TABLE II-1

CHEMICALS DISPOSED OF IN LOVE CANAL
BY HOOKER CHEMICAL CORP.(1942-1953)*

Type of Waste	Physical State	Total Estimated Quantity-Tons	Container
Misc. acid chlorides other than benzoyl-includes acetyl, caprylyl, butyryl, nitrobenzoyls	liquid and solid	400	drum
Thionyl chloride and misc. sulfur/chlorine compounds	liquid and solid	500	drum
Misc. chlorination-includes waxes, oils, naphthenes, aniline	liquid and solid	1,000	drum
Dodecyl (Lauryl, Lorol) mercaptans (DDM) chlorides and misc. organic sulfur compounds	liquid and solid	2,400	drum
Trichlorophenol (TCP)	liquid and solid	200	drum
Benzoyl chlorides and benzotrichlorides	liquid and solid	800	drum
Metal chlorides	solid	400	drum
Liquid disulfides (LDS/LDSN/BDS) and chlorotoluenes	liquid	700	drum
Hexachlorocyclohexane (Lindane/BHC)	solid	6,900	drum and non-metallic containers
Chlorobenzenes	liquid and solid	2,200	drum and nonmetallic containers
Benzyl chlorides - includes benzyl chloride, benzyl alcohol, benzyl thiocyanate	solid	2,400	drum
Sodium sulfide/sulfhydrates	solid	2,000	drum
Misc. 10% of above		2,200	
	TOTAL	21,800	

*Interagency Task Force on Hazardous Wastes, Draft Report on Hazardous Waste Disposal in Erie and Niagara Counties, New York, March 1979.

TABLE II-2

Love Canal Sludge**

Constituents

Compound	Amount ug/ml (ppm)
Hexadiene isomer	1740*
Trichloroethene	1320*
Toluene	13900*
Tetrachloroethene	1960*
Chlorobenzene	1290*
Dimethylbenzene (xylene) isomer	310*
o-chlorotoluene	30200
m-chlorotoluene	19500
Benzaldehyde	3420
Chloromethylbenzene	2400
Dichlorobenzene isomer	330
Dichlorotoluene isomer	11900
Dichlorotoluene isomer	600
Dichlorotoluene isomer	1800
Chlorotrimethylbicycloheptane	1940
1,2,4-trichlorobenzene	2900
Dichlorotoluene isomer	830
Dichlorotoluene isomer	1080
Trichlorotoluene isomer	280
Trichlorotoluene isomer	1440
Trichlorotoluene isomer	3250
Trichlorotoluene isomer	2020

*Minimum concentration due to volatility of compound.

**Second phase organics.

Compound	Amount ug/ml (ppm)
Trichlorotoluene isomer	700
1,2,4,5-tetrachlorobenzene	1280
Trichlorophenol isomer	1700
Trichlorophenol isomer	640
1,2,3,4-tetrachlorobenzene	7260
Tetrachlorotoluene isomer	920
Bicyclohexyl-ol	750
Pentachlorobenzene isomer	1200
Phenylmethyltoluene isomer	680
Phenylmethyltoluene isomer	1010
Tetrachlorotoluene isomer	360
Pentachlorotoluene isomer	490
Pentachlorotoluene isomer	1880
Oxybis(methylene)bisbenzene	540
Chloroalkane isomer	540
Alpha-BHC (hexachlorocyclohexane)	2420
Pentachlorotoluene isomer	400
BHC isomer	2980
Hexachlorobicycloheptadiene isomer	3630
Thiobis(methylene)bisbenzene	2060
Chloroalkane isomer	610
Hexachlorobicycloheptadiene	10440
Chlorobenzyl, benzyl sulfide isomer (tentative)	1420

*Minimum concentration due to volatility of compound.

Compound	Amount ug/ml (ppm)
Chlorobenzyl, benzyl sulfide isomer (tentative)	2070
Bis(phenylmethyl)disulfide (tentative)	5990
Chlorobenzyl, benzyl disulfide isomer (tentative)	3270
Chlorobenzyl, benzyl disulfide isomer (tentative)	2790
Bischlorobenzyl disulfide isomer (tentative)	1240
Bischlorobenzyl disulfide isomer (tentative)	950
Bischlorobenzyl disulfide isomer (tentative)	790
Thiobisdodecane isomer (tentative)	2280

*Minimum concentration due to volatility of compound.

Filtered Sludge Sample

C	57.06%
H	5.58%
N	0.04%
O	2.31%
Cl	31.14%
P	0.010%
S	2.68%
Fe	0.079%

Viscosity	4°C	24°C	42°C	83°C
	86.37 Cs	27.24 Cs	12.48 Cs	4.43 Cs

Unfiltered Sludge Sample

Pb	5 ppm
Fe	0.49%
Zn	172 ppm
Cu	8 ppm
Cr	9 ppm
Sb	3 ppm
Cd	1 ppm
Na	407 ppm
Se	1 ppm
Ag	1 ppm
Hg	1 ppm
As	2 ppm
Ash	5.18%
Calorific Value	9,767 BTU/lb.

Chloroform Insoluble Solids	6.69%
Density	1.20839 gm/ml
Ignitability	85°F
Hydrogen Sulfide	< 0.90 (ug/g)
Hydrogen Cyanide	< 0.76 (ug/g)

Thermogravimetric Analysis

Percent By Weight (Dry Basis)	Found
Total Volatiles at 550°C	98.8%
Total Volatiles at 600°C	99.0%

Microscopic analysis of the residue did not exhibit gross contamination from asbestos.

ENSECO-CAL LAB

POLYCHLORINATED DIOXIN/FURAN ANALYSIS

TICKET NO: 28367

CLIENT ID: COMPOSITE — Date Analyzed: 3/12/87

CAL ID: 28367-1CA — Weight: 0.1 ML

Love Canal Sludge

FURANS	AMOUNT FOUND (ng/ML)	DETECTION LIMIT (ng/ML)
tetra (total)	318	-
(2378)	169 **	-
penta (total)	1870	-
(12378)	138	-
(23478)	89.3	-
hexa (total)	995	-
(123478)	126	-
(123678)	10.3	-
(123789)	ND	9.1
(234678)	19.0	-
hepta (total)	352	-
(1234678)	138	-
(1234789)	46.6	-
octa (total)	413	-
DIOXINS		
tetra (total)	7360	-
(2378)	6590	-
penta (total)	2540	-
(12378)	79.4	-
hexa (total)	4030	-
(123478)	209	-
(123678)	503	-
(123789)	433	-
hepta (total)	2350	-
(1234678)	1230	-
octa (total)	569	-

% Accuracy 37Cl-TCDD = 134%
% Recovery 13C-2378-TCDD = 34%
% Recovery 13C-2378-TCDF = 55%

ND = Not Detected
** Probably the 2,3,4,8-TCDF isomer.
All totals, hepta and octa values from DB-5 column, tetra thru hexa isomer specific values from SP-2331 column.
All dioxins and furans were calculated using the 13C-tetra thru octa dioxin internal standards. All dioxin detecton limits were calculated using the M-COCl masses.

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PREPARED BY: DB APPROVED BY: BJM DATE: 4/2/87

ENSECO-CAL LAB

POLYCHLORINATED DIOXIN/FURAN ANALYSIS

TICKET NO: 28367

CLIENT ID: COMPOSITE . Date Analyzed: 3/13/87

CAL ID: 28367-1CRI Weight: 0.1 ML

FURANS	AMOUNT FOUND (ng/ML)	DETECTION LIMIT (ng/ML)
tetra (total)	456	-
(2378)	356 *	-
penta (total)	1360	-
(12378)	161	-
(23478)	99.2	-
hexa (total)	789	-
(123478)	94.7	-
(123678)	ND	12.1
(123789)	ND	15.8
(234678)	ND	21.5
hepta (total)	324	-
(1234678)	149	-
(1234789)	44.6	-
octa (total)	208	-

ND = Not Detected

All totals, hepta and octa values from DB-5 column, tetra thru hexa isomer specific values from SP-2331 column.
All furans were calculated off the 13C-tetra thru octa furan internal standards.

* Interferences with the 13C-TCDF internal standard. Number was calculated using the 13C-Pentafuran internal standard.

PREPARED BY: DO APPROVED BY: BSM DATE: 4/2/87