Gas Control Engineering, Inc.

December 1, 1991
1003-1

Mr. Ken Ellis
South Coast Air Quality Management District
Toxics Unit, Engineering Division
21865 Copley Drive
Diamond Bar, California 91765-4182

Subject: Air Toxics Inventory Report for Hewitt Landfill (Facility ID 3530)

Dear Mr. Ellis:

Enclosed is the 1990 air toxics inventory report for Hewitt Landfill. Because all of the appendix A1 compounds are below the applicable degree of accuracy, they have been listed on form S-UP. All items requested on the "Checklist for 1990 ATIR Submission" have been included. Additionally, calculations showing the worst case flare emissions, a copy of the 1990 flare source test report and an area map of the landfill are included in attachment 1, 2 and 3 respectively.

Should you have any questions on this submittal please contact:

Dick Prosser
Gas Control Engineering
5362 Lindford Lane
Yorba Linda, California 92686
(714) 777-2863

Very truly yours,

Dick Prosser

cc: George Cosby

1990 9150 Flair Drive 1990

El Monte, CA 91731

ATTN: ENGINEERING DIVISION (TOXICS UNIT)

AB 2588 AIR TOXICS INVENTORY REPORT APPLICATION FORM

1990

Company Name: CALMAT PROPERTIES CO

Mailing Address: 3200 SAN FERNANDO ROAD

LOS ANGELES, CALIF. 90065

Facility Address: 7361 LAUREL CANYON BLVD.

N. HOLLYWOOD, CALIF. 91605

Facility AQMD ID #: 3530 (From your plan approval letter)

Contact Person (Company Official): GEORGE COSBY

Telephone #: 213 258-2777

Report Preparer (If not a Company Official): DICK PROSSER

Telephone #: 714 777-2863

Signature of the Report Preparer:

Signature of Responsible Company Official:

Plan Date 1990

THIS FORM MUST BE FILLED OUT AND MAILED WITH THE INVENTORY REPORT

1990 FACILITY EMISSION SUMMARY FORM 1990

COMPANY		AQMD ID	
APPENDIX A-I SUBSTANCES		FACILITYWIDE EMISSIONS	
AIR TOXIC NAME	CAS NO.	MAXIMUM LBS/HR	AVERAGE LBS/YR
BENZENE	71-43-2	9.3E-04	8.2
CHLOROBENZENE	108-90-7	9.3E-04	8.1
CHLOROFORM	67-66-3	9.3E-04	8.1
CARBON TETRACHLORIDE	56-23-5	9.4E-04	8.2
1,2 DICHLOROETHANE	107-06-02	9.4E-04	8.2
HYDROGEN SULFIDE	77-830-64	7.9E-04	6.9
METHYLENE CHLORIDE	75-09-2	9.4E-04	8.2
TETRACHLOROETHENE	127-18-4	9.5E-04	8.3
TRICHLOROETHYLENE	79-01-6	9.2E-04	8.1
1,1,1 TRICHLOROETHANE	71-55-6	9.4E-04	8.2
1,4 DICHLOROBENZENE	106-46-7	9.2E-04	8.1
TOLUENE	108-88-3	3.5E-03	30.7
VINYL CHLORIDE	75-01-4	9.4E-04	8.2
TOTAL XYLENES	1115	1.3E-03	11.7
1,1 DICHLOROETHENE	75-35-4	9.4E-04	8.2

THE INVENTORY SHOULD BE FOR THE PERIOD JAN 1, 1990 THRU DEC 31, 1990

ENG:

AB 2588 ATIR 90

EMISSION YEAR 19 90

AIR TOXICS EMISSION DATA SYSTEM REVIEW & UPDATE REPORT
DEVICE DESCRIPTION AND DEVICE-STACK RELATIONS

FORM **DEV**

FOR OFFICE USE ONLY

COUNTY ID

FACILITY ID

OFC CODE

***** OFFICE USE ONLY *****
**** EACH ITEM IS OPTIONAL ***

ACTION CODE

DEVICE ID: 7|0|0|0|1

DEVICE NAME: F|L|A|R|E

NBR OF DEV.

DEVD1

DEVICE GROUP

STACK ID: 9 0 0 0 1

PERMIT ID (IF AVAILABLE): 1 6 4 8 2 7

DEVD2

ACTION CODE

DEVICE ID

DEVICE NAME

NBR OF DEV.

DEVD1

DEVICE GROUP

STACK ID

PERMIT ID (IF AVAILABLE)

DEVD2

ACTION CODE

DEVICE ID

DEVICE NAME

NBR OF DEV.

DEVD1

DEVICE GROUP

STACK ID

PERMIT ID (IF AVAILABLE)

DEVD2

ACTION CODE

DEVICE ID

DEVICE NAME

NBR OF DEV

DEVD1

DEVICE GROUP

STACK ID

PERMIT ID (IF AVAILABLE)

DEVD2

ACTION CODE

DEVICE ID

DEVICE NAME

NBR OF DEV.

DEVD1

DEVICE GROUP

STACK ID

PERMIT ID (IF AVAILABLE)

DEVD2

ACTION CODE

DEVICE ID

DEVICE NAME

NBR OF DEV.

DEVD1

DEVICE GROUP

STACK ID

PERMIT ID (IF AVAILABLE)

DEVD2

ARB/DEV/240389

NAME DICK PROSSER DATE 12/2/91

EMISSION YEAR 19 90

AIR TOXICS EMISSION DATA SYSTEM REVIEW & UPDATE REPORT
STACK DATA

FORM **STK**

FOR OFFICE USE ONLY COUNTY ID: FACILITY ID:

DO NOT DELETE STACK IF IT SERVES OTHER DEVICES. SEE INSTRUCTIONS

DESC CODE	STACK/VENT CATEGORY	REQUIRED INFORMATION
	AMBIENT TEMP & LOW-VELOCITY EXHAUST (T W/IN 25 F OF AMBIENT & V LT 750 FPM)	
1	RELEASE POINT(RP) AT GROUND-LEVEL	STACK ID & CODE ONLY
2	RELEASE FROM BLDG HVAC ONLY	STACK ID, CODE, & STACK HEIGHT
3	RP W/IN (2.5 X HB) ABOVE GROUND AND W/IN (5 X HB) SIDEWAYS TO NEAREST BLDG	STACK ID, CODE & STACK HEIGHT
4	OTHER STACK/VENT (LOW T,V)	STACK ID, CODE & STACK HEIGHT
	OTHER TEMP & FLOW CONDITIONS	
5	RP W/IN (2.5 X HB) ABOVE GROUND AND W/IN (5 X HB) SIDEWAYS TO NEAREST BLDG	ALL STACK INFORMATION
6	OTHER STACK/VENT (OTHER T,V)	ALL STACK INFORMATION

WHERE HB = HEIGHT OF NEAREST BUILDING AND HVAC = HEATING, VENTILATING AND AIR CONDITIONING

OFC USE

********* EXHAUST *********

ACTION CODE	STACK ID	DESC CODE	HEIGHT ABOVE GROUND (FEET)	DIAMETER (FEET)	GAS TEMP (F)	GAS FLOW RATE (CFM)	GAS VELOCITY (FPM)	*OFC USE ONLY* UTM EAST (KILOMETER)	UTM NORTH (KILOMETER)
	90001	6	24	8	1550	44,000	875		

NAME DICK PROSSER DATE 12/2/91

ARB/STK/890323

Facility SCAQMD ID# 3530 Company Name CALMAT PROPERTIES CO.

Facility Location Address 7361 LAUREL CANYON BLVD, N. HOLLYWOOD CA 91605

Receptor Proximity Form for AB-2588 Air Toxics "Hot Spots" Prioritization

Please provide answers to the following questions in terms of meters. 100 meters is equal to about 108 yards or 325 feet. If your measurements are originally in feet or yards, please convert them to meters. (Meters = Feet X 0.3048)

---

1. What is the closest distance between any source of air toxic emissions at your facility and the property boundary of any one of these receptors -- **other business, work-site, school, day-care center, shopping center, park, or hospital?**

___ Less than 50 meters (160 feet)	
x Less than 100 meters	___ Less than 1,500 meters
___ Less than 250 meters	___ Less than 2,000 meters
___ Less than 500 meters	___ Greater than 2,000 meters
___ Less than 1,000 meters (1,080 yards)	RECEPTOR TYPE OTHER BUSINESS

Place check mark in front of appropriate distance category and indicate type of receptor.
Please note that vacant commercial/industrial lots will also be considered work places.

Important! If distance is less than 250 meters (270 yards or 810 feet) and more than 50 meters (54 yards or 160 feet), provide actual distance in meters.

95 meters.

---

2. What is the closest distance between any source of air toxic emissions at your facility and the property boundary of any one of these receptors -- **house, apartment, convalescent home, trailer park, or other residence?**

___ Less than 50 meters (160 feet)	
___ Less than 100 meters	___ Less than 1,500 meters
x Less than 250 meters	___ Less than 2,000 meters
___ Less than 500 meters	___ Greater than 2,000 meters
___ Less than 1,000 meters (1,080 yards)	RECEPTOR TYPE HOUSE

Place check mark in front of appropriate distance category and indicate type of receptor.
Please note that vacant lots zoned as residential will also be considered residences.

Important! If distance is less than 250 meters (270 yards or 810 feet) and more than 50 meters (54 yards or 160 feet), provide actual distance in meters.

245 meters.

Documentation must be provided to support the distance information provided. Include copies of appropriate maps with map scale (in feet, meters, etc.). U.S. Geological Survey (7 1/2 minute), "Thomas Brothers Guide", "Auto Club" or other similar maps are acceptable if the map provides sufficient detail.

EMISSION YEAR 1990	AIR TOXICS EMISSION DATA SYSTEM REVIEW & UPDATE REPORT SUPPLEMENTAL PROCESS PARAMETER FORM SUBSTANCES USED, PRODUCED, OR OTHERWISE PRESENT	FORM **S-UP**

FOR OFFICE USE ONLY
CO: AP:
FACID:

FACILITY NAME CALMAT PROPERTIES, CO.

PLEASE COPY THIS FORM AS MANY TIMES AS NECESSARY FOR YOUR FACILITY.
PLEASE READ THE INSTRUCTIONS BEFORE COMPLETING THIS FORM.

USE THIS FORM TO REPORT SUBSTANCES IN APPENDIX A-II WHICH ARE USED, PRODUCED, OR OTHERWISE PRESENT.

PLEASE INDICATE (Y/N) UNDER THE APPROPRIATE CATEGORIES (USE, PRODUCTION, OR OTHER PRESENCE WITHIN YOUR FACILITY) OF ANY SUBSTANCE(S) LISTED IN APPENDIX A-II. "USED" REFERS TO SUBSTANCES WHICH ARE INGREDIENTS IN ANY ACTIVITY OR PROCESS AT YOUR FACILITY. "PRODUCED" REFERS TO SUBSTANCES WHICH ARE THE RESULT OF ANY ACTIVITY OR PROCESS TAKING PLACE IN YOUR FACILITY. "OTHERWISE PRESENT" REFERS TO SUBSTANCES PRESENT IN ANY OTHER WAY IN AN ACTIVITY OR PROCESS, SUCH AS BY-PRODUCTS OR REACTION INTERMEDIATES WHICH APPEAR TEMPORARILY DURING PROCESSING. PLEASE SPECIFY THE NATURE OF THE PRESENCE OF THE SUBSTANCE.

ALSO USE THIS FORM TO REPORT SUBSTANCES IN APPENDIX A-I WHICH ARE PRESENT BELOW THE APPLICABLE DEGREE OF ACCURACY.

ALSO USE THIS FORM TO REPORT SUBSTANCES IN APPENDIX A-I AND APPENDIX A-II WHICH ARE USED, PRODUCED, OR OTHERWISE PRESENT AT ANY FACILITY SUBJECT TO THE REQUIREMENTS OF SECTION 93308(C)

LISTED SUBSTANCE EMITTENT ID	*USED*	*PRODUCED*	*OTHERWISE PRESENT*	*(SPECIFY)*
71-43-2	(N)	(N)	(Y)	IN LANDFILL GAS
108-90-7	(N)	(N)	(Y)	IN LANDFILL GAS
67-66-3	(N)	(N)	(Y)	IN LANDFILL GAS
56-23-5	(N)	(N)	(Y)	IN LANDFILL GAS
107-06-02	(N)	(N)	(Y)	IN LANDFILL GAS
77-830-64	(N)	(N)	(Y)	IN LANDFILL GAS
75-09-2	(N)	(N)	(Y)	IN LANDFILL GAS
127-18-4	(N)	(N)	(Y)	IN LANDFILL GAS
79-01-6	(N)	(N)	(Y)	IN LANDFILL GAS
71-55-6	(N)	(N)	(Y)	IN LANDFILL GAS
106-46-7	(N)	(N)	(Y)	IN LANDFILL GAS
108-88-3	(N)	(N)	(Y)	IN LANDFILL GAS
75-01-4	(N)	(N)	(Y)	IN LANDFILL GAS
1115	(N)	(N)	(Y)	IN LANDFILL GAS
75-35-4	(N)	(N)	(Y)	IN LANDFILL GAS
630080	(N)	(Y)	(N)	COMBUSTION BY PRODUCT

NAME: DICK PROSSER *DATE:* 12/2/91

ARB/S-UP/90057

BY G. WRIGHT

DATE MAY 2, 1979

PROBE	% METHANE	TIME	
1	0		
2	0		
3	0		
4	0		
5' 10FT	0		
20FT	0		
6'	0		
6A	0		
7'	0		
7A	0		
8'	0		
9'	0		
10	0		
10A	11		
11	0		
11A	5		
12	0		
12A	12		
13'	0		
14'	0		
15'	0		
16'	0		
17	0		
17A	MISSING		
18	56		
19	—		
19A	MISSING		
20	60		
21	39		
22	0		
22A	7		
23	19		

PROBE	% METHANE	TIME	
24	0		
24A	53		
24B	0		
25	0		
26	0		
27	0		
28	0		
29	INACCESS.		
29A	INACCESS.		
30	MISSING		
31	MISSING		
32'	56		
32A	60		
33'	0		
34'	60		
35'	MISSING		
35A	60		

EMCON Associates
1420 Koll Circle
San Jose, California 95112

GAS PROBE READINGS

SITE: HEWITT LANDFILL

FIGURE

PROJECT NO.

BY G.W. to DHA

DATE July 10, 1979

PROBE	% METHANE	TIME	
1	0		
2			Missing
3	0		
4			Missing
5 1/10	0		
5 20	0		
6'	0		
6A	0		
7'	0		
7A	0		
8'	0		
9'	15		
10	0		
10A			Missing
11	0		
11A	0		
12	0		
12A	5		
13'	0		
14'	0		
15	0		
16	0		
17	0		
17A			Missing
18	5		
19	40		
19A			Missing
20	35		
21	35		
22	15		
22A	25		
23	30		

PROBE	% METHANE	TIME	
24	10		
24A	30		
24B	5		
25	0		
26	0		
27	0		
28	0		
29			Inaccess
29A	8		
30			Missing
31			Missing
32	0		
32A			Missing
33			Missing
34	0		
35'			Missing.
35A	0		

EMCON Associates
1420 Koll Circle
San Jose, California 95112

GAS PROBE READINGS

SITE: Hewitt Land fill

FIGURE

PROJECT NO.

BY G.W to DHA

DATE July 27, 1979

PROBE	% METHANE	TIME	
1	0		
2			Missing
3	0		
4			Missing
5' 10	0		
5' 20	0		
6'	0		
6A	0		
7'	0		
7A	0		
8'	0		
9'	20		
10	0		
10A			Missing
11	0		
11A	0		
12	0		
12A	0		
13'	0		
14'	0		
15	0		
16	0		
17	0		
17A			Missing
18	25		
19	40		
19A			Missing
20	40		
21	45		
22	10		
22A	35		
23	40		

PROBE	% METHANE	TIME	
24	0		
24A	0		
24B	50		
25	0		
26	0		
27	0		
28	0		
29			Inaccess
29A	0		
30			Missing
31			Missing
32	0		
32A			Missing
33			Missing
34	0		
35'			Missing
35A	0		

EMCON Associates
1420 Koll Circle
San Jose, California 95112

GAS PROBE READINGS

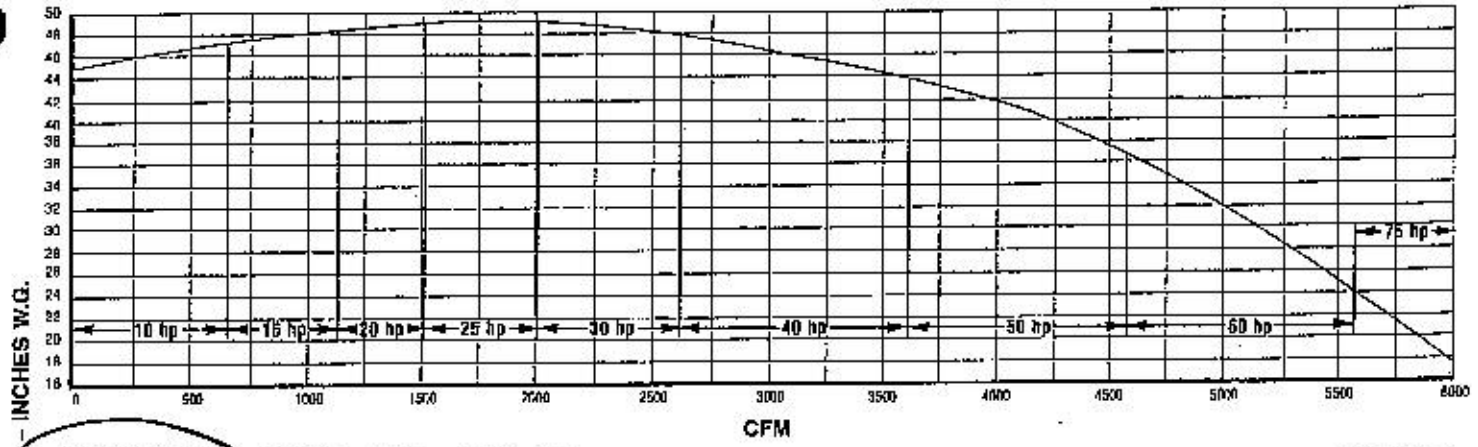
SITE: Hewitt Landfill

FIGURE

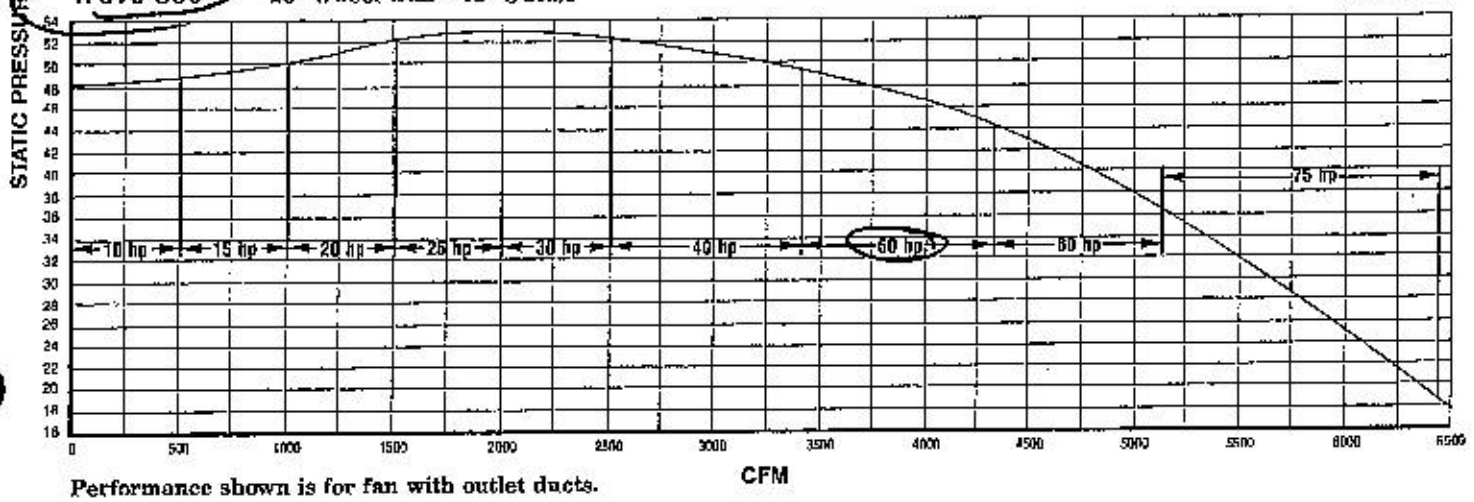
PROJECT NO.

PERFORMANCE

W630-300 25" Wheel Dia. – 12" Outlet 3500 RPM



W670-300 26" Wheel Dia. – 12" Outlet 3500 RPM



Performance shown is for fan with outlet ducts.

MATERIAL SPECIFICATIONS FOR STANDARD UNITS

SIZE	HOUSING			MOTOR BASE		ALUMINUM WHEEL		STEEL WHEEL		
	SIDE PLATES	SCROLL BACK & SIDES	FRAME REINFORCEMENT	PLATE	BASE REINFORCEMENT	WEIGHT LBS.	WR² LB. FT²	WEIGHT LBS.	WR² LB. FT²	MIN. MTR. HP*
355	.135"	.135"	.25 x 2"	.250"	.25 x 2"	8.4	1.4	25.2	4.2	1½
375						8.9	1.7	28.7	5.1	3
400						9.4	2.1	28.2	6.3	3
425						10.5	2.6	31.5	7.8	5
450						11.6	3.2	34.8	9.6	5
475	.135"	.135"	.25 x 2"	.250"	.25 x 2"	11.6	3.1	34.8	9.3	5
530						13.5	4.6	40.5	13.8	7.5
560						14.4	5.5	43.2	16.5	10
580	3/16"	.135"	.25 x 2"	.250"	.25 x 2"	14.0	6.0	42.0	18.0	10
610						15.2	6.9	45.6	20.7	10
630						16.2	8.0	48.6	24.0	10
670						17.8	9.2	53.4	27.6	10
W530	3/16"	.135"	.25 x 2"	.250"	.25 x 2"	16.5	4.9	49.5	14.7	7.5
W560						17.6	5.7	52.8	17.1	10
W580						18.0	6.8	54.0	20.4	10
W610						19.6	7.8	58.8	23.4	10
W630						21.4	9.1	64.2	27.3	10
W670						22.4	10.3	67.2	30.9	15

**To overcome inertia of steel wheel.*

TABLE 1
APRIL, 1979
HEWITT LANDFILL
w/ 23 wells on line

PIPE HEAD LOSS (inches of H_2O) - FIRST APPROXIMATION

West Section	50 cfm	100 cfm	150 cfm
Well 2 lateral	0.05	0.17	0.38
Well 3 lateral	0.01	0.02	0.04
Header, 6"	0.11	0.42	0.98
Well 1 lateral	0.02	0.06	0.14
Header, 6"	0.36	1.30	2.80
Well 4C lateral	0.05	0.16	0.36
Well 4B lateral	0.01	0.04	0.09
Header, 6"	0.88	3.60	7.20
Well 4 lateral	0.02	0.06	0.14
Header, 8"	0.18	0.68	1.56
Well 4A lateral	0.02	0.06	0.13
Header 8"	0.20	0.76	1.60
Well 5B lateral	0.03	0.10	0.22
Header 8"	0.54	2.00	3.60
Well 5A lateral	0.02	0.07	0.16
Header 8"	0.10	0.39	0.78
Well 5 lateral	0.02	0.06	0.14
Header 8"	0.76	2.85	6.27
Well 6A lateral	0.03	0.08	0.18
Header 8"	1.10	3.91	8.51
Well 6 lateral	0.05	0.16	0.35
Header 8"	1.40	4.80	12.00
Well 6B lateral	0.05	0.14	0.32
Header 10"	0.22	0.85	1.70
Σ WEST	6.23	22.74	49.65

Table 1 (continued)

HEWITT LANDFILL

HEAD LOSS (inches of H_2O) - FIRST APPROXIMATION

East Section	50 cfm	100 cfm	150 cfm
Well 11A lateral	0.08	0.24	0.54
Well 11 lateral	0.24	0.90	2.10
Well 9 lateral	0.02	0.06	0.13
Header 8"	0.26	0.87	1.91
Well 8 lateral	0.04	0.14	0.31
Header 8"	0.04	0.14	0.29
Well 10A lateral	0.09	0.28	0.63
Well 10B lateral	0.07	0.23	0.52
Header 6"	0.06	0.22	0.47
Well 10 lateral	0.47	1.69	3.64
Header 10"	0.17	0.60	1.22
Well 8A lateral	0.06	0.19	0.43
Header 10"	0.25	0.90	1.68
Well 7 lateral	0.05	0.15	0.34
Header 10"	0.06	0.20	0.37
Well 7A lateral	0.04	0.11	0.25
Header 10"	0.25	0.95	2.28
Well 7B lateral	0.05	0.16	0.36
Header 10"	0.03	0.12	0.24
Σ EAST	2.33	8.15	17.71
WEST + EAST	8.56 in. H_2O	30.89 in. H_2O	67.36 in. H_2O
FLOW (24 wells)	1200 cfm	2400 cfm	3600 cfm

BY G. WRIGHT DATE MAY 2 1979

PROBE	% METHANE	TIME	
1	0		
2	0		
3	0		
4	0		
5' 10FT	0		
20FT	0		
6'	0		
6A	0		
7'	0		
7A	0		
8'	0		
9'	0		
10	0		
10A	11		
11	0		
11A	5		
12	0		
12A	12		
13'	0		
14'	0		
15'	0		
16'	0		
17	0		
17A	MISSING		
18	56		
19	—		
19A	MISSING		
20	60		
21	39		
22	0		
22A	7		
23	19		

PROBE	% METHANE	TIME	
24	0		
24A	53		
24B	0		
25	0		
26	0		
27	0		
28	0		
29	INACCESS.		
29A	INACCESS		
30	MISSING		
31	MISSING		
32'	56		
32A	60		
33'	0		
34'	60		
35'	MISSING		
35A	60		

EMCON Associates
1420 Koll Circle
San Jose, California 95112

GAS PROBE READINGS

SITE: HEWITT LANDFILL

FIGURE

PROJECT NO.

BY G.W. to DHA

DATE July 10, 1979

PROBE	% METHANE	TIME	
1	0		
2			Missing
3	0		
4			Missing
5' 10	0		
5' 20	0		
6'	0		
6A	0		
7'	0		
7A	0		
8'	0		
9'	15		
10	0		
10A			Missing
11	0		
11A	0		
12	0		
12A	5		
13'	0		
14'	0		
15	0		
16	0		
17	0		
17A			Missing
18	5		
19	40		
19A			Missing
20	35		
21	35		
22	15		
22A	25		
23	30		

PROBE	% METHANE	TIME	
24	10		
24A	30		
24B	5		
25	0		
26	0		
27	0		
28	0		
29			Inaccess
29A	8		
30			Missing
31			Missing
32	0		
32A			Missing
33			Missing
34	0		
35'			Missing.
35A	0		

EMCON Associates
1420 Koll Circle
San Jose, California 95112

GAS PROBE READINGS

SITE: Hewitt Land fill

FIGURE

PROJECT NO.

BY G.W. to DHA

DATE July 27, 1979

PROBE	% METHANE	TIME	
1	0		
2			Missing
3	0		
4			Missing
5' 10	0		
5' 20	0		
6'	0		
6A	0		
7'	0		
7A	0		
8'	0		
9'	20	SATICOY END OF LANDFILL WELL 3	
10	0		
10A			Missing
11	0		
11A	0		
12	0		
12A	0		
13'	0		
14'	0		
15	0		
16	0		
17	0		
17A			Missing
18	25	SOUTH SIDE OF	
19	40	HEWITT WELLS	
19A			Missing
20	40	7E[1], 7A[-1.0], 10B[-1.0],	VACUUM FOR
21	45	10[3.2], 10A[.45], 11A[-.40])	WELLS
22	10		
22A	35		
23	40		

PROBE	% METHANE	TIME	
24	0		
24A	0		
24B	50		
25	0		
26	0		
27	0		
28	0		
29			Inaccess
29A	0		
30			Missing
31			Missing
32	0		
32A			Missing
33			Missing
34	0		
35'			Missing
35A	0		

EMCON Associates
1420 Koll Circle
San Jose, California 95112

GAS PROBE READINGS

SITE: Hewitt Landfill

FIGURE

PROJECT NO.

LOCKMAN & ASSOCIATES
A CORPORATION
CIVIL ENGINEERS 249 E. POMONA BOULEVARD • MONTEREY PARK, CALIFORNIA 91754 • TEL. 724-0250

July 11, 1978

Mr. Stephen R. Smith
Greenwald & Hoffman
Attorneys at Law
3345 Wilshire Boulevard, Suite 1106
Los Angeles, California 90010

Dear Mr. Smith:

Los Angeles By-Products' Hewitt Landfill
Gas Migration Control System

At your request, this office has supervised the operation and maintenance of the migration control system recently installed at the Hewitt Landfill site. Our supervision commenced about April 1, 1978, and final readings were taken on June 29, 1978. The purpose of our activity was to adjust the system to control the migration as measured, utilizing probes previously installed. Prior to April 1, 1978, this office was involved in periodically inspecting the system which was being operated by Los Angeles By-Products. Presented here is a report of our activities, our findings, and data collected. This report may be presented in four phases; namely:

A. The System,

B. Description of Operation,

C. The System Adjustment,

D. The System Certification.

A. The System

The gas migration control system consists of 15 wells, a piping system collecting the gas from the wells, a blower, and burner. The wells vary in depth between 40 and 80 feet. The collector pipe is plastic material placed above ground and covered with earth. The blower is a centrifugal gas pump, driven by 220-volt electric motor. The burner is a multi-jet type, placed within a shroud, to control the air mix and to conceal the flame. "As constructed" plans of the system are attached hereto.

B. Description of Operation

During the first week in April, 1978, a complete inspection of the system was made to determine the effect of the rather severe winter

rains on the wells and the collector pipe. Probe readings commenced on April 11 and continued through the operational period. A check of the system output on April 5, 1978, showed a flow to the burner of 2,799 SCFM (Standard Cubic Feet per Minute) at full capacity, and a flow of 2,288 SCFM with the system throttled to an inlet vacuum of 28.3 inches Water Column. This compares to a design of 2,400 SCFM at 28.3 inches of vacuum. The actual flow is considered within tolerances of the design flow.

The inspection showed water was accumulating at various locations in the collector pipe system. These locations were identified, and additional water traps were installed by Los Angeles By-Products. Considerable settlement of the collector pipe has occurred since its original installation. Substantial areas of the landfill are below surrounding grades and, therefore, ponded drainage waters during the recent rainy season. The sump areas were in the process of being backfilled with earth. The areas affected mostly by the ponded water were in the vicinity of Wells 1, 4, 5, and 6. All wells were sounded and a comparison made with original designed depths. The results are tabulated in Exhibit "A". As can be seen, there is little difference between the depth measured and the designed depth. Water was found only in Wells 1, 2, and 3, and with significant amounts in Well No. 1 only.

The gas flow from each well was measured, together with the methane content of the gas, the gas temperature, and the well vacuum. These measurements were taken at various days of the operation and are attached, in chronological order, together with the probe readings. At first, the equipment would not continue to run at full capacity. The electrical overload protection devices seemed to be shutting the equipment off. The system was then throttled back to about 2,000 SCFM and ran continuously at that rate for about 30 days. The weather then turned warmer, and again the equipment continued to shut off.

The firm of Eggett & Helin, electrical engineers, reviewed the power installation and presented certain recommendations. The recommendations are contained in their letter of June 5, 1978, a copy of which is attached hereto as Exhibit "B". The starter heaters were increased as recommended, and the equipment was again operated at full capacity without shutdowns. On June 12, 1978, the equipment capacity had decreased to 2,265 SCFM, and further inspection showed some damage to the blower housing and an increase in the pressure to the burner. On June 21, the original equipment installer, Hirt Combustion Engineers, installed a new blower housing and cleaned the nozzles, and the equipment was again placed in operation. It is now withdrawing 2,812 SCFM of gas, at full capacity, and appears satisfactory.

The first probe readings (April 11) showed a methane content as high as 58 percent, and the methane content in the gas delivered to the burner

at 49 percent. This compares with a high probe reading (June 29) of 49 percent and a methane content of the gas delivered to the burner of 39 percent. The methane content of the gas in the probes continues to decrease and the equipment now appears to be operating satisfactorily.

The water introduced in the landfill during this last rainy season appears to have affected the performance of Wells 4, 5, 6, and 7A. Our portable gas rig was connected to Well 4 and then to Well 7A. On May 21, 1978, the portable rig was withdrawing 506 SCFM from Well No. 4. The May 19 probe readings clearly show an immediate effect on the probes in the vicinity of Well No. 4. It is concluded that the water is affecting the movement of the gas from the westerly property line to Wells 4, 5, 6, and 7A, and, unless water ponding is eliminated, it may be necessary to add additional wells near the westerly property line.

Many of the probes have been destroyed by the development activity of neighboring properties. A total of 73 probes were installed. Thirty-two have been destroyed as of June 29, 1978. It is imperative that some of these be replaced upon completion of construction near the property line.

C. The System Adjustment

The system has recovered sufficient gas to control the migration, as observed not only in the probe readings but also in the methane content from the individual wells. The system should now be operated with adjustment of valves on the wells and the collection system, maintaining maximum well vacuum and a minimum of air entrainment. Final adjustment was made on June 29, 1978. Reference is made to the data sheet for that day for well temperatures, inlet vacuums, and valve settings. Information on the adjusted well flows and valve settings are presented in Table 1.

D. Certification

It is the conclusion of the writer that as of June 29, 1978, the Hewitt Landfill Gas Migration Control System has been constructed and is operating according to the plans and specifications, and represents the latest in the technical advancement of gas control systems. The capacity of the system, in terms of quantity of gas removed, exceeds the gas generation rate of the landfill. It is the conclusion of the writer that the system will control the migration of methane gas into surrounding properties and can be economically operated and maintained.

Respectfully submitted,

W. J. Lockman
R.E. 10290

WJL:fc
Enc.

Table 1

ADJUSTED WELL FLOWS

Well No.	Flow (SCFM)	Valve Setting
1	--	3/4 open
2	--	open
3	--	open
1, 2, & 3	155	1/2 open
4	121	open
4A	92	1/4 open
5	263	1/2 open
5A	90	1/4 open
6	204	1/2 open
6A	151	1/4 open
7	345	1/2 open
7A	468	1/2 open
8	215	1/2 open
9	191	1/4 open
10	228	1/2 open
11	154	1/3 open
Total	2,677	
Burner	2,649	open

MEMORANDUM

April 13, 1978

To: Job File 78-770

From: C. A. Rambo

Subject: Well Depth Soundings

On Tuesday, April 11, 1978, I sounded all the wells in the migration control system for the Hewitt Landfill. The following is what I found:

Well No.	Depth Found	Design Depth	Comment
1	71 feet	80 feet	19 feet of water in well
2	39 feet	40 feet	1 foot of water in well
3	45 feet	40 feet	± 3 inches of water in well
4	64 feet	65 feet	
4A	47 feet	48 feet	
5	66 feet	65 feet	
5A	46 feet	50 feet	
6	64 feet	65 feet	
6A	45 feet		
7	63 feet	65 feet	
7A	64 feet	65 feet	
8	54 feet	55 feet	
9	62 feet	55 feet	
10	54 feet	50 feet	Water flows back to the well
11	59 feet	50 feet	

C. A. Rambo

C. A. Rambo

CAR:jh

SYSTEM FLOW DATA

AND

PROBE READINGS

Date: June 29, 1978

By: C.A. Rambo

METHANE GAS READINGS
HEWITT LANDFILL
JOB NO. ~~77-663~~
78-770

PROBE NUMBER	% METHANE	TIME
1	Ø LEL	8:36A
2	Ø LEL	8:35A
3	Ø LEL	8:34A
4	Ø LEL	8:33A
5		
6	Ø LEL	8:23A
7	Ø LEL	8:25A
8	Ø LEL	8:27A
9	Ø LEL	8:29A
10 / 10A	Ø / 41%	8:40A
11 / 11A	17% / 48%	8:43A
12 / 12A	17% / 49%	8:46A
13	Ø	8:49A
14		
15		
16		
17 / 17A	41% / 49%	8:54A
18	19%	8:57A
19 / 19A	Ø / 9%	8:59A
20	Ø	9:02A
21	Ø	9:04A
22 / 22A	Ø / 10%	9:06A
23	Ø	9:09A
24 / 24B	Ø / 13%	9:11A

PROBE NUMBER	% METHANE	TIME
24A	Ø	9:14A
25	Ø	9:16A
26 / 26A	Ø / Ø	9:18A
27	Ø	9:21A
28	Ø	9:23A
29 / 29A	Ø / 9%	9:25A
30	Ø	9:28A
31	Ø	9:30A
32		
33		
34	Ø LEL	8:19A
35	Ø LEL	8:17A
36	Ø LEL	8:15A
1-1*		
1-2*		
1-3*		
1-4*		
1-5*	Ø LEL	8:32A

PROBE NUMBER	% METHANE	TIME
2-1*		
2-2		
2-3		
2-4		
2-5		
3-1*		
3-2		
3-3		
3-4		
3-5		
4-1*		
4-2		
4-3		
4-4		
4-5		
5-1*		
5-2		
5-3		
5-4		
5-5		
5-5A		

Reading By: C.A. Rambo

HEWITT SYSTEM
FLOW RATES
JOB NO. ~~77-663~~
78-770

DATE	TIME	WELL NO.	GAS TEMP. °F	FLOW RATE	WELL VACUUM IN INCHES OF WATER Vel. Hd.	Static	METHANE CONTENT	REMARKS
June 29, 1978	10:00A	1	93°			-2.7"	45%	Value is 3/4 open
	10:10A	2	91°			-1.7"	39%	Value is Full Open
	10:20A	3	99°			-2.2"	35%	Value is Full Open
	10:30A	1,2,&3	88°	cfm 160	0.05"	-4.1"	36%	Value is 1/2 open
	10:45A	4	116°	cfm 128	0.04"	-4.1"	46%	Value is Full open
	11:00A	4A	105°	cfm 96	0.03"	-0.45"	38%	Value is 1 1/2 open Water in lateral
	11:30A	5	116°	cfm 278	0.15"	-3.6"	32%	Value is 1 1/2 open Water in lateral
	11:15A	5A	136°	cfm 96	0.03"	-1.12"	20%	Value is 1 1/2 open Water in lateral
	12:00P	6	111°	cfm 215	0.47"	-2.7"	35%	Value is 1 1/2 open
	11:45A	6A	120°	cfm 160	0.05"	-1.88"	29%	Value is 1 1/2 open Value was full open due to additional lateral
	12:20P	9	108°	cfm 200	0.08"	-2.4"	35%	Value is 1 1/2 open
	12:35P	11	94°	cfm 160	0.05"	-3.1"	28%	Value is 1 1/2 open
	12:50P	8	111°	cfm 227	0.10"	-5.3"	43%	Value is 1/2 open
	1:05P	10	98°	cfm 237	0.11"	-3.3"	41%	Value is 1/2 open
	1:20P	7	120°	cfm 367	0.27"	-6.4"	40%	Value is 1/2 open
June 29, 1978	1:35P	7A	114°	cfm 497	0.48"	-8.6"	35%	Value is 1/2 open
June 29, 1978	2:40P	Main Burner	129°	scfm 2649	0.88"	+21.0"	39%	Value is Full Open Inlet -21.3"
June 29, 1978	2:55P	Main Burner	129°	scfm 2442	0.74"	+19.6"	39%	Value is 45% open Inlet -23.5"

Date: June 12, 1978

By: C.A. Rambo

METHANE GAS READINGS
HEWITT LANDFILL
JOB NO. 77-663

PROBE NUMBER	% METHANE	TIME
1	Ø	11:43A
2	Ø	11:42A
3	Ø	11:41A
4	Ø	11:40A
5 5A	Destroyed	
6	Ø	11:30A
7	3%	11:32A
8	20%	11:34A
9	30%	11:36A
10 10A	10% 43%	11:46A
11 11A	33% 43%	11:49A
12 12A	38% 44%	11:52A
13	5%	11:55A
14	Destroyed	
15	Destroyed	
16	Destroyed	
17 17A	39% 44%	12:03P
18	23%	12:06P
19 19A	25% 42%	12:08P
20	13%	12:11P
21	12%	12:13P
22 22A	Ø 14%	12:15P
23	Ø	12:18P
24 24B	2% 38%	12:20P

PROBE NUMBER	% METHANE	TIME
24A	Ø	12:23P
25	Ø	12:25P
26	Ø Ø	12:27P
27	Ø	12:30P
28	Ø	12:32P
29	Ø 7%	12:34P
30	5%	12:37P
31	35%	12:39P
32	8%	11:26A
33	23%	11:24A
34	Ø	11:22A
35	Ø	11:20A
36	Destroyed	
1-1*		
1-2*		
1-3*		
1-4*		
1-5*	Ø	11:39A

PROBE NUMBER	% METHANE	TIME
2-1*		
2-2		
2-3		
2-4		
2-5		
3-1*		
3-2		
3-3		
3-4		
3-5		
4-1*		
4-2		
4-3		
4-4		
4-5		
5-1*		
5-2		
5-3		
5-4		
5-5		
5-5A		

Date: May 11, 1978

By: C A Rambo

METHANE GAS READINGS
HEWITT LANDFILL
JOB NO. 77-663

PROBE NUMBER	% METHANE	TIME
1	Ø	10:21A
2	Ø	10:20A
3	Ø	10:19A
4	Ø	10:17A
5 / 5A	Ø / Ø	10:06A
6	Ø	10:08A
7	Ø	10:10A
8	Ø	10:12A
9	Ø	10:14A
10 / 10A	Ø / 18%	10:24A
11 / 11A	Ø / 2%	10:27A
12 / 12A	Ø / 22%	10:30A
13	Ø	10:33A
14	Ø	10:35A
15	Ø	10:37A
16	Ø	10:39A
17 / 17A	20% / 27%	10:41A
18	24%	10:44A
19 / 19A	20% / 26%	10:47A
20	18%	10:49A
21	Ø	10:51A
22 / 22A	Ø / 9%	10:53A
23	Ø	10:56A
24 / 24B	Ø / 4%	10:58A

PROBE NUMBER	% METHANE	TIME
24A	Ø	11:01A
25	Ø	11:03A
26	Ø / Ø	11:05A
27	Ø	11:08A
28	Ø	11:10A
29	Ø / 9%	11:12A
30	Ø	11:15A
31	Ø	11:17A
32	Ø	11:19A
33	23%	11:21A
34	19%	11:23A
35	7%	11:25A
36	11%	11:27A
1-1*		
1-2*		
1-3*		
1-4*		
1-5*	Ø	11:18A

PROBE NUMBER	% METHANE	TIME
2-1*		
2-2		
2-3		
2-4		
2-5		
3-1*		
3-2		
3-3		
3-4		
3-5		
4-1*		
4-2		
4-3		
4-4		
4-5		
5-1*		
5-2		
5-3		
5-4		
5-5		
5-5A		

Reading by: C.A. Rambo

HEWITT SYSTEM
FLOW RATES
JOB NO. 77-663

TIME	WELL NO.	GAS TEMP. °F	FLOW RATE	WELL VACUUM IN INCHES OF WATER		METHANE CONTENT	REMARKS
					Static		
11:50A	2	93°			-5.2"	44%	Value Full Open Static Press. Varies
11:55A	1	95°			-8.0"	CH_4 Content Varies from 10 to 19% 19%	Value is Full Open Static Press. Varies
12:00P	3	99°			-6.3"	39%	Value is Full Open Static Press. Varies
12:10P	1,2,&3	81°	295	0.17"	-14.6"	38%	Value is Full Open
12:25P	4	116°	295	0.17"	-14.2"	49%	Value is Full Open
12:40P	5	118°	398	0.31"	-8.2"	41%	Value is Full Open
12:50P	5A	133° ✓	96	0.03"	-1.15"	35%	Value is ±¼ open
1:00P	6A	110°	96	0.03"	-1.0"	49%	Value is ±¼ open
1:15P	6	105°	263	0.70"	-4.0"	47%	Value is ½ open

Flow rate is uncorrected

Date: May 1, 1978

By: C.A. Rambo

METHANE GAS READINGS
HEWITT LANDFILL
JOB NO. 77-663

PROBE NUMBER	% METHANE	TIME
1	Ø	11:11A
2	Ø	11:09A
3	Ø	11:08A
4	1%	11:06A
5 5A	Ø 15%	11:36A
6	1%	11:38A
7	8%	11:40A
8	15%	11:42A
9	Ø	11:44A
10 10A	Ø 33%	11:14A
11 11A	Ø 26%	11:16A
12 12A	Ø 36%	11:18A
13	Ø	11:20A
14	Ø	11:22A
15	35%	11:24A
16	7%	11:26A
17 17A	49% 46%	11:28A
18		
19 19A		
20		
21		
22 22A		
23		
24 24A		

PROBE NUMBER	% METHANE	TIME
24A		
25		
26 26A		
27		
28		
29 29A		
30		
31		
32		
33		
34		
35		
36		
1-1*		
1-2*		
1-3*		
1-4*		
1-5*	5%	11:05A

PROBE NUMBER	% METHANE	TIME
2-1*		
2-2		
2-3		
2-4		
2-5		
3-1*		
3-2		
3-3		
3-4		
3-5		
4-1*		
4-2		
4-3		
4-4		
4-5		
5-1*		
5-2		
5-3		
5-4		
5-5		
5-5A		

Date: April 11, 1978

By: C.A. Rambo

METHANE GAS READINGS
HEWITT LANDFILL
JOB NO. ~~77-663~~ 78-770

PROBE NUMBER	% METHANE	TIME
1		
2		
3		
4		
5 / 5A	Ø / Ø	11:50A
6	Ø	11:55A
7	Ø	11:57A
8	5%	11:58A
9	5%	11:59A
10 / 10A	58% / 46%	12:02P
11 / 11A	47% / 46%	12:06P
12 / 12A	55% / 53%	12:08P
13	58%	12:11P
14	50%	12:13P
15	49%	12:14P
16	10%	12:15P
17 / 17A	57% / 52%	12:18P
18	57%	12:20P
19 / 19A	47% / 45%	12:23P
20	40%	12:24P
21	1%	12:27P
22 / 22A	Ø / 7%	12:29P
23	Ø	12:31P
24 / 24B	Ø / 27%	12:34P

PROBE NUMBER	% METHANE	TIME
24A	Ø	12:35P
25	Ø	12:36P
26 / 26A	Ø / Ø	12:38P
27	Ø	12:41P
28	Ø	12:43P
29 / 29A	Ø / 5%	12:46P
30	Ø	12:47P
31	Ø	12:50P
32	Ø	12:51P
33	1%	12:53P
34	Ø	12:54P
35	Ø	12:56P
36	Ø	12:57P
1-1*		
1-2*		
1-3*		
1-4*		
1-5*		

PROBE NUMBER	% METHANE	TIME
2-1*		
2-2		
2-3		
2-4		
2-5		
3-1*		
3-2		
3-3		
3-4		
3-5		
4-1*		
4-2		
4-3		
4-4		
4-5		
5-1*		
5-2		
5-3		
5-4		
5-5		
5-5A		

HEWITT SYSTEM
FLOW RATES
JOB NO. ~~77-663~~ 78-770

TIME	WELL NO.	GAS TEMP. °F	FLOW RATE	WELL VACUUM IN INCHES OF WATER		METHANE CONTENT	REMARKS	
			SCFM.		Static		Inlet Vac.	Valve Full Open
5:45P	New Burner	102°	2799	0.92"	+21.2"	49%	-19.6"	
					Static		Inlet Vac.	Valve at 40° Open
6:00P	New Burner	109°	2288	0.62"	+17.0"	47%	-28.3"	
							Inlet Vac. Varied by as much as 2.0" of W.C.	
							Much water was coming out of the Water Trap at the Latch Valves. The equipment all looks good.	