160402

SAMPLING DATA

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

March 30, 1982

REPLY TO ATTENTION OF:

Mr. Richard Sinise
Environmental Engineer
Monsanto Chemical Intermediates Co.
Sauget, Illinois 62201

Re: November 12, 1981
Sampling Data

Dear Mr. Sinise:

Per your November 18, 1981, written request, please find attached a copy of partial results of the laboratory analysis from the above-referenced sampling. The remaining laboratory analysis will be transmitted to you when it becomes available.

Yours truly,

Anthony H. Holoska

Anthony H. Holoska, P.E.
Environmental Engineer

cc: Mr. Roger A. Kanerva
Illinois Environmental Protection Agency

Mr. Howard Chinn
Office of Illinois Attorney General

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CONCENTRATIONS OF TETRA-THRU OCTACHLORINATED DIBENZO-p-DIOXINS AND DIBENZOFURANS

IN LEACHATE RECEIVED FROM USEPA

SAMPLES COLLECTED 11/12/81

ISU Sample No.	CDDs/CDFs in Parts-Per-Trillion (limits of detection in parentheses)									
	TCDDs	TCDFs	PCDDs	PCDFs	HxCDDs	HxCDFs	HpCDDs	HpCDFS	OCDD	OCD
S-1	0(1)	0(1)	0(2)	0(2)	4.5	6.3	86	74	323	
S-2	0(1)	0(1)	0(1)	0(1)	6.3	10	181	182	675	1
WS-3	0(1)	0(1)	0(2)	0(2)	5.8	6.3	152	112	2,693	
WS-4 (Field Blank)	0(1)	0(1)	0(2)	0(2)	0(3)	0(3)	0(4)	0(4)	0(6)	0(
WS-5 (Field Blank)	0(1)	0(1)	0(2)	0(2)	0(3)	0(3)	0(3)	0(3)	0(6)	0(

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RIVER ANALYSIS

ANALYSIS RESULTS

3/10/82

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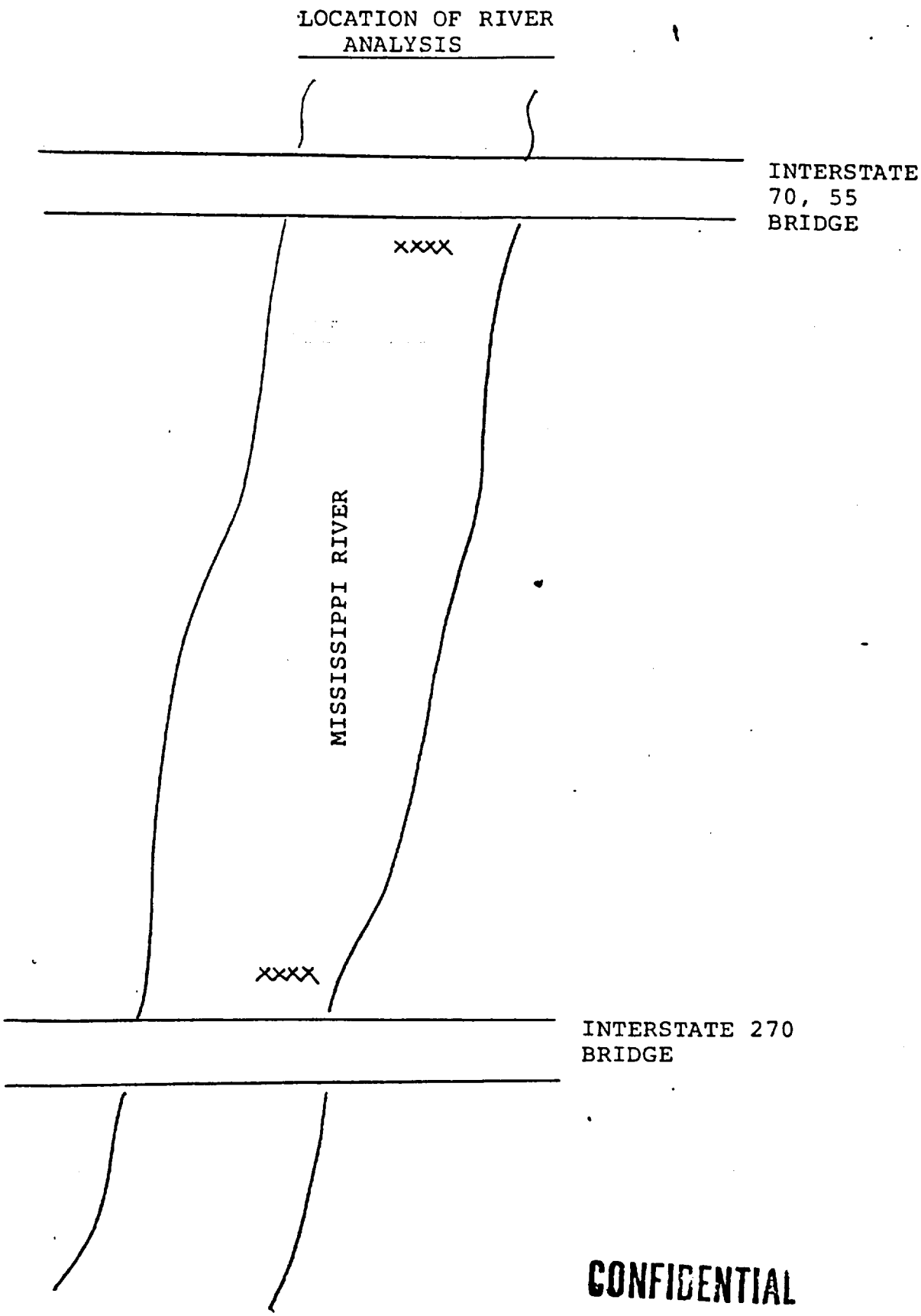

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ANALYSIS OF RIVER WATER SAMPLES FOR CHLORINATED DIBENZO-p-DIOXINS

Sample	ng Dioxin/liter water, parts per trillion							
	Cl_1	Cl_2	Cl_3	Cl_4	Cl_5	Cl_6	Cl_7	Cl_8
Down River #1	ND	ND	ND	ND	ND	ND	ND	ND
Down River #2	ND	ND	ND	ND	ND	ND	ND	ND
Down River #3	ND	ND	ND	ND	ND	ND	ND	ND
Down River #4	ND	ND	ND	ND	ND	ND	ND	ND
Up River #1	ND	ND	ND	ND	ND	ND	ND	ND
Up River #2	ND	ND	ND	ND	ND	ND	ND	ND
Up River #3	ND	ND	ND	ND	ND	ND	ND	ND
Up River #4	ND	ND	ND	ND	ND	ND	ND	ND

NOTE: ND - Not detected

Detection Limit 1ppt

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SPLIT SAMPLES

EPA VISIT

NOVEMBER 12, 1981

ANALYSIS RESULTS

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SAMPLE KEYS

MO-1, MO-3, MO-5	Water Samples
MO-2, MO-4, MO-6	Soil Samples

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ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS DETECTED

Analyte	SAMPLE ID MO-1 (ppm)	MO-2 (ppm)	MO-3 (ppm)	MO-4 (ppm)	MO-5 (ppm)	MO-6 (ppm)
Base/neutral extractables						
1,4-dichlorobenzene	.030	.2	ND	.4	ND	.6
1,2-dichlorobenzene	.020	ND	ND	ND	ND	ND
Bis-(2-ethyl hexyl)-phthalate	ND	.4	ND	.3	ND	.4
Acid extractables						
2-chlorophenol	.340	ND	.100	.2	ND	ND
Phenol	.130	ND	ND	.3	ND	.3
2,4-dichlorophenol	.100	ND	ND	ND	ND	ND
Volatiles						
Chlorobenzene	.160	NA[c]	.030	NA	ND	NA

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NON PRIORITY ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS DETECTED

	SAMPLE ID					
	MO-1 (ppm)	MO-2 (ppm)	MO-3 (ppm)	MO-4 (ppm)	MO-5 (ppm)	MO-6 (ppm)
Non-Volatiles						
Aniline	.060	ND	.040	ND	.025	ND
Chloroanilines	8.0	ND	4.0	ND	.600	ND
Dichloroanilines	.100	ND	.040	ND	ND	.2
Chloronitrobenzenes	3.000	ND	.080	ND	ND	ND
Dichlorophenol (Not 2,4)	.060	ND	.050	ND	ND	ND
Chlorophenols (Not 2-)	.500	ND	.300	.67	.015	.3
Dichlorocyclohexane	ND	.2	ND	.2	ND	ND
Dichlorinated Organic (M.W. 220)[b]	.570	ND	.160	ND	ND	ND
2,4-D	.332	ND[A]	.100	ND[A]	ND	ND[A]
Phenol (Total)	.903	<0.5	3.890	<0.5	.091	<0.5

ppm - Parts per million

[a]ND - Compound not detected (0.01 ppm water; 0.1 ppm soil)

ND[A] - Compound not detected (0.03 ppm soil)

[c]ND - Non-applicable

b - Compounds could not be identified further

ANALYTICAL RESULTS FOR PCB

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	SAMPLE ID					
	MO-1 (ppm)	MO-2 (ppm)	MO-3 (ppm)	MO-4 (ppm)	MO-5 (ppm)	MO-6 (ppm)
PCB	ND[b]	.014	ND	.034	.008	.192

[b]ND - Non-detected ($<$ .0015 ppm)

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ANALYTICAL RESULTS FOR TETRACHLORODIBENZO-P-DIOXIN - PPT

Analyte	Parts Per Trillion SAMPLE ID					
	MO-1	MO-2	MO-3	MO-4	MO-5	MO-6
1,3,6,8-TCDD	ND[A]	Not Analyzed	ND[B]	Not Analyzed	7	Not Analyzed
2,3,7,8-TCDD	ND[A]	Not Analyzed	ND[B]	Not Analyzed	ND[C]	Not Analyzed

ND[A] - Not detected (< 1 ppt)

ND[B] - Not Detected (< 2 ppt)

ND[C] - Not Detected (< 4 ppt)

ORGANICS NOT FOUND

Compound	Compound
2-Nitrophenol	Hexachloroethane
2,4-Dimethylphenol	Bis (2-chlorisopropyl) ether
2,4,6-Trichlorophenol	Hexachlorobutadiene
4,6-Dinitro-o-cresol	1,2,4-Trichlorobenzene
2,4-Dinitrophenol	Naphthalene
p-Chloro-m-cresol	Bis (2-chloroethyl) ether
Pentachlorophenol	Hexachlorocyclopentadiene
4-Nitrophenol	Nitrobenzene
Chloromethane	Bis (2-chloroethoxy) methane
Dichlorodifluoromethane	2-Chloronaphthalene
Bromomethane	Acenaphthylene
Vinyl Chloride	Acenaphthene
Chloroethane	Isophorone
1,1-Dichloroethylene	Fluorene
1,1-Dichloroethane	2,6-Dinitrotoluene
Trans-1,2-dichloroethylene	1,2-Diphenylhydrazine
Chloroform	2,4-Dinitrotoluene
1,2-Dichloroethane	N-nitrosodiphenylamine
1,1.1-Trichloroethane	Hexachlorobenzene
Carbon tetrachloride	4-Bromophenyl phenyl ether
Bromodichloromethane	Phenanthrene/anthracene
Bis (chloromethyl) ether	Dimethyl phthalate
1,2-Dichloropropane	Fluoranthene
Trans-1,3-dichloropropene	Pyrene
Trichloroethylene	Benzidine
Dibromochloromethane	Chrysene
Bis-1,3-dichloropropene	Benz(a)anthracene
1,1,2-Trichloroethane	Benzo(b)fluoranthene
Benzene	Benzo(k)fluoranthene
2-Chloroethyl vinyl ether	Benzo(a)pyrene
Bromoform	Indeno(1,2,3-cd)pyrene
Tetrachloroethylene	Dibenzo(a,h)anthracene
1,1,2,2-Tetrachloroethane	Benzo(g,h,i)perylene
Ethylbenzene	N-nitrosodimethylamine
Acrolein	N-nitrosodi-n-propylamine
Acrylonitrile	4-Chlorophenyl phenyl ether
1,3-Dichlorobenzene	3,3'-Dichlorobenzidine
Diethyl Phthalate	Di-n-octyl phthalate
Di-N-Butyl Phthalate	Butylbenzyl phthalate
Methylene Chloride	Phthalic Acid
Trichlorofluoromethane	Cresol
Toluene	Phenyl Phenol
Bi-Phenol	Cadrolactam
Chlorobenzoic Acid	

*Cyanide

Detection Limits: 0.01 ppm Water
0.1 ppm Soil

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Table
*Cyanide 0.004 ppm Water
0.29 ppm Soil

ANALYTICAL RESULTS FOR TOTAL METALS

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Analyte	SAMPLE ID MO-1 (ppm)	MO-2 (ppm)	MO-3 (ppm)	MO-4 (ppm)	MO-5 (ppm)	MO-6 (ppm)
Arsenic	.020	5.3	.025	9.6	.065	8.2
Mercury	<.0008	< .1	.0014	< .2	.001	< .2
Selenium	<.004	< .7	<.004	< .8	<.004	< .8
Thallium	<.100	<17.	<.100	<19.	<.100	< 20
Antimony	<.297	<25.3	<.297	<28.2	<.297	<29.1
Beryllium	.008	.412	.005	.489	.008	1.08
Cadmium	.006	.747	.007	1.04	.008	2.49
Chromium	.086	10.7	.075	10.40	.070	28.70
Copper	.073	7.17	.092	7.89	.080	25.50
Lead	<.130	< 11.06	< .130	< 12.36	< .130	< 12.74
Nickel	.155	17.4	.124	18.60	.144	33.80
Silver	<.110	< 9.36	< .110	< 10.46	< .110	< 10.78
Zinc	.216	29.50	.216	36.30	.062	69.40

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ANALYTICAL RESULTS FOR METALS

Analyte	SAMPLE ID MO-1 (ppm)	MO-2 (ppm)	MO-3 (ppm)	MO-4 (ppm)	MO-5 (ppm)	MO-6 (ppm)
Aluminum	26.8	3,870.	30.5	4,380.	3.22	13,900.
Barium	0.50	75.4	0.5	130.	0.36	7.79
Boron	18	53.0	13.6	28.7	19.1	30.3
Bismuth	<0.17	<14.5	<0.17	<16.2	<0.17	<16.7
Calcium	368.	3,660.	257.	4,010.	257.	6,590.
Cobalt	.030	4.7	0.019	4.8	0.031	9.45
Iron	25.5	5,870	30.8	8,660	27.4	12,600
Lithium	0.82	28	0.65	31.4	0.56	<29.4
Magnesium	43.2	1,780	48.2	2,090	39.8	4,080
Manganese	6.27	79.7	2.1	119.	8.82	273
Molybdenum	0.53	10.6	0.403	12.5	0.439	22.4
Phosphorus	0.90	154.	0.907	270.	2.06	366.
Potassium	14.2	248.	9.82	268.	11.4	2110.
Silicon	0.293	78.4	0.874	78.6	0.484	19.4
Sodium	40.4	1840.	41.8	1270.	44.2	4720.
Strontium	1.45	15.5	0.901	23.2	1.21	30.7
Tin	<0.57	<48.5	<0.57	<54.2	1.40	<55.9
Titanium	0.49	246.	0.467	308.	0.069	572.
[illegible]	0.18	14.4	0.128	17	[illegible]	[illegible]