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K-LINE SEDIMENT SAMPLING REPORT

Spaulding Composite Company, Inc.
Tonawanda, New York

PRINTED ON

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K-LINE SEDIMENT SAMPLING REPORT

Spaulding Composite Company, Inc.
Tonawanda, New York

DECEMBER 1992

REFERENCE NO. 5039 (8)
(This report printed on recycled paper.)

CONESTOGA-ROVERS & ASSOCIATES

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1.0 INTRODUCTION

1.1 GENERAL

Spaulding Composites Company, Inc. (SCC) proposed in the document entitled "Storm Sewer Cleaning, Scope of Work, Spaulding Composites Company, Inc., Tonawanda, New York", dated October 15, 1992 to collect sediment samples from various locations within the K-Line storm sewer located at SCC's Tonawanda, New York plant site (Site). Sediment samples were collected on November 13, 1992 by Conestoga-Rovers & Associates (CRA) for analyses of polychlorinated biphenyls (PCBs). This report presents the results of the sampling program and summarizes the procedures used.

1.2 SCOPE OF WORK

Sediment samples were collected at selected locations from the K-Line storm sewer on and adjacent to the plant property. Sediment samples collected were analyzed for PCBs in order to determine the extent of PCB presence within the K-Line storm sewer sediments and the corresponding levels of PCBs.

The scope of work for the sediment sampling program involved the sediment sampling of nine manholes: MH-B, MH-C, MH-D, MH-E-1, MH-F, MH-L, MH-A-A, MH-C-C, and MH-D-D. One additional manhole was sampled on Gibson Street north of the plant site (refer to Figure 1.0 for locations of the manholes).

PLANT FLOW SUMMARY

LOCATION	FLOWS
1. BOILER BLOWDOWN/CONDENSATE	— 40 GPM±
2. ATLAS COMPRESSOR	— 40 GPM±
3. ZINC WEAK TREATMENT	— 40 GPM± (MAXIMUM 100 GPM)
4. RESERVOIR RAW WATER OVERFLOW	— 10 GPM (ESTIMATED)
5. K–LINE STATION: AVERAGE	— 80,000 GPD (MAXIMUM 150,000 GPD)

SEDIMENT SURVEY SUMMARY

MANHOLE LOCATION	SEDIMENT DEPTH (in)
MH A	<1
MH A–A	2
MH B	1
MH B–1	<1
MH C	<1
MH C–1	NA
MH C–C	NA
MH D	6
MH D–1	<1
MH D–D	12
MH E	<1
MH E–1	<1
MH E–E	<1
MH F	<1–5
MH L	3–6
K–LINE MONITORING STATION	2–8

NA NOT ACCESSIBLE

THIS SCHEMATIC PRODUCED FOR DISCUSSION PURPOSES ONLY. ALL LOCATIONS TO BE VERIFIED IN THE FIELD.

LEGEND

x—x—x—x	FENCE
———	PROPERTY LINE
——K——	'K' LINE STORM SEWER
○	MANHOLE
●	ROOF DRAIN
▲	RESERVOIR OVERFLOW CONNECTION
⊗	SEDIMENT SAMPLE LOCATION

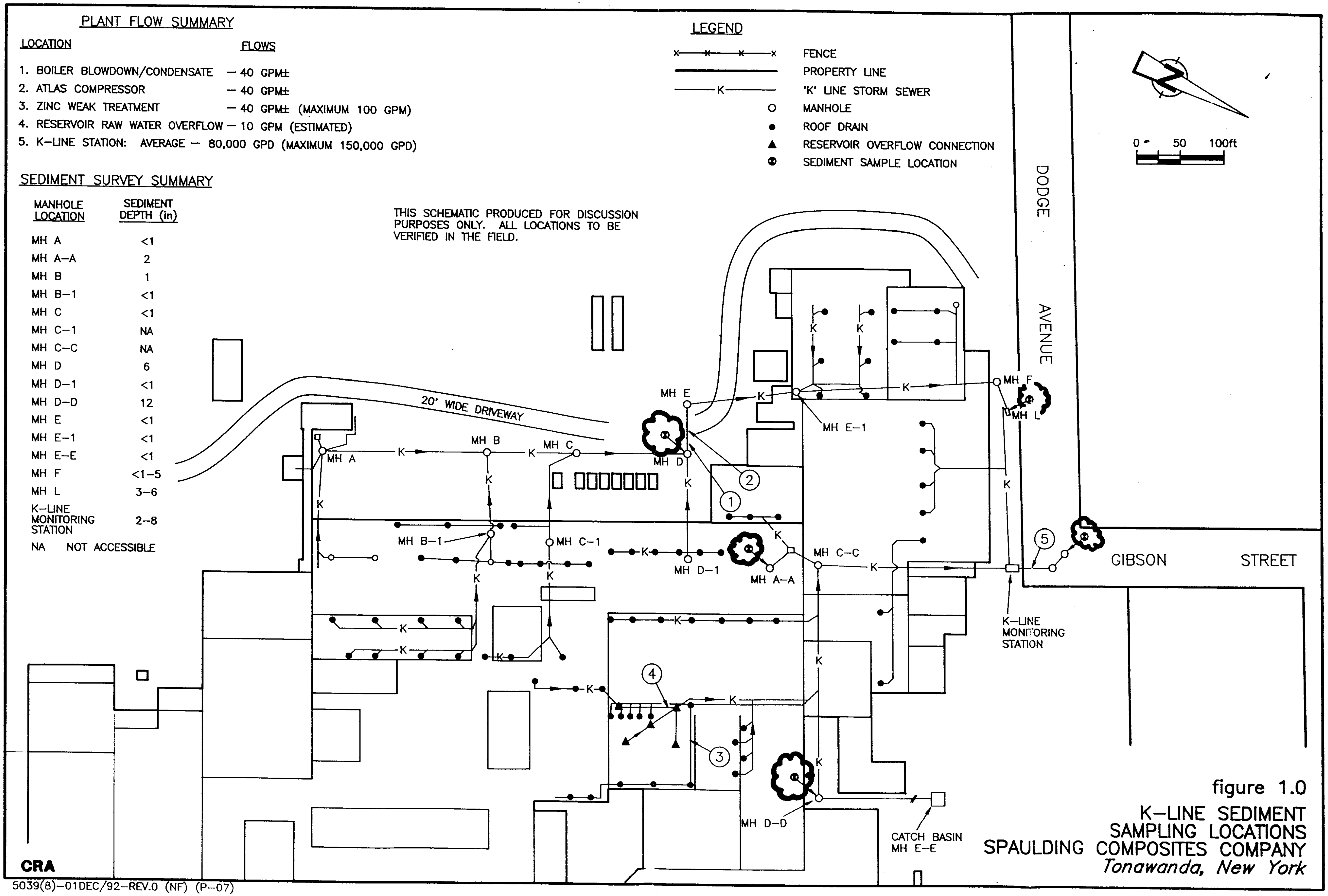

figure 1.0

K–LINE SEDIMENT SAMPLING LOCATIONS

SPAULDING COMPOSITES COMPANY

Tonawanda, New York

CRA

5039(8)–01DEC/92–REV.0 (NF) (P–07)

The following report presents the sampling and analytical procedures utilized in the sample program as well as the results of the study. In addition to determining the extent of PCB presence, the sampling and analyses program will also aid in the determination of any other potential sources of PCBs in the K-Line. The primary sources of the PCBs in the sediments in the K-Line are believed to be related to the former discharge from the Spauldite® basement sump. Discharges from this sump to the K-Line ceased on August 29, 1992. Based on the results of this sediment sampling analysis program, the areas exhibiting PCB presence will be included within the sewer cleaning program.

2.0 FIELD ACTIVITIES

2.1 SAMPLE LOCATIONS

Sediment samples were collected from the following manholes: MH-D; MD-L; MH-A-A; and MH-D-D. Figure 1.0 illustrates the locations of these manholes. In addition, a sediment sample was collected from a manhole on Gibson Street, downstream of the K-Line monitoring station. Insufficient amounts of sediment or no sediment were present in Manholes MH-B, MH-C, MH-E-1, MH-F, and MH-C-C. Accordingly, sediment samples could not be collected from these locations.

Sediment samples were collected on November 13, 1992. Mr. Glen May of the New York State Department of Environmental Conservation (NYSDEC) was present at the time of sample collection. A split sample was collected for the NYSDEC at MH-D.

Table 2.1 presents a sample summary key. Section 2.2 presents the sampling procedures utilized. Appendix A presents the analytical report, as provided by the laboratory.

Sample SC-192 was collected from the manhole located on Gibson Street north of the plant property. Sediment was collected from a 30-inch storm sewer line and included mostly gravel and small stones. The depth of water was estimated to be between two and three inches. The sediment appeared black and brown and no odor, sheen, or other abnormalities were observed.

TABLE 2.1
SAMPLE SUMMARY KEY
K-LINE SEDIMENT SAMPLING
SPAULDING COMPOSITES COMPANY
TONAWANDA, NEW YORK

Sample (1) Location	*Sample Number*	*Date*	*Time*	*Sample Volume*	*Sample (2) Analyses*	*Comments*
Gibson Street Manhole	SC-192	11/13/92	0915	1 x 1 Liter Amber	PCBs	Sediments mostly gravel and small stones, no fines; black-brown; no odor or sheen
MH-A-A	SC-193	11/13/92	1010	1 x 1 Liter Amber	PCBs (3)	Sediments were red-brown; thick and muddy with fibers; a sheen was observed on top of undisturbed sediments
MH-D-D	SC-194	11/13/92	1030	1 x1 Liter Amber	PCBs	Sediments consisted of dark gray clay with some rocks and fine gravel; no sheen or odor were observed SCC-11 is a duplicate sample of SC-194
	SC-911	11/13/92	1030	1 x 1 Liter Amber	PCBs	
MH-L	SC-195	11/13/92	1100	1 x 1 Liter Amber	PCBs	Silty, lots of fine gravel; sheen on the water when disturbed
MH-D	SC-196	11/13/92	1145	1 x 1 Liter Amber	PCBs	Dark clay, some gravel; sheen observed on water when disturbed; no odor

Notes:
(1) Insufficient amounts of sediment were present to collect a sample at manhole locations MH-C-C, MH-F, MH-E-1, MH-C, and MH-B.
(2) PCBs - Polychlorinated biphenyls were analyzed by SW-846 Method 8080.
(3) Analyzed as a matrix spike/matrix spike duplicate sample also.

Sample SC-193 was collected from manhole MH-A-A. Sediment at this location displayed a red-brown color and was thick and muddy with fibers visible in the matrix. Some oily sheen was observed on the top of undisturbed sediments, but no odor was observed. A matrix spike/matrix spike duplicate (MS/MSD) analyses were also performed on sample SC-193. Water depth was estimated to be two feet at this location.

Sample SC-194 was collected from manhole MH-D-D. Sediment at this location consisted primarily of dark gray clay with some intermixed rocks and fine gravel. No odor or sheen was observed at this location. A blind duplicate (sample number SC-911) was also taken at this location.

Sample SC-195 was collected from manhole MH-L. Sediment at this location was silty with abundant fine gravel. A sheen was also observed on the water surface.

Sample SC-196 was collected from manhole MH-D. Sediments were comprised primarily of gravel with some dark colored clay. A sheen was observed on the surface of water in the manhole.

Due to the lack of sediment, five of the ten manholes proposed to be sampled could not be sampled. These five locations were manholes MH-C-C, MH-F, MH-E-1, MH-C, and MH-B. The water in manhole MH-F displayed a sheen on the water.

2.2 SAMPLING PROCEDURE

Sediment samples were collected as described in the following.

i) Samples were collected utilizing a dedicated plastic sample collection "scoop" which was taped to an extendible aluminum rod. The plastic scoop consisted of a precleaned plastic bottle provided by Advanced Environmental Services, Inc. (AES) of Niagara Falls, New York and cut at one end. The rod was lowered into the manhole from the surface and the scoop was pushed or dragged along various portions of the sewer in order to collect sufficient sample volume.

ii) A new pair of disposable latex gloves was used for each sample collected.

iii) Sediment collected in the scoop was brought to the surface and immediately transferred to a precleaned 1 liter amber glass sample bottle provided by the analytical laboratory.

iv) Samples were labeled with a unique sample identification number, date, time, sampler, and analyses required. All sample details were also recorded in a hard cover log book. The sample labels were secured and the samples were immediately placed on ice in a cooler.

v) Prior to sampling at each location, the soiled plastic scoop was removed and discarded and the aluminum rod was cleaned with acetone. Once clean, a new plastic scoop was attached to the rod using duct tape. Collection of an equipment rinse blank was not necessary since new dedicated sampling scoops were used at each location.

vi) Samples were delivered by hand, to the analytical laboratory of AES under standard chain of custody procedures.

vii) All disposable sampling material such as plastic scoops and latex gloves were placed in a plastic garbage bag and disposed of on-Site as trash.

3.0 ANALYTICAL RESULTS

Analytical results for the sediment samples are summarized on Table 3.1. Samples were analyzed for PCBs by SW-846 Method 8080, presented in "Methods for Evaluating Solid Waste Physical/Chemical Methods", Third Edition, dated September 1986. Appendix A presents the analytical report as provided by the laboratory along with the completed chains of custody. Assessment and validation of the data obtained from AES were conducted and are summarized in Appendix B. Evaluation of the analytical data was based on information provided by AES which included matrix and surrogate spikes, recovery data, duplicate sample data, and laboratory blank data. Based on the results of the data assessment and validation, it was determined that the analytical data obtained are valid and suitable for use in this sampling program.

In the sample collected from the Gibson Street manhole, PCB 1242 was detected at 4.5 ppm; in the sample from MH-A-A, PCB 1242 was detected at 2.5 ppm; in the sample from MH-D-D, PCB 1260 was detected at 35 ppm; in the sample from MH-L, PCB 1242 was detected at 1065 ppm; in the sample from MH-D, PCB 1254 was detected at 2.2 ppm; and in the blind duplicate sample from MH-D-D (SC-911), PCB 1260 was detected at 58 ppm.

Samples were analyzed for PCBs by SW-846 Method 8080.

TABLE 3.1
PCB ANALYTICAL RESULTS
K-LINE SEDIMENT SAMPLING
SPAULDING COMPOSITES COMPANY, INC.
TONAWANDA, NEW YORK

Compound (ppm)	*Gibson Street Manhole*	*MH-A-A*	*MH-D-D*	*MH-L*	*MH-D*	*MH-D-D SC-911*
PCB 1016	ND (4)	ND (4)	ND (16)	ND (400)	ND (4)	ND (32)
PCB 1221	ND (4)	ND (4)	ND (16)	ND (400)	ND (4)	ND (32)
PCB 1232	ND (4)	ND (4)	ND (16)	ND (400)	ND (4)	ND (32)
PCB 1242	4.5	2.5	ND (16)	1065	ND (4)	ND (32)
PCB 1248	ND (4)	ND (4)	ND (16)	ND (400)	ND (4)	ND (32)
PCB 1254	ND (4)	ND (4)	ND (16)	ND (400)	2.2	ND (32)
PCB 1260	ND (4)	ND (4)	35	ND (400)	ND (4)	58
Percent Solids (%)	85	44	38	60	51	39

Notes:
ND() Not detected at the practical quantitation limit stated within the parenthesis.
(1) Sample MH-A-A (SC-911) is a blind duplicate sample of MH-D-D.
(2) Samples analyzed by dry weight.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analytical results, the following conclusions and recommendations are made:

i) the presence of elevated levels of PCBs (1,030 ppm as Aroclor or PCB 1248)[1] at the K-Line monitoring station weir has had minimal impact on the sediments in the downstream manhole located on Gibson Street. The Gibson Street manhole sediment sample consisted primarily of gravel and small stones with minimal amounts of fines and was found to contain 4.5 ppm of PCBs (PCB 1242). This is primarily due to the construction of the weir within the K-Line Monitoring Station which reduces the outfall discharge velocities and minimizes sediment release past the weir area;

ii) the primary source of PCBs in the K-Line sewer appears to be located in the sewer section between manholes MH-D and MH-L. Elevated levels of PCBs (1,065 ppm) were detected at MH-L and minor levels of PCBs (2.2 ppm) were detected at the nearest upstream manhole (MH-D) sampled;

iii) PCBs (PCB 1260) were detected in MH-D-D at 35 ppm (58 ppm in a duplicate sample). The source of the PCBs in this manhole is not known. The K-Line sewer section between MH-E-E and the K-Line monitoring station should also be cleaned; and

---

[1] It should be noted that it is difficult to differentiate between PCB 1248 and PCB 1242. Determination of which PCB isomer is actually present is underway.

iv) it is recommended that the main section of the entire K-Line sewer be cleaned to remove any potential PCB contaminated sediments in order to facilitate the monthly post-cleaning sediment survey/sampling program proposed in the Storm Sewer Cleaning, Scope of Work, dated October 15, 1992.

APPENDIX A

ANALYTICAL REPORT

CONESTOGA-ROVERS & ASSOCIATES, INC.

K-LINE
PROJECT #5039

CRA N.F. CFC
RECEIVED
NOV 25 1992

Prepared By:

ADVANCED
ENVIRONMENTAL SERVICES INC.

"A Company Dedicated to Honesty, Quality and Service"

November 25, 1992
Ref. # FSL22PX

QA/QC Verification

The following report, as well as the supporting data, have been carefully reviewed for accuracy, adherence to the cited methods, and completeness. All data contained in this report was generated in accordance with the AES Laboratory Quality Assurance/Quality Control Program.

Denise R Tuhovak

Denise R. Tuhovak
Organics Supervisor

Linda A. Ratka
Inorganic Senior Technician

Paul T. McMahon
Quality Control Officer

Joseph J. Curtis

Joseph J. Curtis
Project Manager

All "Total" results on soil matrices are calculated on a dry weight basis, unless otherwise noted.

The following are standard abbreviations:

BQL - Below Quantifiable Limits
ND - None Detected
NG - No Growth of Colonies
NR - Not Requested

CASE NARRATIVE

CLIENT: CONESTOGA-ROVERS & ASSOCIATES
PROJECT: K-LINE - PROJECT #5039
AES PROJECT CODE: FSL 22PX
AES REPORT DATE: NOVEMBER 25, 1992

Six soil samples were received from Conestoga-Rovers by Advanced Environmental Services on November 13, 1992 for PCB analysis by SW-846 Method 8080. The samples were transported in a cooler with "blue ice", and stored in a cold room until sample preparation was begun. All requirements for sample preservation and parameter holding time (preparation and analysis) were met by the laboratory.

The laboratory QA/QC samples associated with the analysis of these samples were evaluated, and some clarifications are necessary. The analytes of concern were not detected in the method blank extracted with these samples. The surrogate (2,4,5,6-Tetrachloro-m-xylene) recoveries for all samples are unavailable, due to the dilutions required to quantitate the PCB content of the soils. The surrogate recovery for the method blank was within acceptable limits.

Sample SC 193 (AES sample #22PX-2) was chosen for a matrix spike/matrix spike duplicate analysis. However, due to the PCB content of the sample, the spike additions were diluted out, and no recoveries were available. A PCB 1242 content of 2500 ug/kg was quantitated for the original sample, while 2600 ug/kg and 2200 ug/kg were found in the spike and spike duplicate samples respectively. Per Conestoga-Rover's instructions, the sample was re-extracted as a duplicate, and a value of 169 ug/kg was quantitated for PCB 1242.

A review of the data validates that these values are correctly interpreted and calculated. It is most likely that the variance of the fourth result from the three original results is due to the high moisture content of the sample, resulting in a lack of homogeneity. As supported by the spike and spike duplicate results, it is our laboratory's opinion that the 2500 ug/kg result best represents the PCB 1242 content of sample SC 193.

PCB ANALYSIS DATA SHEET

Matrix: (soil/water) SOIL	Date Received: 11/13/92
Sample wt/vol: 30.1 (g/ml) g	Date Extracted: 11/17/92
Extraction: (SepF/Cont/Sonc) SONC	Date Analyzed: 11/18/92
% Moisture: not dec. 15%	Dilution Factor: 200
	Concentration Units: (ug/L or ug/Kg) ug/kg
AES Sample ID: 22PX-1	CRA Sample ID: SC 192

COMPOUND	RESULTS	PQL	MDL
PCB 1016	ND	4000	1000
PCB 1221	ND	4000	1000
PCB 1232	ND	4000	1000
PCB 1242	4500	4000	1000
PCB 1248	ND	4000	1000
PCB 1254	ND	4000	1000
PCB 1260	ND	4000	1000

PCB ANALYSIS DATA SHEET

Matrix: (soil/water) SOIL

Sample wt/vol: 30.7 (g/ml) g

Extraction: (SepF/Cont/Sonc) SONC

% Moisture: not dec. 56%

AES Sample ID: 22PX-2

Date Received: 11/13/92

Date Extracted: 11/17/92

Date Analyzed: 11/19/92

Dilution Factor: 100

Concentration Units:
(ug/L or ug/Kg) ug/kg

CRA Sample ID: SC 193

COMPOUND	RESULTS	PQL	MDL
PCB 1016	ND	4000	1000
PCB 1221	ND	4000	1000
PCB 1232	ND	4000	1000
PCB 1242	2500	4000	1000
PCB 1248	ND	4000	1000
PCB 1254	ND	4000	1000
PCB 1260	ND	4000	1000

PCB ANALYSIS DATA SHEET

Matrix: (soil/water) SOIL

Sample wt/vol: 30.4 (g/ml) g

Extraction: (SepF/Cont/Sonc) SONC

% Moisture: not dec. 62%

AES Sample ID: 22PX-3

Date Received: 11/13/92

Date Extracted: 11/17/92

Date Analyzed: 11/18/92

Dilution Factor: 500

Concentration Units:
(ug/L or ug/Kg) ug/kg

CRA Sample ID: SC-194

COMPOUND	RESULTS	PQL	MDL
PCB 1016	ND	16000	4000
PCB 1221	ND	16000	4000
PCB 1232	ND	16000	4000
PCB 1242	ND	16000	4000
PCB 1248	ND	16000	4000
PCB 1254	ND	16000	4000
PCB 1260	35000	16000	4000

PCB ANALYSIS DATA SHEET

Matrix: (soil/water) SOIL	Date Received: 11/13/92
Sample wt/vol: 30.8 (g/ml) g	Date Extracted: 11/17/92
Extraction: (SepF/Cont/Sonc) SONC	Date Analyzed: 11/19/92
% Moisture: not dec. 40%	Dilution Factor: 20000
	Concentration Units: (ug/L or ug/Kg) ug/kg
AES Sample ID: 22PX-4	CRA Sample ID: SC-195

COMPOUND	RESULTS	PQL	MDL
PCB 1016	ND	400000	100000
PCB 1221	ND	400000	100000
PCB 1232	ND	400000	100000
PCB 1242	1065000	400000	100000
PCB 1248	ND	400000	100000
PCB 1254	ND	400000	100000
PCB 1260	ND	400000	100000

PCB ANALYSIS DATA SHEET

Matrix: (soil/water) SOIL

Sample wt/vol: 30.0 (g/ml) g

Extraction: (SepF/Cont/Sonc) SONC

% Moisture: not dec. 49%

AES Sample ID: 22PX-5

Date Received: 11/13/92

Date Extracted: 11/17/92

Date Analyzed: 11/19/92

Dilution Factor: 100

Concentration Units:
(ug/L or ug/Kg) ug/kg

CRA Sample ID: SC-196

COMPOUND	RESULTS	PQL	MDL
PCB 1016	ND	4000	1000
PCB 1221	ND	4000	1000
PCB 1232	ND	4000	1000
PCB 1242	ND	4000	1000
PCB 1248	ND	4000	1000
PCB 1254	2200	4000	1000
PCB 1260	ND	4000	1000

PCB ANALYSIS DATA SHEET

Matrix: (soil/water) SOIL	Date Received: 11/13/92
Sample wt/vol: 30.5 (g/ml) g	Date Extracted: 11/17/92
Extraction: (SepF/Cont/Sonc) SONC	Date Analyzed: 11/19/92
% Moisture: not dec. 61%	Dilution Factor: 1000
	Concentration Units: (ug/L or ug/Kg) ug/kg
AES Sample ID: 22PX-6	CRA Sample ID: SC-911

COMPOUND	RESULTS	PQL	MDL
PCB 1016	ND	32000	8000
PCB 1221	ND	32000	8000
PCB 1232	ND	32000	8000
PCB 1242	ND	32000	8000
PCB 1248	ND	32000	8000
PCB 1254	ND	32000	8000
PCB 1260	58000	32000	8000

PCB ANALYSIS DATA SHEET

Matrix: (soil/water) SOIL	Date Received: 11/13/92
Sample wt/vol: (g/ml)	Date Extracted: 11/17/92
Extraction: (SepF/Cont/Sonc) SONC	Date Analyzed: 11/17/92
% Moisture: not dec. 100%	Dilution Factor: 1
	Concentration Units: (ug/L or ug/Kg) ug/kg
AES Sample ID: METHOD BLANK	CRA Sample ID: —

COMPOUND	RESULTS	PQL	MDL
PCB 1016	ND	12.0	3.0
PCB 1221	ND	12.0	3.0
PCB 1232	ND	12.0	3.0
PCB 1242	ND	12.0	3.0
PCB 1248	ND	12.0	3.0
PCB 1254	ND	12.0	3.0
PCB 1260	ND	12.0	3.0

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY REPORT
QUALITY CONTROL - PRECISION

Client: CRA
Type of Analysis: Duplicate

A.E.S. Job Code: FSL
Units: ug/kg

Analytical Parameters	Sample No.	Original Concentration	Duplicate Concentration	Average Concentration	Range	Relative % Difference
PCB 1242	22PX-2	2500	169	NA	2331	175 *

* Relative Percent Difference = (Range/Average) X 100

FOOTNOTES

* See Narrative.

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY CONTROL
QUALITY CONTROL - SURROGATE SPIKE

Type of Analysis: Surrogate Spike

Method: SW846 8080, PCB Analysis

Client: CONESTOGA ROVERS ASSOCIATES

A.E.S. Project Code: 22PX

A.E.S. Contract ID: FSL

Site Identification	Type	Percent Recovery	Control Limits
22PX-1	SOIL SURR SPIKE	DIL OUT	77-146
22PX-2	SOIL SURR SPIKE	DIL OUT	77-146
22PX-3	SOIL SURR SPIKE	DIL OUT	77-146
22PX-4	SOIL SURR SPIKE	DIL OUT	77-146
22PX-5	SOIL SURR SPIKE	DIL OUT	77-146
22PX-6	SOIL SURR SPIKE	DIL OUT	77-146
METHOD BLANK	SOIL SURR SPIKE	128	77-146

Advanced Environmental Services

Sample Traceability Report

Organics Analysis

AES Job Code FSL

AES Job No. 22PX

		Sample Prep			Analysis		
AES Sample No.	Sample Date	Method Number	Date	Analyst	Method Number	Date	Analyst
22PX-1	11-13-92	3550 (8080)	11-17-92	MM	8080	11/18/92	DLG
22PX-2						11/19/92	
22PX-3						11/18/92	
22PX-4						11/19/92	
22PX-5							
22PX-6							

CRA Consulting Engineers
CONESTOGA-ROVERS & ASSOCIATES
651 Colby Drive, Waterloo, Ontario Canada N2V 1C2

SHIPPED TO (Laboratory name): AES

CHAIN OF CUSTODY RECORD

PROJECT Nº: 5039

PROJECT NAME: K-Line Sediment Sampling

SAMPLER'S SIGNATURE (SIGN) Mark Kleiman

SEQ. Nº	SAMPLE Nº	DATE	TIME	SAMPLE LOCATOIN	SAMPLE TYPE	Nº OF CONTAINERS	REMARKS
	SC-192	11-13-92	0915	K-Line Storm Sewer	Sediments	1	1L/G/None
	SC-193	11-13-92	1010			1	1L/G/NONE
	SC-911	11-13-92	1200			1	1L/G/NONE
	SC-194	11-13-92	1030			1	1L/G/NONE
	SC-195	11-13-92	1100			1	1L/G/NONE
	SC-196	11-13-92	1145			1	1L/G/none

Note: Analyze for PCB'S Detection Limit 65PPT

Perform MS/MSD ON SC-193

CRA contact Lisa Reyes 283-6720

TOTAL NUMBER OF CONTAINERS ⑥

ANTICIPATED CHEMICAL HAZARDS: UNKNOWN

RELINQUISHED BY: 1 Mark Kleiman (SIGN)	DATE/TIME 11/13/92 1:10PM	RECEIVED BY: ② William S. (SIGN)
RELINQUISHED BY: 2 (SIGN)	DATE/TIME	RECEIVED BY: ③ (SIGN)
RELINQUISHED BY: 3 (SIGN)	DATE/TIME	RECEIVED BY: ④ (SIGN)
ADDITIONAL SIGNATURE SHEET REQUIRED ☐		

METHOD OF SHIPMENT: Auto	SHIPPED BY: MARK KLEIMAN	RECEIVED FOR LABORATORY BY: (SIGN)	DATE/TIME
CONDITION OF SEAL UPON RECEIPT: GENERAL CONDITION OF COOLER:		COOLER OPENED BY: (SIGN)	DATE/TIME

WHITE – CRA OFFICE COPY
YELLOW – RECEIVING LABORATORY COPY
PINK – CRA LABORATORY COPY
GOLDEN ROD – SHIPPERS

Nº 20480

APPENDIX B

DATA VALIDATION REPORT

MEMO

To:	WaiChin Lachell
From:	Lisa Reyes/js
Reference No.:	5039
Date:	12/01/92
Re:	Data Assessment and Validation K-Line Sediment Sampling Spaulding Composites Company North Tonawanda, New York

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The following memo details the analytical data assessment and validation for results obtained by Advanced Environmental Services (AES) on samples collected on October 13, 1992 at the Spaulding Composites Company Site. The samples were submitted for polychlorinated biphenyl (PCB) analysis using United States Environmental Protection Agency (USEPA) Method 8080.

Evaluation of the data was based on information derived from the finished data sheets, chain of custody forms, blank data, and recovery data for matrix and surrogate spikes. The assessment of analytical and in-house data included checks for: adherence to accuracy and precision criteria; transmittal errors; and anomalously high and low parameter values.

The quality assurance/quality control (QA/QC) criteria by which these data have been assessed are outlined in USEPA Method 8080 and the document entitled:

i) "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses" (February 1, 1988), Prepared by the USEPA Data Validation Work Group.

Item i) will hereinafter be referred to as the "Guidelines". The data quality assessment and validation is presented in the subsections which follow.

1.0 MOISTURE CONTENT

In accordance to the USEPA guidelines, samples analyzed as non-aqueous matrix require less than 50 percent moisture content. Three of the six samples submitted for PCB analysis yielded greater than 50 percent moisture thereby qualification of all sample results as estimated (J). High moisture content in samples analyzed as non-aqueous sample matrices generally are not homogenous and do not analyze with precision. Qualification of sample results is presented in Table 1.

2.0 SAMPLE HOLDING TIMES

Based on the criteria outlined in the relevant methods and USEPA sample holding time protocols, the following sample holding time requirements have been established for sediments:

PCB	7 days from collection to extraction 40 days from extraction to analysis

By comparing the date of collection (from the notation appearing on the chain of custody document) with the reported dates of extraction and analysis, it is noted that the samples submitted for analysis were analyzed prior to expiration of the prescribed holding times.

3.0 SURROGATE SPIKE RECOVERIES

Laboratory performance on individual samples is assessed on the basis of surrogate spike recoveries. When properly employed in conjunction with sample preparation, surrogates can be used to determine the effectiveness of sample cleanup or matrix modifying techniques. In addition, fortifying the sample with a known amount of the surrogate compound prior to sample preparation serves as an indicator of the efficiency of analyte extraction, dissolution, or other analyte-matrix separation techniques.

Tetrachloro-m-xylene (TCMX) was the surrogate used to assess the laboratory performance. Although TCMX recoveries could not be evaluated on a per sample basis (due to sample dilution, surrogate TCMX was diluted out of the sample making quantitation impossible), acceptable recoveries were obtained by the method blank.

4.0 METHOD BLANK ANALYSES

Method blank analyses were assessed to determine the existence and magnitude of sample contamination due to laboratory conditions or procedures. All method blanks were prepared from deionized water, and analyzed at a minimum frequency of one per 20 investigative samples. The results of the method blank analyses showed non-detectable quantities of the compounds of interest. This indicated that the potential for sample contamination attributable to laboratory conditions or procedures was minimal during these analyses.

5.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD)

The recoveries of MS/MSD analyses are used to assess the analytical accuracy on an individual sample basis, while the percent reproducibility (RPD) between the MS and MSD indicates the analytical precision achieved for that sample. MS/MSD analyses were performed at a frequency of one per 20 determinations.

MS/MSD analysis was attempted on sample SC193. Due to sample dilution, MS/MSD spike concentrations were diluted out making quantitation unreliable. As a result, sample SC193 was analyzed in duplicate instead. However, MS/MSD sample concentrations did yield confirmation results of the original sample concentration as follows:

Original Sample Result:	2,500 µg/kg
MS Sample Result:	2,600 µg/kg
MSD Sample Result:	2,200 µg/kg

6.0 DUPLICATE ANALYSES

The method(s) precision (relative percent difference (RPD) of duplicate analyses) was determined from the analysis of a duplicate sample. Duplicate samples were performed at a minimum frequency of one per 20 investigative samples.

Duplicate analysis was performed on sample SC193. Duplication of sample results were not obtained through duplicate analysis as shown in the following:

Original Sample Result (µg/kg)	*Duplicate Sample Result (µg/kg)*	*% RPD*	*USEPA Control Limits (Percent)*
2500	169	175	35

According to AES case narrative, duplication was not obtained due to the lack of homogeneity from high moisture content in the sample. Sample results were previously qualified as estimate due to high moisture content (greater than 50 percent). Because of MS/MSD concentration results, the original sample result (2,500 µg/kg) is preferred.

7.0 CONCLUSION

Based on this QA/QC review, these data are judged acceptable with the specific qualification noted herein.

TABLE 1

QUALIFICATION OF SAMPLE RESULTS DUE TO HIGH MOISTURE CONTENT SPAULDING COMPOSITES COMPANY, INC. OCTOBER 1992

Sample I.D.	*Moisture Content (Percent)*	*Parameter*	*Compound*	*Qualified Sample Result (μg/kg)*
SC-193	56	PCB	Aroclor 1016	1000UJ
		PCB	Aroclor 1221	1000UJ
		PCB	Aroclor 1232	1000UJ
		PCB	Aroclor 1242	2500J
		PCB	Aroclor 1248	1000UJ
		PCB	Aroclor 1254	1000UJ
		PCB	Aroclor 1260	1000UJ
SC-194	62	PCB	Aroclor 1016	4000UJ
		PCB	Aroclor 1221	4000UJ
		PCB	Aroclor 1232	4000UJ
		PCB	Aroclor 1242	4000UJ
		PCB	Aroclor 1248	4000UJ
		PCB	Aroclor 1254	4000UJ
		PCB	Aroclor 1260	35000J
SC-911	61	PCB	Aroclor 1016	8000UJ
		PCB	Aroclor 1016	8000UJ
		PCB	Aroclor 1016	8000UJ
		PCB	Aroclor 1016	8000UJ
		PCB	Aroclor 1016	8000UJ
		PCB	Aroclor 1016	8000UJ
		PCB	Aroclor 1016	58000J

Notes:

U	Non-detect as associated value.
J	Value is estimated.
PCB	Polychlorinated biphenyl.