

Appendix E - Summary of Previous Environmental Sampling for 1978 - 1985

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Source - Remedial Investigation, Volume 2 and 4 (4)

TABLE 16

Summary of Previous Soil Sampling Efforts for Mercury - Number of Samples (Number of Locations)

Month/Year	Agency	Industrial	Cristiana	Background	Remarks
Prior to Feb. 1985	-	-	-	-	No record of any samples collected
Feb. 1985	EQB	0	33*	0	About 1/2 of samples >1,000 ug/kg; no QC information provided
March 1985	EQB	0	47	0	16 Cristiana samples >1,000 ug/kg; no QC information available but two samples with highest values were re-analyzed by EQB and shown to contain <1,000 ug/kg
March 1985	EPA	0	2	0	Splits of above two EQB samples with highest values; results show <1,000 ug/kg
April 1985	EPA (NUS)	0	59 (55)	2	Highest value 0.72 ug/kg for Cristiana samples
April 1985	EQB	0	14	7	Splits of above EPA (NUS) samples; results comparable

* 5 house lots

TABLE 17

Summary of Previous Sediment Sampling Efforts for Mercury - Number of Samples (Number of Locations)

Month/Year	Agency	Technicon Ditch	Frontera Creek	Frontera Lagoons	Mandri Canal	Background	Other	Remarks
Oct. 1978	EQB	3 (1)	12 (4)	0	0	0	0	Highest values (188,000 ug/kg) at intersection of creek and Technicon ditch. Other high values in ditch (35,000 ug/kg) and in creek upstream and downstream of ditch (5,000 ug/kg)
Nov. 1978	Technicon	41 (9)	70 (21)	0	2 (1)	0	0	Concentrations in ditch (25,000-85,000 ug/kg) generally one order of magnitude higher than values in creek (1,000-3,500 ug/kg)
Jan. 1979	EQB	0	108 (18)	0	12 (2)	0	0	Values >1,000 ug/kg detected in samples from end of Cristiana to Santa Teresa pump station
Oct. 1979	EPA	0	15		0	0	0	Most values >10,000 ug/kg. Highest values occur downstream of Technicon ditch to HIPWTP and from lagoons to Villa Palmira
Aug. 1981	Langston Labs	0	10	0	7	0	0	All values <1,000 ug/kg; all but one <500 ug/kg
April 1982	EPA-FIT	0	1	2	0	0	0	Hg values all BMDL
Feb. 1983	EPA-FIT	0	2 (HSL)	0	0	0	0	Hg values all BMDL
June 1983	Technicon	2	2	0	0	0	0	Values in ditch 5,500 and 15,000 ug/kg; values in creek 44 and 336 ug/kg
June 1984	PRDNR	0	7	2	2	2	0	All samples <1,000 ug/kg
Feb. 1985	EQB	0	11	0	0	0	0	Reportedly, bank samples from Alcon to mouth; most samples >1,000 ug/kg

TABLE 17 (continued)

Month/Year	Agency	Technicon Ditch	Frontera Creek	Frontera Lagoons	Mandri Canal	Background	Other	Remarks
March 1985	EQB	0	15	0	0	0	0	Creek sampled from Rt. 925 to end of Cristiana; three samples re-analyzed by EQB
March 1985	EPA	0	3	0	0	0	0	Splits of above EQB samples; re-analyses show that values actually around 100 ug/kg
April 1985	EPA (NUS)	0	13 (15)	1	0	1	4 (3)*	Highest values in creek between Technicon ditch and HIPWTP lagoon area
TOTALS		46 (12)	254 (109)	5	23 (12)	3	4 (3)	

* HIPWTP lagoons

TABLE 18

SUMMARY OF HISTORICAL DATA FOR FRONTERA CREEK SEDIMENTS
(1979-1989)

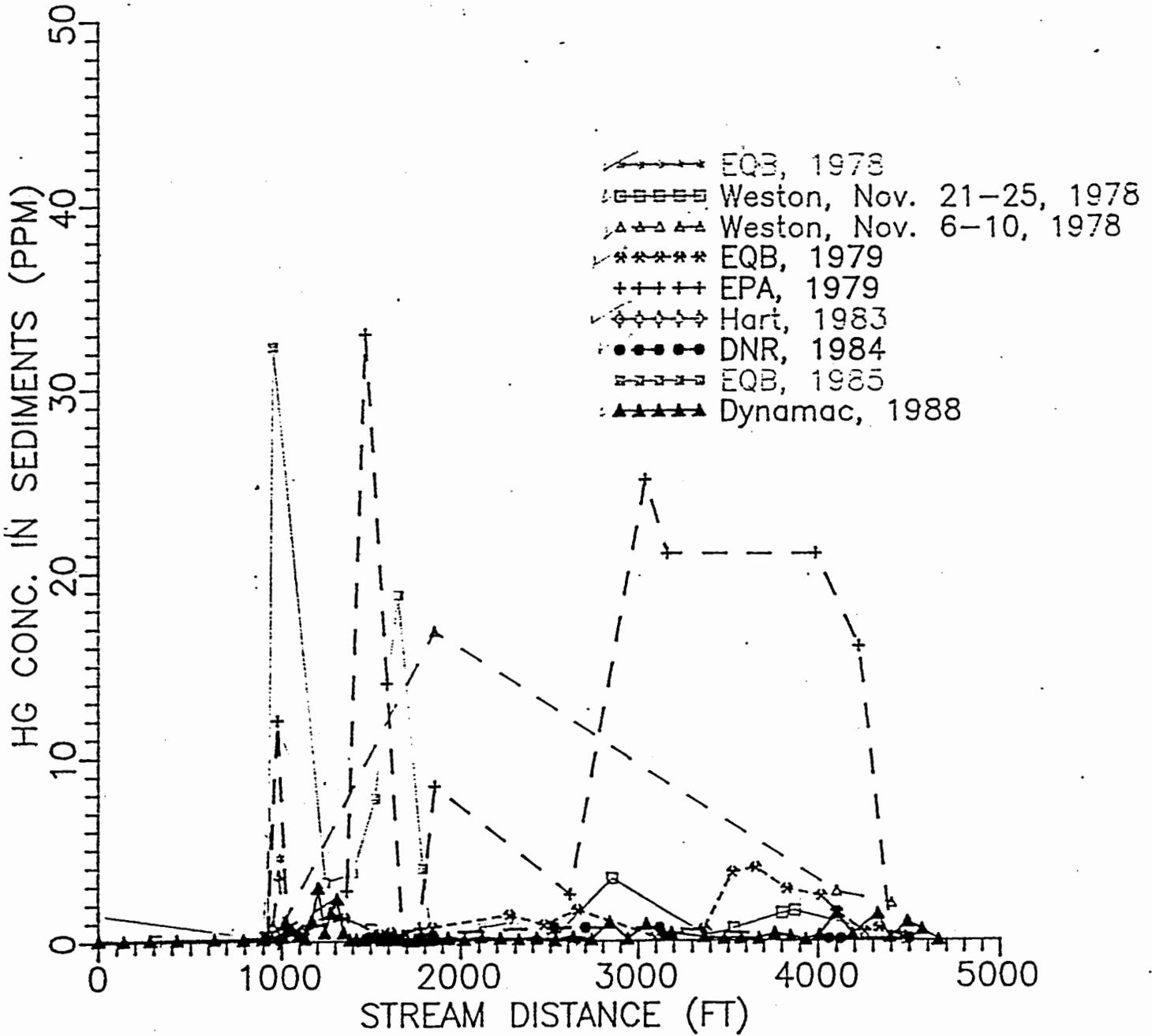


TABLE 19

Summary of Previous Surface Water Sampling Efforts for Mercury - Number of Samples (Number of Locations)

Month/Year	Agency	Industrial Effluent	Technicon Ditch	Frontera Creek	Frontera Lagoons	Mandri Canal	Cristfiana/Villa Palmira WTP Effluent	Background	Remarks
March to March 1978	-	-	-	-	-	-	-	-	No record of any samples collected
March 1978	EQB	2 *	0	0	0	0	0	0	Hg detected at Technicon, Squibb
April 1978	EQB	1 **	0	1	0	0	0	0	Hg detected in Technicon effluent and Frontera Creek
July 1978	Technicon	1	5+	8+	0	2	0	0	Highest value in effluent; highest creek value downstream of Technicon ditch
October 1979	EPA	0	0	07	0	0	0	0	Highest value at creek mouth; other high values downstream of Technicon ditch
December 1980	Langston Labs	0	0	4	6	3	0	0	All below 1 ug/l except one Mandri Canal sample
February 1981	Langston Labs	0	0	6	2	2	0	0	All values below 1 ug/l
February 1983	EPA-FIT	0	0	2	0	0	0	0	Hg not detected
April 1985	EPA (HUS)	4 ***	0	11	0	0	0	2	About 0.5 ug/l detected in HIPWTP lagoons; creek samples all BMDL.
TOTALS:		8	5+	40+	8	7	0	2	

* Technicon, Squibb

** Technicon

*** HIPWTP Lagoons

TABLE 20

Summary of Previous Biota Sampling Efforts for Mercury - Number of Samples (Number of Locations)

Month/Year	Agency	Sample Type	Technicon -Ditch	Frontera Creek	Frontera Lagoons	Handri Canal	Other	Background	Total	Remarks
Prior to 1978			-	-	-	-	-	-	-	No record
Nov. 1978	Technicon	Fish	2	4	0	0	4*	0	10	Values reportedly within normal ranges
		Cow blood	4	0	0	0	0	0	4	
		Cow hair	14	0	0	0	0	0	14	
		Cow milk	1	0	0	0	0	0	1	
April 1985	NUS	Fish	0	1	6	0	0	2**	9	All values <1 ug/kg
		Crab	0	0	2	0	0	0	2	
		Fruit/Vegetables	0	0	0	0	3 **	0	3	
		Milk	0	0	0	0	3 ***	0	3	
		Eggs	0	0	0	0	1 ***	0	1	

* Ocean near El Morrillo

** Anton Ruiz

**+ Cristiana yards

*** Store at Cristiana

TABLE 21

Summary of Previous Surface Water Sampling Efforts for HSL Parameters - Number of Samples (Number of Locations)

Month/Year	Agency	Industrial Effluent	Technicon Ditch	Frontera Creek	Frontera Lagoons	Handri Canal	Cristiana/Villa Palmira WTP Effluent	Background	Analytes/Remarks
Prior to Nov. 1977	-	-	-	-	-	-	-	-	No record of any samples collected
Nov. 1977	EQB	unknown	0	unknown	0	0	0	0	Lindane reportedly detected in all samples
March-June 1978	EQB	14	0	21	0	0	0	0	Water quality plus CN, Cr, Hg, phenol, etc.
Nov. 1978	Technicon	2	13 (5)	24 (5)	0	5 (1)	0	0	Water quality plus Hg, Zn, phenol, etc.
Oct. 1979	EPA	unknown*	0	7	0	0	0	0	Metals, CN, phenolics, organics (1)
Dec. 1980	Langston Labs	0	0	13	0	0	0	0	Metals, surfactants, phenols
Feb. 1983	EPA-FIT	0	0	2	0	0	0	0	HSL
April 1985	EPA (NUS)	4 (3)**	0	0	0	0	0	0	HSL
TOTALS:		19+	13 (5)	67+ (48+)	0	5 (1)	0	0	

* Squibb

* HIPWTP Lagoons

TABLE 22

Summary of Previous Sediment Sampling Efforts for HSL Parameters - Number of Samples (Number of Locations)

Month/Year	Agency	Technicon Ditch	Frontera Creek	Frontera Lagoons	Mandri Canal	Background	Other	Analytes/Remarks
Prior to Jan. 1979	-	-	-	-	-	-	-	No record
Jan. 1979	EPA	0	7	0	0	0	0	Organics; length of creek sampled
April 1982	EPA-FIT	0	1*	2	0	0	0	Pesticides/metals; values generally within twice upstream value; pesticides and mercury all BMDL
Feb. 1983	EPA-FIT	0	2	0	0	0	0	HSL; chlordane detected in one sample
June 1983	Technicon	2	2	0	0	0	0	Zinc; highest value in creek upstream of Technicon ditch
April 1985	EPA (NUS)	0	11**	0	0	1	0	Lindane; not detected
TOTALS		2	23	2	0	1	0	

* Bank samples

** Includes two bank samples

TABLE 23

Summary of Previous Biota Sampling Efforts for HSL Parameters - Number of Samples (Number of Locations)

Month/Year	Agency	Sample Type	Technicon Ditch	Frontera Creek	Frontera Lagoons	Handri Canal	Other	Total	Remarks
Prior to 1978		-	-	-	-	-	-	-	No record
Nov. 1978	Technicon	Biota survey	x	x	-	-	-	-	Qualitative in nature
April 1982	EPA	Fish	0	0	7	0	0	7	Pesticides; none detected
		Cow milk	0	1	0	0	0	1	Pesticides, metals
Nov. 1982	unknown	Pelicans	0	0	10	0	0	10	Botulism; none

TABLE 24

Summary of Current and Historical Mercury Usage by Site Industries

Compound	Quantity/ Concentration	Reference	Remarks
<u>TECHNICON</u>			
<u>Current</u>			
Thimerosal	62 kg/yr	June 1988 site audit	2-3 drums of waste per 10 mos.
Mercuric Acetate	Unknown		< 1 drum of waste per year
Mercuric Chloride	Unknown		
<u>Historical</u>			
Mercury thiocyanate	0.71 g/l	December 1984 letter	Washwaters containing these
Chloride color	0.64 g/l	from Revlon to EPA;	compounds reportedly dis-
Mercuric nitrate	68.5 g/l	NUS Workplan	charged to Technicon ditch at
Fixative FU-48	55% by weight		various times from 1971-1978
Thimerosal	0.1 g/l		
<u>ALCON</u>			
<u>Current</u>			
Thimerosal	< 50 lbs.	June 1988 site audit	Reportedly used in one product
<u>Historical</u>			
Unknown	Unknown	EQB, 1978--	NPDES permit application indicated that effluent may possibly contain mercury
<u>COLORCON</u>			
<u>Current/Historical</u>			
Reportedly none		May 1989 site audit; NUS Workplan	Dyes such as those used by Colorcon are known to contain mercury
<u>DENVER CHEMICAL</u>			
<u>Current/Historical</u>			
Reportedly none		June 1989 site audit; NUS Workplan	None
<u>ESPLAS/POLYPLASTICS</u>			
<u>Current/Historical</u>			
Reportedly none		June 1988 site audit; NUS Workplan	None

TABLE 24 (continued)

Compound	Quantity/ Concentration	Reference	Remarks
<u>HIFI PROPERTY</u> (formerly leased by Owens-Illinois and WJK)			
<u>Current/Historical</u> Reportedly none		February 1989 meet- ing; July 1989 site audit; NUS Workplan	None
<u>HIPWTP</u>			
<u>Current/Historical</u> Reportedly none		May 1989 site audit; EQB, 1978--	None
<u>OWENS-ILLINOIS</u> (formerly Warren-Teed)			
<u>Current/Historical</u> Reportedly none		February 1989 meet- ing; May 1989 site audit; NUS Workplan	None
<u>PEERLESS TUBE</u>			
<u>Current/Historical</u> Reportedly none		June 1988 site audit; EQB, 1978--	None
<u>PCR</u>			
<u>Current/Historical</u> Reportedly none		May 1989 site audit; NUS Workplan	None
<u>REEDCO/DENTCO</u>			
<u>Current/Historical</u> Reportedly none		July 1988 site audit; EQB, 1978--	None
<u>SQUIBB</u>			
<u>Current/Historical</u> Reportedly none		EPA site audit; NUS Workplan	Mercury was detected in Squibb effluent by EQB in 1978

TABLE 25

**Summary of Current and Historical Usage
of Potentially Hazardous Chemicals by Site Industries**

Compound	Quantity/ Concentration	Reference	Remarks
<u>TECHNICON</u>			
<u>Current</u>			
Hydrochloric Acid	Unknown	June 1988 site audit	Some or all of these chemicals may no longer be used since Technicon closed reagents operation
Sulfuric Acid	Unknown		
Potassium Hydroxide	Unknown		
<u>Historical</u>			
Cadmium	Unknown	May 1987 raw materials list	
Cupric Sulfate	Unknown		
Sodium Borate	Unknown		
<u>ALCON</u>			
<u>Current</u>			
Alcohol	Unknown	June 1988 site audit, EQB, 1978	Over 700 raw materials; NPDES permit application indicated that effluent may contain RCRA metals and phenols
Chlorine Gas	Unknown		
Ethylene Oxide Gas	Unknown		
Muriatic Acid	Unknown		
Sodium Hydroxide	Unknown		
<u>Historical</u>			
Unknown	Unknown	None	Probably similar to present
<u>COLORCON</u>			
<u>Current</u>			
<u>Inorganic</u>			
Pigments/dyes	Unknown	May 1979 site audit	About 34 raw materials in total
Alcohol	Unknown		
Plasticisers	Unknown		
Resins	Unknown		
Solvents	Unknown		
<u>Historical</u>			
Unknown	Unknown	None	Probably similar to present

TABLE 25 (continued)

Compound	Quantity/ Concentration	Reference	Remarks
<u>DENVER CHEMICAL</u>			
<u>Current</u>			
Alcohol (G to H)	20 55-gal drums	June 1989 site audit	None
Sorbitol	Unknown		
Glycerine	6000 gal. tank		
Wildcat - 3C det.	Unknown		
<u>Historical</u>			
Unknown	Unknown	None	Probably similar to present
<u>ESPLAS/POLYPLASTICS</u>			
<u>Current</u>			
Polyethylene	Unknown	June 1988 site audit	Reportedly a dry operation
Oil	Unknown		
Ink	Unknown		
Glue	Unknown		
<u>Historical</u>			
Unknown	Unknown	None	Probably similar to present
<u>HIPI PROPERTY (formerly leased by Owens-Illinois and WJK)</u>			
<u>Current (O-I)</u>			
Polyethylene	Unknown	February 1989 meet-	None
Polypaupylene	Unknown	ing; July 1989 site	
Resins	Unknown	audit	
Solvents ("mold clean")	Unknown		
Hydraulic Oil	55-gal drums		
<u>Historical (WJK)</u>			
Reportedly none		NUS Workplan	None
<u>HIPWTP</u>			
<u>Current</u>			
Reportedly none.		1989 site audit	Not in operation
<u>Historical</u>			
Potentially any chemical used by the nine industries that formerly discharged to this facility		NUS Workplan; EQB, 1978	NPDES permit application reportedly indicated that effluent may contain RCRA metals and phenols

(continued)
TABLE 25

Compound	Quantity/ Concentration	Reference	Remarks
<u>OWENS-ILLINOIS (formerly Warren-Teed)</u>			
<u>Current (O-I)</u>			
Polyethylene	Unknown	February 1989	None
Polypropylene	Unknown	meeting; July 1989	
Hydraulic Oil	55 - gal. drums	site audit	
Solvents ("mold clean")	Unknown		
<u>Historical (Warren-Teed)</u>			
Benzene	Unknown	NUS Workplan	None
Acetone	Unknown		
Acids (sulfuric)	Unknown		
<u>PEERLESS TUBE</u>			
<u>Current</u>			
Aluminum Slugs	Unknown	June 1988 site audit	12-20 drums/yr. - drums of assorted wastes
Solvents (eletrosol, MEK)	Unknown		
Oil	Unknown		
Paint	Unknown		
Lacquer	Unknown		
Ink	Unknown		
<u>Historical</u>			
Unknown	Unknown	June 1988 site audit	Probably similar to present
<u>PCR</u>			
<u>Current</u>			
Uracil	Unknown	May 1989 site audit	None
Fluorine	Unknown		
Hydrochloric Acid	Unknown		
<u>Historical</u>			
Unknown	Unknown	None	Probably similar to present
<u>REEDCO/DENTCO</u>			
<u>Current</u>			
Lindane (Reedco)	Unknown	July 1988 site audit	None
<u>Historical</u>			
Lindane (Reedco)	Unknown	NUS Workplan; EQB, 1978	Detected in soil at Reedco

TABLE 25 (continued)

Compound	Quantity/ Concentration	Reference	Remarks
<u>SQUIBB</u>			
<u>Current</u>			
Hydrochloric Acid	Unknown	EPA, 1989 a-n	Organics detected in storm sewers and air
Sulfuric Acid	Unknown		
Phosphoric Acid	Unknown		
Acetone	Unknown		
Methylene Chloride	Unknown		
MEBK	Unknown		
Methanol	Unknown		
Dichloromethane	Unknown		
<u>Historical</u>			
Potassium Penicillin	Unknown	EQB, 1978	None
Mycelium Powder	Unknown		
Solvents	Unknown		