control Contaminación de Terrenos

7 de septiembre de 2011

Hon. José E. Avilés
Alcalde
Municipio de Moca
Apartado 1571
Moca, PR 00676-1571

Advance Design Capacity Report
Municipality of Moca Landfill – March 2011
Moca, Puerto Rico

Honorable Alcalde:

Personal técnico de la División de Permisos Desperdicios Peligrosos (DPDP) completó la evaluación al documento arriba mencionado. El mismo fue preparado por la firma ITG en marzo 2011. Dicho documento fue entregado a la DPDP para su evaluación el 30 de agosto de 2011.

El Municipio de Moca está solicitando a esta Junta se les exima de la instalación de un Sistema para la Recolección y Control de Gases (SRCG) en el Sistema de Relleno Sanitario (SRS) de dicho Municipio. Basado en los requisitos del Código Federal de Regulaciones (40 CFR, Part 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills), el cual establece que dueños y operadores de SRS con un diseño de capacidad menor de 2.5 millones de metros cúbicos (volumen) ó 2.5 millones de megagramos (peso) deberán someter un informe inicial de diseño de capacidad. De ocurrir algún crecimiento en el SRS que ocasione que el diseño de capacidad sea igual o mayor de 2.5 millones de metros cúbicos (m^3) ó 2.5 millones de megagramos (Mg), el dueño u operador deberá someter un informe con una revisión del diseño de capacidad y deberá calcular la tasa de emisión del compuesto orgánico libre de metano (nonmethane organic compound (NMOC)) generado en el SRS. Si la tasa de emisión calculada del NMOC es igual o mayor de 50 megagramos por año, el dueño u operador deberá instalar, operar y mantener un SRCG.

Edificio Agencias Ambientales Cruz A. Matos
Ave. Ponce de León 1375, San Juan, PR 00926-2604
Apartado 11488, Santurce, PR 00910
Tel. 787-767-8181 Fax 787-767-8118

El documento sometido presenta los cálculos del diseño de capacidad de este SRS basado en las áreas impactadas por basura, las cuales son aproximadamente veinticuatro (24) cuerdas. En adición, los cálculos se realizaron utilizando una pendiente final de 3:1 y una elevación base de doscientos veinte metros (220 m). Luego de realizado los cálculos de capacidad, considerando estos factores, el diseño de capacidad máxima del SRS es de ochocientos nueve mil metros cúbicos. (809,000 m^3), el cual está por debajo de los 2.5 millones de metros cúbicos.

Debido a que el diseño de capacidad máxima del SRS está por debajo de lo establecido en el 40 CFR, esta Junta exime al SRS de Moca de la instalación de un SRCG. Sin embargo, si ocurriese alguna expansión en el SRS se deberá someter una revisión del diseño de capacidad máxima del mismo tomando en consideración todos los factores (pendiente final, elevación base, entre otros).

No obstante, el SRS deberá cumplir con la Regla 547, Inciso B del Reglamento para el Manejo de los Desperdicios Sólidos No Peligrosos (1997), la cual establece que:

> Los dueños u operadores de SRS implantarán un programa rutinario de monitoría o seguimiento de la concentración del gas metano para asegurar que la instalación cumple con el Inciso C de esta Regla. El programa se realizará según un plan de monitoría de gases previamente aprobado por la Junta de Calidad Ambiental.

De surgir cualquier duda al respecto, puede comunicarse con la Sra. Diana G. Cruzado, al teléfono (787) 767-8181 ext. 3582.

Cordialmente,

María V. Rodríguez

María V. Rodríguez
Gerente
Área Control Contaminación Terrenos

Juan Carlos Mercado Torres, P.E.
Professional Engineer
P.O. Box 822 Caguas, P.R. 00726
Email: Sanitaria@gmail.com

MAJOR QUALIFICATIONS

- Licensed Professional Engineer in the Commonwealth of Puerto Rico
- Design / Build Experience
- Subtitle D 40 CFR Experience in the State of Florida and the Commonwealth of Puerto Rico
- Sales and Presentation Skills
- Experience in Client/Market Development
- Bilingual: Spanish, English fluently
- Project Planning, Management and Supervisory Experience
- Ability to Interact Effectively with Clients, Peers and Subordinates both in English and Spanish
- Good Analytical and Communication Skills
- Design / Build Experience

LICENSES

- Professional Engineer Commonwealth of Puerto Rico
- OSHA HAZWOPER- (11/21/97)

WORK EXPERIENCE

President and Owner – I-Technical Group, Caguas, P.R. (5/97-Current)

- Responsible for the development of the consulting firm, which started right after leaving the University of Florida with a degree in environmental engineering. ITG specializes in independent engineering consulting services in several technical areas and currently holds a list of over 15 major clients and several minor clients (Please Refer to ITG statement of qualifications or for further information or capabilities visit our website at www.itgpr.net)
- General Environmental Permitting Documents, Project Management, Feasibility Studies, Solid Waste Management, Air Quality, Water and Wastewater Treatment.
  - New Medtronic Facility in Juncos, Puerto Rico
  - Guidant Puerto Rico, Dorado, Puerto Rico
  - Colgate, Juncos, Puerto Rico
  - Pfizer Fajardo, Puerto Rico
  - Pfizer Barceloneta, Puerto Rico
  - Puerto Rico Housing Finance Authority, New Secure Housing Project, Juana Diaz, Puerto Rico

- Puerto Rico Housing Finance Authority, New Secure Housing Project, Lajas, Puerto Rico
- Confidential Private Hotel Development, Guanica, Puerto Rico
- Confidential Industrial Development, Northwestern, Puerto Rico

- Puerto Rico Highway and Transportation Authority

Toyota de Puerto Rico

Project Manager, *Brown and Caldwell, Inc, Miami, Florida / San Juan, PR*

- As a consultant, responsible for the day to day activities of marketing, project management and project delivery in the Caribbean Region, mostly in San Juan, Puerto Rico.
- Established new client and joint venture relationships. Assessed business growth and development. Developed strategic business plans.
- Maintain strong relationship and interactions with vendors and customers
- Lead the development of the business market opportunities in the commonwealth of Puerto Rico and the Caribbean.

Project Manager, *Camp Dresser & McKee, Miami, Florida*

- Responsible for the day to day activities of marketing, project management and project delivery in the Caribbean Region, mostly in San Juan, Puerto Rico.
- Established new client and joint venture relationships. Assessed business growth and development. Developed strategic business plans.
- Maintain strong relationship and interactions with vendors and customers
- Lead the development of the business market opportunities in the commonwealth of Puerto Rico and the Caribbean.

Project Engineer, *Camp Dresser & McKee, Tampa, Florida (3/97-2/99)*

Project Experience;

Infrastructure Financing Authority, AFI,San Juan, Puerto Rico, (3/99-Present):

- Assisted on the design, specifications/contract production, shop drawing review and construction services for a new potable water treatment plant in the municipality of Mayaguez.
- This fast track, ten million dollar construction cost project includes the design of a process to treat high turbidity water from the Yaguez river in order to meet all EPA Safe Drinking Water Act, PRASA and Department of Health design criteria and regulations.

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Professional Engineer
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Southern County, Delaware Solid Waste Authority, Delaware (6/98-1/99):

- Assisted on the design, specifications/contract production, permitting, shop drawing review and construction services for a new 30-acre cell at the Southern Solid Waste Management Center.
- This expansion includes a new disposal area with doubled lined containment, a stormwater management system, perimeter access roads, a small load drop-off area, and additional pump stations and mains.

City of St. Petersburg, St. Petersburg, Florida (5/98-12/98):

- Responsible for the modeling and analysis using Cybernet 3 of the reclaimed water system for the City of St. Petersburg.
- Modeling conditions will be presented to the client with projections to the year 2030 in order to be able to manage future reclaimed water demand for the county.

Bay County, Panama City Beach, Florida (10/97-5/98):

- Assisted on the design, specifications/contract production, shop drawings review and construction services for a new municipal solid waste cell at the Steelfield Road Landfill in Panama City Beach, Florida.
- In coordination with a team of three civil, mechanical and environmental engineers this 72,000 square yards, multimillion dollar project was successfully completed on-schedule and will serve as an active municipal solid waste disposal facility for the next seven years.
- Responsible for the leachate collection system, leachate detection system, liner, and stormwater collection
  system design and construction services.
- This new cell was designed following all EPA/DEP municipal solid waste disposal regulations.

Hillsborough County, Tampa Water Department, Tampa, Florida (3/98-7/98):

- Represented Camp Dresser & McKee in contract negotiations and marketing presentations for this five-year management consulting services / capital improvement plan project.
- Performed management consulting services for the Tampa Water Department in order to organize and optimize their planning and budgeting process.
- Provided the client with renewal and replacement cost data and analysis of the current equipment and future needs of water, wastewater and reclaimed water facilities.

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Hillsborough County, Plant City, Florida (9/97-Present):

- Represented the City of Plant City during one of its worst floods, surveying and assessing damages and citizens concerns and presented possible solutions.
- Responsible for the design of the Pistol Range Stormwater Pond and open channel facility, a successful project to alleviate flooding problems and stormwater runoff pollution for the City of Plant City.

Martin County, City of Palm City, Florida (4-98-7/98):

- Responsible for the leachate collection system, leachate detection system, liner, geosynthethic clay liner and stormwater collection system design and construction services.
- This new cell was designed following all EPA/DEP municipal solid waste disposal regulations for geosynthetic clay liners and double liners.
- Performed hydraulic analysis of existing pump station network and advise the client about future problems due to the future addition of flow to the existing system.

Rockwell Inc., Miami, Florida (10/97-11/97):

- Performed Environmental Assessments /Audits for a major real estate group transaction.
- Reports and site visits were prepared in both English and Spanish in order to accommodate the needs of the Spanish-speaking client.

Elias & Associates Law Firm, Tampa, Florida (10/97-11/97):

- Performed consulting services for a Spanish-speaking client of the Elias & Associates Law Firm.
- Served as a liaison between the client and the Department of Environmental Protection, explaining technical issues of hazardous waste storage and disposal in Spanish and English to both parties.
- The client was able to save over ten thousand dollars in fines due to a misunderstanding caused by his language barrier.

Marmon Investment Group, Orlando, Florida (8/97-9/97):

- Performed an Environmental Assessment /Audit for a major real estate investment group transaction.
- Identified possible chemical hazards and pollution sources on-site.
- Evaluated solid wastes, stormwater, and wastewater management systems and prepared a successful proposal for the improvement of all three-management systems.

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Tampa International Airport-Hillsborough County Aviation Authority, Tampa, Florida (7/97-3/98):

- Performed Environmental Assessments /Audits for a major real estate acquisition by the Hillsborough County Aviation Authority (HCAA).
- Responsible for site visits, interviews and evaluation reports. Most interviews were conducted in Spanish since most of the land to be purchased by HCAA is located within the Hispanic business-residential community of Tampa.

Escambia County, Pensacola Beach, Florida (3/97-9/97):

- Responsible for the modeling and analysis of the potable water systems network for Pensacola Beach Florida.
- Peak hour, average daily flow and fire flow modeling conditions were presented to the client with projections to the year 2015 in order to be able to manage future water demand for the county.

Leon County, Tallahassee, Florida (4/97-6/98):

- Assisted in the production of permitting design drawings, calculations and coordination of the Lake Munson Restoration Project.
- This multimillion-dollar project has the ultimate goals of restoring Lake Henrietta, Lake Munson and Munson Slough back to a more natural system in order to alleviate current flooding problems in Leon County.

Hillsborough County, Ybor City, Florida (11/97-12/97):

- Developed a solid waste collection strategy study for Ybor City, a nineteenth century historic District City that has become a major commercial area in the Tampa Area.
- The collection strategy developed tries to preserve and/or enhance the aesthetics of the area while accommodating for the current commercial needs.
- The collection strategy developed was presented to the client in CADD overlays and is currently being used in a GIS database and for other field collection scheduling.

Hall Director, *Division of Housing, University of Florida: Gainesville, Florida (5/96-5/97)*

- Responsible for the entire operations of Graham Hall Building, a student residence hall with an occupancy of approximately 300 students.
- Supervised an administrative budget and a staff of six employees.

Juan Carlos Mercado Torres, P.E.
Professional Engineer
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- Approval and verification of room transfers and assignments, damage controls systems and billing, judicial system, fire safety control systems / fire Marshall compliance regulations, and verification of supplies inventory.

Solid Waste Containment Design Process Manual, *Alachua County, Florida (10/96 – 5/97)*

- Performed independent research concerning federal regulations, design criteria and management options of municipal solid waste landfills and hazardous waste treatment and disposal.
- Prepared presentations for engineering and non-technical audiences on how to site, design, operate, apply closure plan, landfill gas treatment, leachate treatment system and hydraulic system design for a municipal solid waste landfill.

Resident Assistant, *Division of Housing, University of Florida: Gainesville, Florida (8/93-5/96)*

- Advised, counseled, and created a positive living environment in a coed section of a residence hall.
- Enforced policies, resolved conflicts, and implemented entertaining programs to educate residents.
- Served on campus wide planning committees for theme weeks and specialty programming.

Research Assistant, *Central Caribbean Univ. School of Medicine: Bayamón, Puerto Rico (8/91 - 5/92)*

- Assisted Dr. Walter Silva on his research of Bovine Brain Proteins.
- Responsible for lab equipment inventory, maintenance and ordering.

EDUCATION

Bachelor of Science in Environmental Engineering- University of Florida, Gainesville, FL May 1997

- Core emphasis in water & wastewater treatment, solid waste management, and sales engineering.

University of South Florida Engineering Masters Program- Tampa, FL- August 1997-July 1999

- Graduate courses and seminars in the areas of total quality management, solid waste management and remediation treatment processes.

Juan Carlos Mercado Torres, P.E.
Professional Engineer
P.O. Box 822 Caguas, P.R. 00726
Email: Sanitaria@gmail.com

University of North Florida- Jacksonville, FL- November 1997

- OSHA 40-Hour Hazardous Materials Health & Safety Training Course, National Fire Protection Association- Life Safety Code Seminar and Construction Safety Seminar.

COMPUTER SKILLS

- AutoCAD 2003, SoftDesk Civil Modules (Earthworks, DTM, Cogo), HELP (Hydrologic Evaluation of Landfill Performance) Model, C++, Cybernet (Potable Water Systems Design), WaterCad, EPANET (Pipe Network Analysis), Microsoft Office, Geographical Information Systems ArcView-ArcInfo, SureTrack (Primavera Systems)

AWARDS & ACTIVITIES

- Camp Dresser & Mckee Outstanding Performance Recognition Award (October 1999)
- Camp Dresser & Mckee Excellence Bonus Award (October 1999)
- Engineering & Information Technology Magazine Portrait Article (Summer 1998 Issue)
- Camp Dresser & Mckee Excellence Bonus Award (January 1998)
- President's Recognition of Outstanding Students Award (1994 - 96)
- Outstanding Service Awards for UF Division Of Housing (1993 - 96)
- University of Florida National Alumni Association
- National Society of Hispanic Engineers
- American Water Works Association

PROFFESSIONAL SEMINARS

- Several Seminars in Puerto Rico and the US related to the Environmental Engineering Field 1998-2003
- CDM Advance Project Management, 1998, Miami, FL
- CDM Basic Project Management, 1998, Tampa, FL
- CDM Financial Management, 1997, Tampa, FL
- CDM Project Management, 1997, Tampa, FL
- CDM SoftDesk COGO, DTM, and Design Tools,1997,Tampa, FL
- EDI Air Diffusers Design, 1997,Tampa, FL
- GSE Lining Technologies, 1997, Tampa, FL

Juan Carlos Mercado Torres, P.E.
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- Air Mixing Systems Design, 1997,Tampa, FL
- Engineered Membrane Diffusers Design, 1997,Tampa, FL
- Rapid Sand Filter Design, 1997, Tampa, FL
- Geosynthethics and Underdrain Products, 1997, Tampa, FL
- Environmental Law Symposium, 1996, Gainesville, FL

REFERENCES

References, company financial statements and good standing certificates as well as additional information available upon request.