SIERRA ENVIRONMENTAL ENGINEERING INC.

MBUSTION AND ENVIRONMENTAL ENGINEERS

Puente Hills 2/86

LFG EFD

87 87

Data Qual = D.

Engineering Report: Puente Hills Landfill Flare #11: Dioxin, Furan, and PCB Test Results

Prepared for
County Sanitation Districts
of Los Angeles County
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February 28, 1986

TABLE 1.1
SUMMARY OF PCDD's, PCDF's and PCB's
PUENTE HILLS FLARE #11

Specie	Test #1 ng/sample* found	Test #2 ng/sample found	Detection limit ng/sample
PCDD's (Outlet)			
TETRA (total)	ND+	ND	0.14
PENTA	ND	ND	0.44
HEXA	ND	ND	0.48
HEPTA	ND	ND	0.88
OCTA	ND	ND	3.70
PCDF's (Outlet)			
TETRA (Total)	ND	ND	0.18
PENTA	ND	ND	0.26
HEXA	ND	ND	0.24
HEPTA	ND	ND	0.94
OCTA	ND	ND	4.50
PCB's (Inlet)			
MONO	ND	ND	1.0++
DI	ND	ND	1.0
TRI	ND	ND	1.0
TETRA	ND	ND	1.0
PENTA	ND	ND	1.0
HEXA	ND	ND	1.0
HEPTA	ND	ND	1.0
OCTA	ND	ND	1.0
NONA	ND	ND	1.0
DECA	ND	ND	1.0

* ng = nanogram
+ ND = Not Detected
++ microgram per sample

TABLE 1.2
SUMMARY OF GROSS EMISSIONS
PUENTE HILLS FLARE #11

PARAMETER Date	UNITS M-D-Y	TEST #1 1-21-86	TEST #2 1-22-86	AVG
FLARE CONDITIONS				
A) Fuel Flow	CFM	1000	1000	
B) Temperature Set Point	°F	1440	1440	
C) Average Inlet Temperature	°F	88.7	90.5	
OUTLET FLUE GAS FLOW				
A) Actual	WACFM	44629.9	41358.8	
B) Dry, Standard Conditions*	DSCFM	10367.7	9781.6	10074.7
C) Average Temperature	°F	1542	1522	
D) Stack C.S. Area	FT^2	41.04	41.04	
E) Average Velocity	FPM	1087.3	1007.6	
	FPS	18.12	16.79	
F) Average M.W., (wet)	lb/mol	28.16	28.51	
OUTLET GAS ANALYSIS				
Carbon Dioxide (Orsat)	%, dry	6.6	6.0	
Oxygen (Orsat)	%, dry	12.98	14.1	
Water	%	9.0	8.6	
OUTLET GASEOUS SPECIES				
SO_2, as found	ppm, dry	8.9	6.1	
SO_2 at 3.0% O_2	ppm, dry	19.2	15.3	
SO_2 mass flow	lb/hr	0.93	0.60	0.765
NOx as found	ppm, dry	13.2	12.9	
NOx at 3.0% O_2	ppm, dry	39.0	35.8	
NOx mass flow (as NO_2)	lb/hr	0.99	0.92	0.955
CO as found	ppm, dry	371.2	123.9	
CO mass flow	lb/hr	17.0	5.4	11.2
HCl as found	ppm, dry	65.7	3.3	
HCl mass flow	lb/hr	3.93	0.2	2.07
TOC (Total Organic Carbon)	ppm, dry	34.5	21.0	
TOC mass flow (as C_1)	lb/hr	0.68	0.39	0.54
CH_4, Methane as found	ppm, dry	15.0	6.5	
CH_4 mass flow	lb/hr	0.39	0.16	0.28
Nonmethane Hydrocarbons as found (as C_1)	ppm, dry	19.5	14.5	
NMHC mass flow	lb/hr	0.38	0.27	0.33

* 60°F, 29.92 in. Hg.