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QUALITY ASSURANCE AND QUALITY CONTROL ANALYSES for the MISA Metal Casting Sector

Ontario

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QUALITY ASSURANCE AND QUALITY CONTROL

DATA ANALYSES FOR THE MISA METAL CASTING SECTOR

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QUALITY ASSURANCE AND QUALITY CONTROL DATA ANALYSES FOR THE MISA METAL CASTING SECTOR

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Water Resources Branch
Ministry of Environment and Energy

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EXECUTIVE SUMMARY

This report presents the quality assurance/quality control (QA/QC) assessment of the effluent monitoring data collected by the MISA Metal Casting Sector under the Ontario Effluent Monitoring Regulation 648/89 as amended by O. Reg. 232/90 and O. Reg. 419/90. The sector conducted the effluent monitoring from May 1, 1990 to April 30, 1991.

The QA/QC assessment process described in this report, evaluated the suitability of the effluent monitoring data for use in the effluent limit setting process. This assessment process was based on the approach outlined in the MISA Issues Resolution Process - Final Report Summary, September 1991.

Of the 63 potential candidate parameters, the QA/QC assessment process has identified 28 parameters with data of reliable quality for effluent limit setting, 15 parameters with data of equivocal quality, and 20 parameters with data of unreliable quality. The parameters with data of reliable quality are:

- Chemical Oxygen Demand (COD)
- Total Cyanide
- Ammonia plus Ammonium
- Total Kjeldahl Nitrogen (TKN)
- Nitrate plus Nitrite
- Dissolved Organic Carbon (DOC)
- Total Organic Carbon (TOC)
- Total Phosphorus
- Total Suspended Solids (TSS)
- Aluminum
- Cadmium
- Total Chromium
- Copper
- Lead
- Molybdenum
- Nickel
- Silver
- Zinc
- Antimony
- Arsenic
- Selenium
- Mercury
- Phenolics (4AAP)
- Octachlorodibenzo-p-dioxin
- Oil & Grease
- Iron
- Magnesium
- Fluoride

INTRODUCTION

This report presents the quality assurance/quality control (QA/QC) assessment of the effluent monitoring data collected by the Metal Casting Sector under the Ontario Effluent Monitoring Regulation 648/89 as amended by O. Reg. 232/90 and O. Reg. 419/90.

The Metal Casting Sector consists of ten plants which discharge directly to surface waterways. These plants conducted a one year effluent monitoring (May 1990 - April 1991) under the MISA Effluent Monitoring Regulation. At the end of the effluent monitoring period, Canada Pipe became a zero discharger and Franklin Electric closed its operations in Ontario. Consequently, only eight plants were considered for limits setting.

Under the Effluent Monitoring Regulation, four plants which discharge process and combined effluent were required to submit QA/QC data as these effluents were extensively monitored. The plants which submitted QA/QC data are:

1. Canada Pipe Company Ltd., Hamilton - at control point #0100 (combined effluent)

2. Ford Motor Company of Canada, Windsor - at control point #0300 (process effluent)

3. General Motors of Canada, St. Catharines - at control point #0900 (process effluent)

4. Haley Industries Ltd., Haley - at control point #0200 (process effluent)

Even though, Canada Pipe become a zero discharger, the analyses of its QA/QC data are included in this report.

The QA/QC procedures encompass all analyses undertaken to insure that the effluent monitoring data are generated within known accuracy and precision. Accuracy can be defined as the degree of agreement of a measured value with the expected value. Precision can be defined as the degree of agreement of measurements obtained through repeated sampling.

Quality assurance (QA) is a system of activities whose purpose is to convince the producers and users of data that the defined standards of quality at predetermined levels of confidence are met and that the quality control is being performed effectively. It is carried out immediately following quality control process and it involves audit and evaluation of the quality control data to insure the success of the quality control program.

Quality control (QC) is the overall system of guidelines, procedures and practices which are designed to regulate and control the quality of monitoring data with regards to previously established performance criteria and standards.

The QA/QC procedure is one of the most important aspects of the MISA Effluent Monitoring and Limits Regulations. The importance of the collection and assessment of QA/QC data is threefold:

1. It serves to identify and assess the significance of:
   - biases i.e. systematic errors inherent in a method or caused by the measurements of laboratory blanks, sampling contamination or calibration errors.
   - chronic contamination
   - data variability
   - false results (either positive or negative)
   - field sampling or laboratory analytical problems.

2. It is one of the processes necessary to determine the validity of the data reported in the effluent monitoring database.

3. It determines the confidence with which one data set can be compared to another.

The QA/QC samples included travelling blanks, travelling spiked blanks, and duplicate samples for specified frequencies. The laboratory QA/QC data consisted of the results of certain laboratory QA/QC checks (blanks, spiked blanks, spiked samples and replicate analyses as specified in the MISA General Effluent Monitoring Regulation) that were to have been retained for possible inspection/review by the Ministry.

This report contains five appendices and a glossary of terms:

Appendix I — The list of all the monitored parameters, their Regulation Method Detection Limits (RMDL), Provincial Water Quality Objectives/Guidelines (PWQO/G), Industrial Discharge Limits (IDL) are presented in Table 1.

The plants and the effluent streams monitored in the Metal Casting Sector during the MISA effluent monitoring period are presented in Table 2.

Appendix II — The potential candidate parameters selected from the final effluent streams of the four plants are presented in Table 1.The potential candidate parameters selected from each effluent stream of the four plants are presented in Table 2.

Appendix III	The QA/QC assessment and the conclusions made regarding the reliability of the effluent monitoring data for each potential candidate parameter are presented.
Appendix IV	Summary of QA/QC data calculation outputs for each potential candidate parameter are presented in Table 1.

Summary of QA/QC data calculation outputs for each non-candidate parameter are presented in Table 2.

The QA/QC calculation outputs outlined in table 1 and table 2 for each parameter are:

- The frequency of occurrence classification;
- The number of valid samples collected;
- The average concentration ratios for the effluent and the travelling blanks;
- The travelling spiked blank percent recovery (minimum,maximum and average);
- The average concentration difference ratio for the field duplicate and the uncorrected sample;

For definitions of these terms, see the glossary of terms.

In the QA/QC assessment process, the travelling blank and spiked travelling blank data are used for the whole plant and apply to all effluent streams. The field duplicate and uncorrected sample data are pipe specific.

Appendix V	For each of the four plants, the frequency of occurrence classification, the percent frequency of detection, maximum, minimum, and average concentration ratios of the effluent monitoring data are presented.
Glossary	Definitions of terms used in the report are presented.

THE QA/QC PROCESS

1. STRATEGIES FOR DECISION MAKING

The QA/QC process consists of three main steps, each of which is described below:

Step 1: Retrieval, Screening and Classification

During retrieval, screening and basic calculations, all analytical results with remark codes "<" , "<DL" , "<T" , "A" , "AR" , and analytical results without a remark code are included in the QA/QC analysis. All data with remark codes different than the ones mentioned above are excluded because the results are found to be questionable (e.g. insufficient sample volume, interference, old sample, improper preservation). These amount to less than one percent of the database.

Data with analytical results below the RMDL are used as reported unless the value is less than or equal to RMDL/10. In such instances, the value is substituted with RMDL/10. It should be noted that when an analytical result is reported with a remark code less than the detection limit i.e. "<DL", the actual level of the analyte could be within the range of zero and the laboratory method detection limit. Special attention is given during the interpretation of results reported with remark codes "<DL" and "<".

In sorting the effluent monitoring data, the first step is to classify parameters according to their frequency of occurrence classification and their levels observed. Three main categories were used for the frequency of occurrence:

Frequent occurrence: More than 40% of the parameter's observations are above the RMDL.

Infrequent occurrence: For parameters monitored on daily, thrice weekly and weekly, less than or equal to 40% but more than 1% of the parameter's observations are above the RMDL.

For parameters monitored on monthly, quarterly and semi-annually frequency, less than or equal to 40% but more than 11% of the parameter's observations are above the RMDL.

Non-occurrence: For parameters monitored on daily, thrice weekly, and weekly frequency, less than or equal to 1% of the parameter's observations are above the RMDL.

For parameters monitored on monthly, quarterly, and semi-annually frequency, less than or equal to 11% of the parameter's observations are above the RMDL.

Within both the Frequent and Infrequent Occurrence categories, parameters were further classified according to the levels at which they were observed. The three sub-categories are:

* **High Level** — Used to describe quantitative data i.e. presence and actual level of analyte is certain.

* **Medium Level** — Used to describe semi-quantitative data i.e. presence of analyte is probable but actual level of analyte may be uncertain.

* **Low Level** — Used to describe qualitative data i.e. presence and actual level of analyte may be uncertain.

Based on the frequency of occurrence classifications and levels observed, the effluent monitoring data can be grouped into the following categories:

Frequent Occurrence-High Level (FH):
More than 50% of the parameter's observations are above 5 times the RMDL.

Frequent Occurrence-Medium Level(FM):
More than 50% of the parameter's observations are above 2 times the RMDL.

Frequent Occurrence-low Level (FL):
More than 40% of the parameter's observations are above the RMDL.

Infrequent Occurrence-High Level (IH):
For parameters monitored on daily, thrice weekly, and weekly frequency, between 1% and 40% of the observations are above the RMDL. Of those observations greater than 2 times the RMDL, more than 50% are higher than 5 times the RMDL.

For parameters monitored on monthly, quarterly and semi-annually frequency, between 11% and 40% of the observations are above the RMDL. Of those observations greater than 2 times the RMDL, more than 50% are higher than 5 times the RMDL.

Infrequent Occurrence-Medium Level (IM):

For parameters monitored on daily, thrice weekly, and weekly frequency, between 1% and 40% of the observations are above the RMDL. Of those observations greater than the RMDL, more than 50% are higher than 2 times the RMDL.

For parameters monitored on monthly, quarterly and semi-annually frequency, between 11% and 40% of the observations are above the RMDL. Of those observations greater than the RMDL, more than 50% are higher than 2 times the RMDL.

Infrequent Occurrence-Low Level (IL):

Observations do not fit the criteria for infrequent occurrence at either the high or medium level.

Non-occurrence (NO):

For parameters monitored on daily, thrice weekly, and weekly frequency, less than 1% of the parameter's observations are above the RMDL.

For parameters monitored on monthly, quarterly and semi-annually frequency, less than 11% of the parameter's observations are above the RMDL.

Step 2: Sorting and Summarizing

Using the effluent monitoring data and the accompanying field QA/QC on a plant-by-plant basis, the second step is to sort parameters according to their frequency of occurrence and observed concentration level in each effluent stream. To facilitate the QA/QC assessment process, summary tables outlining the essential calculation outputs for each parameter are tabulated in appendix IV.

Step 3: Strategies for the QA/QC Assessment Process.

Classification of parameters according to frequency of occurrence and level of analyte observed dictates the following three strategies for evaluating effluent monitoring data. Each strategy provides guidance in decision-making through the systematic evaluation of specific QA/QC data.

<u>Strategy 1</u> **Evaluation of Frequent Occurrence Parameters**

Effluent data values were considered to provide either a satisfactory representation of the actual levels, a possible under-estimate of the actual level, or a possible over-estimate of the actual level of a particular analyte. The likelihood of over-estimation or under-estimation based on the recovery of travelling spiked blanks and the possibility of error in laboratory blank corrections were evaluated. The precision using field duplicate and, if necessary, precision using laboratory replicates were assessed.

Strategy 2 **Evaluation of Infrequent Occurrence Parameters**

Effluent data were considered as being either true positive, false negative, or false positive. The possibility of false negative based on the possible under-recovery of travelling spiked blank samples was assessed. The likelihood of false positive based on contamination of travelling blank samples was also assessed. If necessary, the possibility of under-correction or over-correction for laboratory blank data was evaluated.

Strategy 3 **Evaluation of Non-Occurrence Parameters**

Effluent data were considered as being either true negatives or false negative through examination of recoveries for travelling spiked blank data. If necessary, the possibility of over correction for laboratory blanks was evaluated.

In addition to the above strategies, consideration was also given to the following circumstances:

1. Unique parameters which are selected as candidate parameters for limits for one plant only were investigated for:
   - anomalies in plant process operation
   - special chemicals used at the plant site
   - the possibility of field contamination

2. Parameters which are selected as candidate parameters for limits only for limited number of plants were investigated for:
   - use of the same contract lab
   - a similarity in processes or chemicals used

3. Parameters which are selected as candidate parameters for limits and found at infrequent high level of occurrence were investigated for:
   - the possibility of process change or process upset in the plant

4. Reports from Ministry inspections of plants and contract laboratories.

2. EVALUATION OF QA/QC DATA

<u>Candidate parameters for limits</u>:

The QA/QC evaluation for the candidate parameters for limits focused on the following actions depending on the classification of each parameter:

Frequent Occurrence - High Level parameters were evaluated for accuracy, recovery, and precision.

Frequent Occurrence - Medium Level parameters were evaluated for recovery, precision, and potential for blank bias.

Frequent Occurrence - Low Level parameters were evaluated for recovery and potential for false positive.

Infrequent Occurrence - High Level parameters were evaluated for process changes and potential for contamination.

Infrequent Occurrence - Medium Level parameters were evaluated for recovery and potential for blank bias.

Infrequent Occurrence - Low Level parameters were evaluated for potential false positive and false negatives.

<u>Non-Candidate parameters for limits</u>:

The QA/QC evaluation for the non-candidate parameters identified the parameters with a possible false negative concerns. Non-candidate parameters with average spiked blank recoveries between 20% and 140% confirmed that the parameter should not be a candidate for limits. Non-candidate parameters with average spiked blank recoveries lower than 20 percent are identified as parameters with false negative concerns and candidates for further investigation.

3. PARAMETERS SELECTED FOR LIMITS

The list of the 161 parameters monitored in the MISA Metal Casting Sector are presented in Table 1 of Appendix I. From this list of parameters, the potential candidate parameters are selected based on 90/10 selection criteria as defined in the "MISA Issue Resolution Process - Final Report Summary, Ontario Ministry of the Environment - September 1991 ".

A total of 63 parameters were selected as potential candidates using the 90/10 selection criteria. These 63 parameters were further evaluated using the QA/QC assessment process to identify parameters with data of reliable quality for limit setting. The parameter pH was not included in the potential candidate parameters list since it will be regulated within the range specified in the Effluent Limits Regulation.

Parameters that were not selected by the 90/10 rule as potential candidate parameters were investigated for possible false negative results by examining the recovery levels of the travelling spiked blanks. If a false negative result is confirmed, further investigation is required to confirm the presence of these parameters.

The list of the potential candidate parameters at the final discharge point of each plant are presented in Table 1 of Appendix II. The list of potential candidate parameters at each effluent stream of each plant are presented in Table 2 of Appendix II.

DATA ASSESSMENT PROCEDURES

In assessing the effluent monitoring data, average concentration ratios are examined taking into consideration the total number of samples. Effluent monitoring data with the number of samples less than 12 were further investigated using the minimum and maximum concentration ratios to evaluate the impact of outliers. For effluent monitoring data with the total number of samples less than 4, the minimum average concentration ratio is used to evaluate reliability of the data.

In assessing the field duplicate data, the average difference ratios that were less than 1.0 implied that precision was satisfactory. If the corresponding effluent average concentration ratio was very high compared to the field duplicate difference ratio, then a ratio higher than 1.0 implied that precision was satisfactory. If the data did not meet this criterion, they were examined further to assess the variability of the analysis.

In assessing the uncorrected monitoring data, the average difference ratios which were less than 1.0 implied that laboratory blank corrections were insignificant. If the corresponding effluent average concentration ratio was very high compared to the uncorrected sample difference ratio, then a ratio higher than 1.0 implied that precision was satisfactory.If the data did not meet this criterion, individual results were investigated further for the reliability of blank corrections.

In assessing the travelling blank data, the average travelling blank concentration ratios which were consistently less than 1.0 often indicated that the effluent monitoring data for that parameter were satisfactory. If the corresponding effluent average concentration ratio was very high compared to the travelling blank average concentration ratio, then a ratio higher than 1.0 implied that precision was satisfactory. If the data did not meet this criterion, the individual results were investigated further.

In assessing the spiked travelling blank data, the average recoveries of travelling spiked blank data of greater than 40% are deemed satisfactory, whereas average recoveries lower than 40% are of concern. Recoveries that are lower than 40% increase the risk of a false negative conclusion as to the presence of a parameter.

Spiked travelling blank recoveries greater than 140% can only be attributed to either data entry errors or field/laboratory contamination. If an over-recovery is due to field contamination, the contamination will be identified through the evaluation of travelling blanks.

CONCLUSIONS

The QA/QC data assessment has provided insight into the selection of the parameters for effluent limits.

One of the following conclusions were made about the data for each parameter:

1. Data are of reliable quality.
2. Data are of equivocal quality.
3. Data are of unreliable quality.

A conclusion of reliable quality is designated to parameters for which the QA/QC assessment has indicated no major concerns in regard to the reliability of the data.

A conclusion of equivocal quality is designated to parameters without QA/QC data. It is also designated to parameters with no major QA/QC assessment concerns but with effluent average concentration ratios lower than two.

A conclusion of unreliable quality is designated to parameters for which the QA/QC assessment has indicated major concerns in regard to the reliability of the data.

Of the 63 potential candidate parameters, the QA/QC assessment process has identified 28 parameters with data of reliable quality for effluent limit setting, 15 parameters with data of equivocal quality, and 20 parameters with data of unreliable quality. The 35 parameters with data of equivocal and unreliable quality will be removed from further consideration in the development of effluent limits for the Metal Casting Sector.

The QA/QC data assessment for the non-candidate parameters has identified 9 parameters with possible false negative concerns. Further investigation is required to confirm the presence of these parameters. These parameters are outlined in Appendix III in the section of the QA/QC assessment for non-candidate parameters.

TABLE 1

QUALITY ASSURANCE AND QUALITY CONTROL ASSESSMENT RESULTS

POTENTIAL CANDIDATE PARAMETERS

FINAL DISCHARGE POINT OF EACH PLANT

ATG	PARAMETER	CANADA PIPE # 0100	FORD MOTOR # 0100	GENERAL MOTORS # 1000	HALEY IND. # 0200
1	Chemical Oxygen Demand	1	3	1	1
2	Cyanide Total	1	1	2	1
4a	Ammonia plus Ammonium	1	2	1	1
4a	Total Kjeldahl Nitrogen	1	2	2	1
4b	Nitrate+Nitrite	1	1	2	1
5a	DOC	1	1	1	1
5b	TOC	1	2		1
6	Total Phosphorus	1		2	1
8	Total Suspended Solids	1	1	1	1
8	Volatile Suspended Solids		2		
9	Aluminum	1	1	1	1
9	Beryllium				3
9	Cadmium	1	2	3	3
9	Chromium	1		3	1
9	Cobalt				3
9	Copper	1	2		1
9	Lead	1	2	2	1
9	Molybdenum	1	2		3
9	Nickel	1			2
9	Silver				1
9	Vanadium				2
9	Zinc	1	1	1	1
10	Antimony	1			1
10	Arsenic	2			1
10	Selenium	1			1
12	Mercury	1	3		1
13	Tetra-alkyl lead (Total)	3			
13	Tri-alkyl lead (Total)	3			
14	Phenolics (4AAP)	1	1	1	1
15	Sulphide	2			
16	1,1-Dichloroethane				2
16	Chloroform			3	
16	Methylene Chloride				3
17	Benzene		3		
17	Toluene		3		
17	o-Xylene				3
19	Benzobutylphthalate		3		

NOTE:

1 = DATA ARE OF RELIABLE QUALITY
2 = DATA ARE OF EQUIVOCAL QUALITY
3 = DATA ARE OF UNRELIABLE QUALITY

TABLE 1

QUALITY ASSURANCE AND QUALITY CONTROL ASSESSMENT RESULTS

POTENTIAL CANDIDATE PARAMETERS

FINAL DISCHARGE POINT OF EACH PLANT

ATG	PARAMETER	CANADA PIPE # 0100	FORD MOTOR # 0100	GENERAL MOTORS # 1000	HALEY IND. # 0200
19	Bis(2-ethylhexyl)phthalate	2	2		3
20	2,4-Dimethylphenol		2		
20	4-Nitrophenol				3
20	Pentachlorophenol				3
23	1,2,3-Trichlorobenzene				2
24	Octachlorodibenzo-p-dioxin		2		1
24	Octachlorodibenzofuran		2		
24	Total H6CDD				2
24	Total H6CDF				2
24	Total H7CDD				2
24	Total H7CDF				2
24	Total PCDF		2		2
24	Total TCDF		2		2
25	Oil and Grease	1	2	3	2
26	Abietic Acid			3	3
26	Chlorodehydroabietic Acid				3
26	Dehydroabietic Acid				3
26	Isopimaric Acid				3
26	Levopimaric Acid			3	3
26	Neoabietic Acid			3	3
26	Oleic Acid				3
26	Pimaric Acid				3
27	PCBT		2		
MC1	Iron	1	1	1	1
MC1	Magnesium	1	1	1	1
MC2	Fluoride	1	1	1	1

NOTE:

1 = DATA ARE OF RELIABLE QUALITY
2 = DATA ARE OF EQUIVOCAL QUALITY
3 = DATA ARE OF UNRELIABLE QUALITY

QUALITY ASSURANCE AND QUALITY CONTROL ASSESSMENT RESULTS

TABLE 2

CANDIDATE PARAMETERS TO BE LIMITED

ATG	PARAMETER
1	Chemical Oxygen Demand
2	Cyanide Total
4a	Ammonia plus Ammonium
4a	Total Kjeldahl Nitrogen
4b	Nitrate+Nitrite
5a	DOC
5b	TOC
6	Total Phosphorus
8	Total Suspended Solids
9	Aluminum
9	Cadmium
9	Chromium
9	Copper
9	Lead
9	Molybdenum
9	Nickel
9	Silver
9	Zinc
10	Antimony
10	Arsenic
10	Selenium
12	Mercury
14	Phenolics (4AAP)
24	Octachlorodibenzo-p-dioxin
25	Oil and Grease
MC1	Iron
MC1	Magnesium
MC2	Fluoride

TABLE 3

CANDIDATE PARAMETERS WITH DATA OF EQUIVOCAL QUALITY

ATG	PARAMETER
8	Volatile Suspended Solids
9	Vanadium
15	Sulphide
16	1,1-Dichloroethane
19	Bis(2-ethylhexyl)phthalate
20	2,4-Dimethylphenol
23	1,2,3-Trichlorobenzene
24	Octachlorodibenzofuran
24	Total H6CDD
24	Total H6CDF
24	Total H7CDD
24	Total H7CDF
24	Total PCDF
24	Total TCDF
27	PCBT

TABLE 4

CANDIDATE PARAMETERS TO BE REMOVED FROM LIST

ATG	PARAMETER
9	Cobalt
9	Beryllium
13	Tetra-alkyl lead (Total)
13	Tri-alkyl lead (Total)
16	Chloroform
16	Methylene Chloride
17	Benzene
17	Toluene
17	o-Xylene
19	Benzobutylphthalate
20	4-Nitrophenol
20	Pentachlorophenol
26	Abietic Acid
26	Chlorodehydroabietic Acid
26	Dehydroabietic Acid
26	Isopimaric Acid
26	Levopimaric Acid
26	Neoabietic Acid
26	Oleic Acid
26	Pimaric Acid

APPENDIX I

SECTOR LIST OF MONITORED PARAMETERS

LIST OF PLANTS AND EFFLUENT STREAMS

APPENDIX I
TABLE 1

SECTOR LIST OF MONITORED PARAMETERS

ATG	PARAMETER	RMDL	PWQO/G	R	IDL	UNIT
16	1,4-Dichlorobenzene	1.700	4.0000	O		ug/L
16	Bromoform	3.700				ug/L
16	Bromomethane	3.700				ug/L
16	Carbon Tetrachloride	1.300				ug/L
16	Chlorobenzene	0.700	15.0000	O		ug/L
16	Chloroform	0.700				ug/L
16	Chloromethane	3.700				ug/L
16	Cis-1,3-Dichloropropylene	1.400				ug/L
16	Dibromochloromethane	1.100				ug/L
16	Ethylene Dibromide	1.000				ug/L
16	Methylene Chloride	1.300				ug/L
16	Tetrachloroethylene	1.100	50.0000	PG		ug/L
16	Trans-1,2-Dichloroethylene	1.400	200.0000	PG		ug/L
16	Trans-1,3-Dichloropropylene	1.400				ug/L
16	Trichloroethylene	1.900	2.0000	PG		ug/L
16	Trichlorofluoromethane	1.000				ug/L
16	Vinyl Chloride	4.000				ug/L
17	Benzene	0.500	100.0000	PG		ug/L
17	Styrene	0.500	20.0000	PG		ug/L
17	Toluene	0.500	0.8000			ug/L
17	m-Xylene and p-Xylene	1.100				ug/L
17	o-Xylene	0.500	0.7000	PG		ug/L
18	Acrolein	4.000				ug/L
18	Acrylonitrile	4.200				ug/L
19	1-Chloronaphthalene	2.500				ug/L
19	1-Methylnaphthalene	3.200	2.0000	PG		ug/L
19	2,4-Dinitrotoluene	0.800	5.0000	PG		ug/L
19	2,6-Dinitrotoluene	0.700	50.0000	PG		ug/L
19	2-Chloronaphthalene	1.800				ug/L
19	2-Methylnaphthalene	2.200	2.0000	PG		ug/L
19	4-Bromophenyl Phenyl Ether	0.300				ug/L
19	4-Chlorophenyl Phenyl Ether	0.900				ug/L
19	5-Nitro, Acenaphthene	4.300				ug/L
19	Acenaphthene	1.300				ug/L
19	Acenaphthylene	1.400				ug/L
19	Anthracene	1.200				ug/L
19	Benzo(a)anthracene	0.500				ug/L
19	Benzo(a)pyrene	0.600				ug/L
19	Benzo(b)fluoranthene	0.700				ug/L
19	Benzo(g,h,i)perylene	0.700				ug/L
19	Benzo(k)fluoranthene	0.700				ug/L

ATG = Analytical Test Group
RMDL = Regulation Method Detection Limit
PWQO/G = Provincial Water Quality Objective/Guideline
IDL = Industrial Discharge Limit
R = REMARK: O – Objective, G – Guideline, P – Proposed

APPENDIX I
TABLE 1
SECTOR LIST OF MONITORED PARAMETERS

ATG	PARAMETER	RMDL	PWQO/G	R	IDL	UNIT
19	Benzobutylphthalate	0.600				ug/L
19	Biphenyl	0.600				ug/L
19	Bis(2-chloroethoxyl)methane	3.500				ug/L
19	Bis(2-chloroethyl)ether	4.400				ug/L
19	Bis(2-chloroisopropyl)ether	2.200				ug/L
19	Bis(2-ethylhexyl)phthalate	2.200	0.6000	O		ug/L
19	Camphene	3.500				ug/L
19	Chrysene	0.300				ug/L
19	Di-n-butyl Phthalate	3.800	4.0000	O		ug/L
19	Dibenz(a,h)anthracene	1.300				ug/L
19	Diphenyl Ether	0.400				ug/L
19	Diphenylamine	14.000				ug/L
19	Fluoranthene	0.400				ug/L
19	Fluorene	1.700				ug/L
19	Indeno(1,2,3-cd)pyrene	1.300				ug/L
19	Indole	1.900				ug/L
19	N-Nitrosodi-n-propylamine	3.100				ug/L
19	N-Nitrosodiphenylamine	14.000				ug/L
19	Naphthalene	1.600				ug/L
19	Perylene	1.500				ug/L
19	Phenanthrene	0.400				ug/L
19	Pyrene	0.400				ug/L
20	2,3,4,5-Tetrachlorophenol	0.400	1.0000	O		ug/L
20	2,3,4,6-Tetrachlorophenol	2.800	1.0000	O		ug/L
20	2,3,4-Trichlorophenol	0.600	18.0000	O		ug/L
20	2,3,5,6-Tetrachlorophenol	1.600	1.0000	O		ug/L
20	2,3,5-Trichlorophenol	1.300	18.0000	O		ug/L
20	2,4,5-Trichlorophenol	1.300	18.0000	O		ug/L
20	2,4,6-Trichlorophenol	1.300	18.0000	O		ug/L
20	2,4-Dichlorophenol	1.700	0.2000	O		ug/L
20	2,4-Dimethylphenol	7.300	10.5000	PG		ug/L
20	2,4-Dinitrophenol	42.000				ug/L
20	2,6-Dichlorophenol	2.000	0.2000	O		ug/L
20	2-Chlorophenol	3.700				ug/L
20	4,6-Dinitro-o-cresol	24.000	0.2000	PG		ug/L
20	4-Chloro-3-methylphenol	1.500				ug/L
20	4-Nitrophenol	1.400	48.0000	PG		ug/L
20	Pentachlorophenol	1.300	0.5000	O		ug/L
20	Phenol	2.400	5.0000	O		ug/L
20	m-Cresol	3.400	1.0000	PG		ug/L
20	o-Cresol	3.700	1.0000	PG		ug/L

ATG = Analytical Test Group
RMDL = Regulation Method Detection Limit
PWQO/G = Provincial Water Quality Objective/Guideline
IDL = Industrial Discharge Limit
R = REMARK : O – Objective, G – Guideline, P – Proposed

APPENDIX I
TABLE 1
SECTOR LIST OF MONITORED PARAMETERS

ATG	PARAMETER	RMDL	PWQO/G	R	IDL	UNIT
20	p-Cresol	3.500	1.0000	PG		ug/L
23	1,2,3,4-Tetrachlorobenzene	0.010	0.1000	O		ug/L
23	1,2,3,5-Tetrachlorobenzene	0.010	0.1000	O		ug/L
23	1,2,3-Trichlorobenzene	0.010	0.9000	O		ug/L
23	1,2,4,5-Tetrachlorobenzene	0.010	0.1500	O		ug/L
23	1,2,4-Trichlorobenzene	0.010	0.5000	O		ug/L
23	2,4,5-Trichlorotoluene	0.010				ug/L
23	Hexachlorobenzene	0.010	0.0065	O		ug/L
23	Hexachlorobutadiene	0.010	0.0200	PG		ug/L
23	Hexachlorocyclopentadiene	0.010				ug/L
23	Hexachloroethane	0.010				ug/L
23	Octachlorostyrene	0.010				ug/L
23	Pentachlorobenzene	0.010	0.0300	O		ug/L
24	2,3,7,8 TCDD	0.020	0.0001	PG		ng/L
24	Octachlorodibenzo-p-dioxin	0.030				ng/L
24	Octachlorodibenzofuran	0.030				ng/L
24	Total H6CDD	0.030				ng/L
24	Total H6CDF	0.020				ng/L
24	Total H7CDD	0.030				ng/L
24	Total H7CDF	0.030				ng/L
24	Total PCDD	0.020				ng/L
24	Total PCDF	0.015				ng/L
24	Total TCDD	0.020				ng/L
24	Total TCDF	0.015				ng/L
25	Oil and Grease	1.000			15.000	mg/L
26	Abietic Acid	0.005				mg/L
26	Chlorodehydroabietic Acid	0.005				mg/L
26	Dehydroabietic Acid	0.005				mg/L
26	Isopimaric Acid	0.005				mg/L
26	Levopimaric Acid	0.005				mg/L
26	Neoabietic Acid	0.005				mg/L
26	Oleic Acid	0.005				mg/L
26	Pimaric Acid	0.005				mg/L
27	PCBT	0.100	0.0010	O		ug/L
MC1	Iron	0.020	0.3000	O		mg/L
MC1	Magnesium	0.020				mg/L
MC2	Fluoride	0.100				mg/L

ATG = Analytical Test Group
RMDL = Regulation Method Detection Limit
PWQO/G = Provincial Water Quality Objective/Guideline
IDL = Industrial Discharge Limit
R = REMARK: O – Objective, G – Guideline, P – Proposed

APPENDIX I

TABLE 2

MISA METAL CASTING SECTOR

LIST OF PLANTS AND EFFLUENT STREAMS

COMPANY NAME AND LOCATION	POINT	STREAM CLASSIFICATION	STREAM NAME
CANADA ALLOY CASTING LTD., KITCHENER	0100	COOLING WATER	COOLING WATER STORM SEWER
CANADA PIPE COMPANY LTD., HAMILTON	0100	COMBINED EFFLUENT (FINAL)	CUPOLA SCRUBBER
CHRYSLER CANADA LTD., ETOBICOKE	0100	COOLING WATER	STORM SEWER
FORD MOTOR COMPANY OF CANADA, WINDSOR	0100	COMBINED EFFLUENT (FINAL)	LAGOON EFFLUENT
	0200	INTAKE WATER	DETROIT RIVER WATER
	0300	PROCESS EFFLUENT	PROCESS
	0500	EMERGENCY OVERFLOW	COMBINED EMERGENCY OVERFLOW
FRANKLIN ELECTRIC OF CANADA, STRATHROY	0100	COOLING WATER	COOLING POND EFFLUENT
	0200	INTAKE WATER	INTAKE WATER
GENERAL MOTORS OF CANADA, ST.CATHARINES	0200	INTAKE WATER	WELLAND CANAL
	0900	PROCESS EFFLUENT	FOUNDARY PROCESS
	1000	COMBINED EFFLUENT (FINAL)	FOUNDARY COMBINED
HALEY INDUSTRIES LTD., HALEY	0100	COMBINED EFFLUENT	SEWAGE TREATMENT PLANT
	0200	PROCESS EFFLUENT (FINAL)	EAST PROCESS SEWER
	0300	STORM WATER EFFLUENT	WEST STORM SEWER
	0400	INTAKE WATER	PUMPHOUSE LAKE
	0600	WASTE WATER EFFLUENT (FLOW)	WASTE WATER TREATMENT PLANT FLOW
KUBOTA METAL, FAHRAMET DIV., ORILLIA	0100	COOLING WATER	COOLING
RICHMOND DIE CASTING LTD., CORNWALL	0100	COOLING WATER	COOLING
	0200	INTAKE WATER	ST. LAWRENCE RIVER
WESTERN FOUNDRY CO. LTD., WINGHAM	0100	COOLING WATER	ARTHUR STREET
	0200	COOLING WATER	CNR BRIDGE
	0300	INTAKE WATER	TOWN SUPPLY

APPENDIX II

POTENTIAL CANDIDATE PARAMETERS

APPENDIX II
TABLE 1

POTENTIAL CANDIDATE PARAMETERS

FINAL DISCHARGE POINT OF EACH PLANT

ATG	PARAMETER	CANADA PIPE # 0100	FORD MOTOR # 0100	GENERAL MOTORS # 1000	HALEY IND. # 0200
1	Chemical Oxygen Demand	X	X	X	X
2	Cyanide Total	X	X	X	X
4a	Ammonia plus Ammonium	X	X	X	X
4a	Total Kjeldahl Nitrogen	X	X	X	X
4b	Nitrate+Nitrite	X	X	X	X
5a	DOC	X	X	X	X
5b	TOC	X	X		X
6	Total Phosphorus	X		X	X
7	Specific Conductance	X	X	X	X
8	Total Suspended Solids	X	X	X	X
8	Volatile Suspended Solids		X		
9	Aluminum	X	X	X	X
9	Beryllium				X
9	Cadmium	X	X	X	X
9	Chromium	X		X	X
9	Cobalt				X
9	Copper	X	X		X
9	Lead	X	X	X	X
9	Molybdenum	X	X		X
9	Nickel	X			X
9	Silver				X
9	Vanadium				X
9	Zinc	X	X	X	X
10	Antimony	X			X
10	Arsenic	X			X
10	Selenium	X			X
12	Mercury	X	X		X
13	Tetra-alkyl lead (Total)	X			
13	Tri-alkyl lead (Total)	X			
14	Phenolics (4AAP)	X	X	X	X
15	Sulphide	X			
16	1,1-Dichloroethane				X
16	Chloroform			X	
16	Methylene Chloride				X
17	Benzene		X		
17	Toluene		X		
17	o-Xylene				X
19	Benzobutylphthalate		X		

X = INDICATES THAT A PARAMETER IS A POTENTIAL CANDIDATE AT THE GIVEN STREAM.

APPENDIX II
TABLE 1

POTENTIAL CANDIDATE PARAMETERS
FINAL DISCHARGE POINT OF EACH PLANT

ATG	PARAMETER	CANADA PIPE # 0100	FORD MOTOR # 0100	GENERAL MOTORS # 1000	HALEY IND. # 0200
19	Bis(2-ethylhexyl)phthalate	X	X		X
20	2,4-Dimethylphenol		X		
20	4-Nitrophenol				X
20	Pentachlorophenol				X
23	1,2,3-Trichlorobenzene				X
24	Octachlorodibenzo-p-dioxin		X		X
24	Octachlorodibenzofuran		X		
24	Total H6CDD				X
24	Total H6CDF				X
24	Total H7CDD				X
24	Total H7CDF				X
24	Total PCDF		X		X
24	Total TCDF		X		X
25	Oil and Grease	X	X	X	X
26	Abietic Acid			X	X
26	Chlorodehydroabietic Acid				X
26	Dehydroabietic Acid				X
26	Isopimaric Acid				X
26	Levopimaric Acid			X	X
26	Neoabietic Acid			X	X
26	Oleic Acid				X
26	Pimaric Acid				X
27	PCBT		X		
MC1	Iron	X	X	X	X
MC1	Magnesium	X	X	X	X
MC2	Fluoride	X	X	X	X

X = INDICATES THAT A PARAMETER IS A POTENTIAL CANDIDATE AT THE GIVEN STREAM.

APPENDIX II
TABLE 2

POTENTIAL CANDIDATE PARAMETERS

FOUND AT EACH EFFLUENT STREAM OF THE PLANT

ATG	PARAMETER	CANADA PIPE	FORD MOTOR			GENERAL MOTORS		HALEY INDUSTRIES		
		# 0100	# 0100	# 0300	# 0500	# 0900	# 1000	# 0100	# 0200	# 0300
1	Chemical Oxygen Demand	X	X	X	X	X	X	X	X	X
2	Cyanide Total	X	X	X		X	X		X	X
4a	Ammonia plus Ammonium	X	X	X		X	X	X	X	X
4a	Total Kjeldahl Nitrogen	X	X	X		X	X		X	
4b	Nitrate+Nitrite	X	X	X		X	X		X	X
5a	DOC	X	X	X		X	X	X	X	X
5b	TOC	X	X	X					X	
6	Total Phosphorus	X					X	X	X	X
7	Specific Conductance	X	X	X		X	X		X	
8	Total Suspended Solids	X	X	X	X	X	X	X	X	X
8	Volatile Suspended Solids		X	X						
9	Aluminum	X	X	X		X	X		X	X
9	Beryllium								X	X
9	Cadmium	X	X	X		X	X		X	
9	Chromium	X				X	X		X	X
9	Cobalt								X	X
9	Copper	X	X	X					X	X
9	Lead	X	X	X		X	X		X	X
9	Molybdenum	X	X						X	
9	Nickel	X							X	
9	Silver								X	
9	Vanadium								X	X
9	Zinc	X	X	X		X	X		X	X
10	Antimony	X							X	
10	Arsenic	X							X	
10	Selenium	X							X	
12	Mercury	X	X	X					X	
13	Tetra−alkyl lead (Total)	X								
13	Tri−alkyl lead (Total)	X								
14	Phenolics (4AAP)	X	X	X	X	X	X		X	X
15	Sulphide	X								
16	1,1−Dichloroethane							X	X	
16	Chloroform					X	X			
16	Methylene Chloride							X	X	
17	Benzene		X	X		X				
17	Styrene			X						
17	Toluene		X	X		X				
17	m−Xylene and p−Xylene					X				
17	o−Xylene								X	

X = INDICATES THAT A PARAMETER IS POTENTIAL CANDIDATE AT THE GIVEN CONTROL POINT

APPENDIX II
TABLE 2

POTENTIAL CANDIDATE PARAMETERS

FOUND AT EACH EFFLUENT STREAM OF THE PLANT

ATG	PARAMETER	CANADA PIPE	FORD MOTOR			GENERAL MOTORS		HALEY INDUSTRIES		
		# 0100	# 0100	# 0300	# 0500	# 0900	# 1000	# 0100	# 0200	# 0300
19	1-Methylnaphthalene			X						
19	2-Methylnaphthalena			X						
19	Benzobutylphthalate		X	X						
19	Biphenyl			X						
19	Bis(2-ethylhexyl)phthalate	X	X	X		X		X	X	
19	Di-n-butyl Phthalate			X						
19	Fluoranthene			X						
19	Naphthalene			X						
19	Phenanthrene			X	X					
20	2,4-Dimethylphenol		X	X		X				
20	4-Nitrophenol							X	X	
20	Pentachlorophenol							X	X	
20	Phenol			X		X		X		
20	m-Cresol			X		X				
20	o-Cresol			X		X				
20	p-Cresol			X		X				
23	1,2,3-Trichlorobenzene								X	
24	Octachlorodibenzo-p-dioxin		X	X		X			X	
24	Octachlorodibenzofuran		X	X						
24	Total H6CDD								X	
24	Total H6CDF			X					X	
24	Total H7CDD								X	
24	Total H7CDF								X	
24	Total PCDF		X						X	
24	Total TCDF		X	X					X	
25	Oil and Grease	X	X	X	X	X	X	X	X	
26	Abietic Acid					X	X		X	
26	Chlorodehydroabietic Acid								X	
26	Dehydroabietic Acid								X	
26	Isopimaric Acid								X	
26	Levopimaric Acid					X	X		X	
26	Neoabietic Acid					X	X		X	
26	Oleic Acid								X	
26	Pimaric Acid								X	
27	PCBT		X	X	X					
MC1	Iron	X	X	X	X	X	X		X	X
MC1	Magnesium	X	X	X	X	X	X		X	X
MC2	Fluoride	X	X	X	X	X	X		X	X

X = INDICATES THAT A PARAMETER IS POTENTIAL CANDIDATE AT THE GIVEN CONTROL POINT

APPENDIX III

RESULTS OF THE QA/QC ASSESSMENT

APPENDIX III

RESULTS OF THE QA/QC ASSESSMENT

MISA METAL CASTING SECTOR

This section presents the QA/QC assessment result for each parameter selected as a potential candidate parameter for limits in the Metal Casting Sector. These assessment results are based on Table 1 in Appendix IV.

Results of the QA/QC assessment for each potential candidate parameter at each effluent stream are shown in the last column of Table 1 in Appendix IV designated as 'status'. **For the purpose of making a conclusion regarding the reliability of data for a given parameter at the given plant, the assessment is based on the reliability of data from the final effluent stream of each plant.** Results of the conclusions reached for a given candidate parameter at each plant are shown in Table 1.

ATG 1

Chemical Oxygen Demand: **RMDL = 10.000 mg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors and Haley. Its occurrence classification varies from frequent high level to frequent low level. Its average effluent concentration ratio ranges from 1.8 to 40.4. At Canada Pipe, no QA/QC data available but the high average effluent concentration ratio ascertains the presence of the parameter. At Ford Motor, the positive travelling blank poses a field contamination concern and indicates the questionable presence of the parameter. At Haley and General Motors, no QA/QC concerns are identified with the data.

Conclusion: **Data from Canada Pipe, General Motors and Haley are of reliable quality. Data from Ford Motor are of unreliable quality.**

ATG 2

Cyanide Total: **RMDL = 0.005 mg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification varies from frequent high level to frequent low level. Its average effluent concentration ratio ranges from 1.0 to 202.2. At Canada Pipe, no QA/QC data are available but the high average effluent concentration ratio ascertains the presence of the parameter. No QA/QC concerns are identified with the data at the other three plants. At Haley, the high field duplicate average difference ratio does not pose duplicate precision concern since the average effluent concentration ratio is also very high. At General Motors, the average effluent concentration ratio which is lower than 2.0 indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe, Ford Motor and Haley are of reliable quality. Data from General Motors are of equivocal quality.**

ATG 4A

Ammonia plus Ammonium: **RMDL = 0.250 mg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification varies from frequent high level to frequent low level. Its average effluent concentration ratio ranges from 1.0 to 128.7. At Canada Pipe, no QA/QC data are available but the high average effluent concentration ratio ascertains the presence of the parameter. At Ford Motor, General Motors and Haley, no QA/QC concerns are identified with the data. At Haley, the high average travelling blank concentration ratio does not pose field contamination concern since the average effluent concentration ratio is also very high. At Haley, the high field duplicate average difference ratio does not pose duplication concern since the average effluent concentration ratio is also high. At Ford Motor, the average effluent concentration ratio is lower than 2.0 and indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe, General Motors and Haley are of reliable quality. Data from Ford Motor are of equivocal quality.**

Total Kjeldahl Nitrogen (TKN): RMDL = 0.500 mg/L

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification varies from frequent high level to frequent low level. Its average effluent concentration ratio ranges from 2.3 to 58.0. At Haley, no QA/QC concerns are identified with the data. At Haley, the field duplicate average difference ratio of 2.7 does not pose duplication concern since the average effluent concentration ratio is high. At Canada Pipe, General Motors and Ford Motor, no QA/QC data are available to ascertain the reliability of the data. At Canada Pipe, however, the high average effluent concentration ratio ascertains the presence of the parameter.

Conclusion: **Data from Canada Pipe and Haley are of reliable quality. Data from General Motors and Ford Motor are of equivocal quality.**

ATG 4B

Nitrate+Nitrite: RMDL = 0.250 mg/L

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification varies from frequent high level to frequent medium level. Its average effluent concentration ratio ranges from 1.6 to 114.3. At Canada Pipe, no QA/QC data are available but the high average effluent concentration ratio ascertains the presence of the parameter. At Haley, General Motors and Ford Motor, no QA/QC concerns are identified with the data. At General Motors, the average effluent concentration ratio is lower than 2.0 and indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe, and Haley are of reliable quality. Data from General Motors are of equivocal quality.**

ATG 5A

Dissolved Organic Carbon (DOC): RMDL = 0.500 mg/L

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification is consistently frequent high level at all the plants. Its average effluent concentration ratio ranges from 6.1 to 140.2. No QA/QC concerns are identified with the data at all four plants. At Canada Pipe, the field duplicate average difference ratio of 6.4 does not pose duplicate precision concern since the average effluent concentration ratio is also high. No QA/QC concerns are identified with the data at all four plants.

Conclusion: Data from Canada Pipe, Ford Motor, General Motors, and Haley are of reliable quality.

Total Organic Carbon (TOC): RMDL = 5.000 mg/L

Candidate parameter at Canada Pipe, Ford Motor, and Haley. Its occurrence classification ranges from frequent high level frequent medium level. Its average effluent concentration ratio ranges from 1.2 to 18.9. No QA/QC concerns are identified with the data at Haley. At Canada Pipe, no QA/QC data are available but the high average effluent concentration ratio ascertains the presence of the parameter. At Ford Motor, no QA/QC data are available and the average effluent concentration ratio which is lower than 2.0 indicates the questionable presence of the parameter.

Conclusion: Data from Canada Pipe and Haley are of reliable quality. Data from Ford Motor are of equivocal quality.

ATG 6

Total Phosphorus: RMDL = 0.100 mg/L

Candidate parameter at Canada Pipe, General Motors and Haley. Its occurrence classification varies from frequent high level to frequent low level. Its average effluent concentration ratio ranges from 0.8 to 19.9. At Haley, no QA/QC concerns are identified with the data. At Canada Pipe, no QA/QC data are available but the high average effluent concentration ratio ascertains the presence of the parameter. At General Motors, no QA/QC data are available and the average effluent concentration ratio which is lower than 2.0 indicates the questionable presence of the parameter.

Conclusion: Data from Canada Pipe and Haley are of reliable quality. Data from General Motors are of equivocal quality.

ATG 8

Total Suspended Solids (TSS): **RMDL = 5.000 mg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification varies from frequent high level to frequent low level. Its average effluent concentration ratio ranges from 2.7 to 295.8. No QA/QC concerns are identified with the data at all four plants. At Canada Pipe, Ford Motor and Haley, the high field duplicate average difference ratios do not pose a duplicate precision concern since the corresponding average effluent concentration ratios are also very high.

Conclusion: **Data from Canada Pipe, Ford Motor, General Motors, and Haley are of reliable quality.**

Volatile Suspended Solids (VSS): **RMDL = 10.000 mg/L**

Candidate parameter at Ford Motor only. It was monitored on a quarterly frequency. Its occurrence classification is frequent low level with average effluent concentration ratio 1.6. No QA/QC data are available to evaluate the reliability of the data. The average effluent concentration ratio is lower than 2.0 and indicates the questionable presence of the parameter.

Conclusion: **Data from Ford Motor are of equivocal quality.**

ATG 9

Aluminum: **RMDL = 30.000 μg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification is consistently frequent high level at all four plants. Its average effluent concentration ratio ranges from 17.9 to 185.0. No QA/QC concerns are identified with the data at all four plants. The high field duplicate average difference ratios observed at all four plants do not pose duplicate precision concern since all the corresponding average effluent concentration ratios are also high.

Conclusion: **Data from Canada Pipe, Ford Motor, General Motors, and Haley are of reliable quality.**

Beryllium: **RMDL = 10.000 μg/L**

Candidate parameter at Haley only. Its occurrence classification is infrequent low level with average effluent concentration ratio of 0.9. The average travelling blank concentration ratio of 1.2 which is higher than the observed average effluent concentration ratio poses a field contamination concern and indicates the questionable presence of the parameter.

Conclusion: **Data from Haley are of unreliable quality.**

Cadmium: **RMDL = 2.000 μg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification varies from frequent high level to infrequent low level. Its average effluent concentration ratio ranges from 0.9 to 1137.2. At Canada Pipe, no QA/QC concerns are identified with the data. At Canada Pipe, the high field duplicate average difference ratio does not pose duplicate precision concern since the average effluent concentration ratio is also very high. At Haley, the positive travelling blank pose field contamination concern. At Ford Motor, no QA/QC concerns are identified with the data but the average effluent concentration ratio which is lower than 2.0 indicates the questionable presence of the parameter. At General Motors, the average travelling blank concentration ratio which is higher than the average effluent concentration ratio poses contamination concern and indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe are of reliable quality. Data from Ford Motor are of equivocal quality. Data from General Motors and Haley are of unreliable quality.**

Chromium: **RMDL = 20.000 μg/L**

Candidate parameter at Canada Pipe, General Motors, and Haley. Its occurrence classification varies from frequent high level to infrequent medium level. Its average effluent concentration ratio ranges from 0.8 to 42.5. At Canada Pipe and Haley, no QA/QC concerns are identified with the data. At General Motors, the average travelling blank concentration ratio which is equal to the average effluent concentration ratio poses a contamination concern and indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe and Haley are of reliable quality. Data from General Motors are of unreliable quality.**

Cobalt: **RMDL = 20.000 $\mu g/L$**

Candidate parameter at Haley only. Its occurrence classification is frequent medium level with an average effluent concentration ratio of 2.2. The positive travelling blank poses a field contamination concern.

Conclusion: **Data from Haley are of unreliable quality.**

Copper: **RMDL = 10.000 $\mu g/L$**

Candidate parameter at Canada Pipe, Ford Motor, and Haley. Its occurrence classification varies from frequent high level to infrequent medium level. Its average effluent concentration ratio ranges from 1.3 to 197.4. No QA/QC concerns identified with the data at Canada Pipe and Haley. The high field duplicate average difference ratio at Canada Pipe and Haley does not pose a duplicate precision concern since the corresponding average effluent concentration ratios are also high. At Ford Motor, the average effluent concentration ratio is lower than two and indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe and Haley are of reliable quality. Data from Ford Motor are of equivocal quality.**

Lead: **RMDL = 30.000 $\mu g/L$**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification varies from frequent high level to infrequent high level. Its average effluent concentration ratio ranges from 1.0 to 1014.1. No QA/QC concerns are identified with the data at all four plants. The high field duplicate average difference ratio at Canada Pipe does not pose duplicate precision concern since the corresponding average effluent concentration ratio is also high. At General Motors and Ford Motor, the average effluent concentration ratio is lower than 2.0 and indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe and Haley are of reliable quality. Data from General Motors and Ford Motor are of equivocal quality.**

Molybdenum: **RMDL = 20.000 $\mu g/L$**

Candidate parameter at Canada Pipe, Ford Motor, and Haley. Its occurrence classification varies from frequent medium level to infrequent medium level. Its average effluent concentration ratio ranges from 1.2 to 9.3. At Canada Pipe, no QA/QC concerns are identified with the data. At Ford Motor, no QA/QC data are available and the average effluent concentration ratio which is lower than 2.0 indicates the questionable presence of the parameter. At Haley, the positive travelling blank poses field contamination concern and indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe are of reliable quality.**
Data from Ford Motor are of equivocal quality.
Data from Haley are of unreliable quality.

Nickel: **RMDL = 20.000 $\mu g/L$**

Candidate parameter at Canada Pipe and Haley. Its occurrence classification is frequent low level in both plants. Its average effluent concentration ratio ranges from 2.5 to 9.4. At Canada Pipe, no QA/QC concerns are identified with the data. At Haley, the positive travelling blank poses a field contamination concern.

Conclusion: **Data from Canada Pipe are of reliable quality.**
Data from Haley are of equivocal quality.

Silver: **RMDL = 30.000 $\mu g/L$**

Candidate parameter at Haley only. Its occurrence classification is frequent high level with average effluent concentration ratio of 13.2. No QA/QC concerns are identified with the data. The high field duplicate average difference concentration ratio does not pose duplicate precision concern since the average effluent concentration ratio is also high.

Conclusion: **Data from Haley are of reliable quality.**

Vanadium: **RMDL = 30.000 $\mu g/L$**

Candidate parameter at Haley only. Its occurrence classification is frequent low level with average effluent concentration ratio of 2.1. A positive travelling blank poses a field contamination concern.

Conclusion: **Data from Haley are of equivocal quality.**

Zinc: **RMDL = 10.000 $\mu g/L$**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification is consistently frequent high level at all three plants. Its average effluent concentration ratio ranges from 38.7 to 31313.3. No QA/QC concerns are identified with the data at all four plants. At Canada Pipe, the very high average effluent concentration ratio is due to one outlier value. The high field duplicate average difference ratios observed at all four plants do no pose any duplicate precision concern since the corresponding average effluent concentration ratios are also high.

Conclusion: **Data from Canada Pipe, Ford Motor, General Motors, and Haley are of reliable quality.**

<u>ATG 10</u>

Antimony: **RMDL = 5.000 $\mu g/L$**

Candidate parameter at Canada Pipe and Haley. Its occurrence classification varies from frequent high level to frequent medium level. Its average effluent concentration ratio ranges from 10.2 to 32.8. At Haley, no QA/QC concerns are identified with the data. At Haley, the high field duplicate average difference ratio does not pose duplication concern since the average effluent concentration is also high. At Canada Pipe, no QA/QC data are available but the high average effluent concentration ratio ascertains the presence of the parameter.

Conclusion: **Data from Canada Pipe and Haley are of reliable quality.**

Arsenic: **RMDL = 5.000 $\mu g/L$**

Candidate parameter at Canada Pipe and Haley. Its occurrence classification varies from frequent high level to frequent medium level. Its average effluent concentration ratio ranges from 2.7 to 52.7. At Haley, no QA/QC concerns are identified with the data. At Haley, the high field duplicate average difference ratio does not pose duplication concern since the average effluent concentration is also high. At Canada Pipe, it was monitored on quarterly frequency and no QA/QC data are available to evaluate the reliability of the data.

Conclusion: **Data from Haley are of reliable quality. Data from Canada Pipe are of equivocal quality.**

Selenium: **RMDL = 5.000 $\mu g/L$**

Candidate parameter at Canada Pipe and Haley. Its occurrence classification varies from frequent high level to frequent low level. Its average effluent concentration ratio ranges from 10.2 to 20.1. At Haley, no QA/QC concerns are identified with the data. At Canada Pipe, no QA/QC data are available but the high average effluent concentration ratio ascertains the presence of the parameter.

Conclusion: **Data from Canada Pipe and Haley are of reliable quality.**

ATG 12

Mercury: **RMDL = 0.100 $\mu g/L$**

Candidate parameter at Canada Pipe, Ford Motor and Haley. Its occurrence classification varies from frequent high level to infrequent low level. Its average effluent concentration ratio ranges from 1.1 to 47.9. At Canada Pipe, no QA/QC data are available but the high average effluent concentration ratio ascertains the presence of the parameter. At Haley, no QA/QC concerns are identified with the data. At Haley, the high field duplicate average difference ratio does not pose any duplicate precision concern since the corresponding average effluent concentration ratio is also high. At Ford Motor, the positive travelling blank and low average effluent concentration ratio indicate the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe and Haley are of reliable quality. Data from Ford Motor are of unreliable quality.**

ATG 13

Tetra-alkyl lead (Total): **RMDL = 2.000 $\mu g/L$**

Candidate parameter at Canada Pipe only. Its occurrence classification is infrequent low level with average effluent concentration ratio of 0.7. The average travelling blank concentration ratio of 0.7 is equal to the average effluent concentration ratio. It should be noted that all the data for the effluent monitoring and the travelling blank were reported as less than the detection limit i.e. with remark codes "<DL" and "<". This indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe are of unreliable quality.**

Tri-alkyl lead (Total): **RMDL = 2.000 μg/L**

Candidate parameter at Canada Pipe only. Its occurrence classification is infrequent low level with average effluent concentration ratio of 0.7. The average travelling blank concentration ratio of 0.7 is equal to the average effluent concentration ratio. It should be noted that all the data for the effluent monitoring and the travelling blank were reported as less than the detection limit i.e. with remark codes "<DL" and "<". This indicates the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe are of unreliable quality.**

ATG 14

Phenolics (4AAP): **RMDL = 2.000 μg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification varies from frequent high level to frequent low level. Its average effluent concentration ratio ranges from 22.2 to 119.9. No QA/QC concerns are identified with the data at all four plants. At all four plants, the positive travelling blanks and the high field duplicate average difference ratios do not pose any concerns since the corresponding effluent concentration ratios are also high.

Conclusion: **Data from Canada Pipe, Ford Motor, General Motors, and Haley are of reliable quality.**

ATG 15

Sulphide: **RMDL = 0.020 mg/L**

Candidate parameter at Canada Pipe only. Its occurrence classification is frequent medium level with an average effluent concentration ratio of 4.8. No QA/QC data are available to evaluate the reliability of the data. It was monitored on a quarterly frequency.

Conclusion: **Data from Canada Pipe are of equivocal quality.**

ATG 16

1,1-Dichloroethane: **RMDL = 0.800 μg/L**

Candidate parameter at Haley only. Its occurrence classification is frequent low level with an average effluent concentration ratio of 1.1 . No QA/QC concerns are identified with the data. The average effluent concentration ratio is lower than 2.0 and indicates the questionable presence of the parameter.

Conclusion: **Data from Haley are of equivocal quality.**

Chloroform: **RMDL = 0.700 μg/L**

Candidate parameter at General Motors only. Its occurrence classification is frequent low level with average effluent concentration ratio of 1.1. The average travelling blank concentration ratio of 3.5 which is higher than the average effluent concentration ratio poses a field contamination concern. The average spiked travelling blank recovery of 143 percent poses over-estimation concern. These two concerns indicate the questionable presence of the parameter.

Conclusion: **Data from General Motors are of unreliable quality.**

Methylene Chloride: **RMDL = 1.300 μg/L**

Candidate parameter at Haley only. Its occurrence classification is frequent low level average effluent concentration ratio of 3.7. The average travelling blank concentration ratio of 4.9 which is higher than the average effluent concentration ratio poses a field contamination concern. The field duplicate average difference concentration ratio of 5.0 which is higher than the average effluent concentration ratio poses a duplicate precision concern. These two concerns indicate the questionable presence of the parameter.

Conclusion: **Data from Haley are of unreliable quality.**

ATG 17

Benzene: **RMDL = 0.500 μg/L**

Candidate parameter at Ford Motor only. Its occurrence classification is infrequent low level with average effluent concentration ratio 0.9. The average travelling blank concentration ratio which is equal to the average effluent concentration ratio indicate the questionable presence of the parameter.

Conclusion: **Data from Ford Motor are of unreliable quality.**

Toluene: **RMDL = 0.500 μg/L**

Candidate parameter at Ford Motor only. Its occurrence classification is frequent low level with average effluent concentration ratio of 0.8. The average spiked travelling blank recovery of 420 percent poses an over-estimation concern. The average effluent concentration ratio which is lower than 1.0 and the over-estimation concern indicate the questionable presence of the parameter.

Conclusion: **Data from Ford Motor are of unreliable quality.**

o-Xylene: **RMDL = 0.500 μg/L**

Candidate parameter at Haley only. Its occurrence classification is infrequent low level with average effluent concentration ratio of 0.8. The positive travelling blank and average effluent concentration ratio which is lower than 1.0 indicate the questionable presence of the parameter.

Conclusion: **Data from Haley are of unreliable quality.**

ATG 19

Benzobutylphthalate: **RMDL = 0.600 μg/L**

Candidate parameter Ford Motor only. Its occurrence classification is frequent low level with average effluent concentration ratio of 2.8. The average spiked travelling blank recovery of 164 percent poses an over-estimation concern. The positive travelling blank and the over-estimation concerns indicate the questionable presence of the parameter.

Conclusion: **Data from Ford Motor are of unreliable quality.**

Bis(2-ethylhexyl)phthalate: **RMDL = 2.200 μg/L**

Candidate parameter at Canada Pipe, Ford Motor, and Haley. Its occurrence classification varies from frequent low level to infrequent low level. Its average effluent concentration ratio ranges from 1.0 to 3.4. At Canada Pipe, no QA/QC data are available to ascertain the reliability of the data. At Ford Motor, no QA/QC concerns are identified with the data but the average effluent concentration ratio which is lower than two indicates the questionable presence of the parameter. At Haley, field contamination, spiked blank recovery, and duplicate precision concerns are observed. These concerns indicate the questionable presence of the parameter.

Conclusion: **Data from Canada Pipe and Ford Motor are of equivocal quality. Data from Haley are of unreliable quality.**

ATG 20

2,4-Dimethylphenol: **RMDL = 7.300 μg/L**

Candidate parameter at Ford Motor only. Its occurrence classification is infrequent low level with average effluent concentration ratio ranges of 0.9. No QA/QC concerns are identified with the data. The average effluent concentration ratio is lower than 2.0 and indicates the questionable presence of the parameter.

Conclusion: **Data from Ford Motor are of equivocal quality.**

4-Nitrophenol: **RMDL = 1.400 µg/L**

Candidate parameter at Haley only. Its occurrence classification is frequent medium level with average effluent concentration ratio of 3.4. The average travelling blank concentration ratio of 3.6 which is higher than the average effluent concentration ratio poses a field contamination concern and indicates questionable presence of the parameter.

Conclusion: Data from Haley are of unreliable quality.

Pentachlorophenol: **RMDL = 1.3000 µg/L**

Candidate parameter at Haley only. Its occurrence classification is frequent low level with average effluent concentration ratio of 1.8. The average travelling blank concentration ratio of 1.5, which poses a field contamination concern. This concern coupled with the low average effluent concentration ratio indicate the questionable presence of the parameter.

Conclusion: Data from Haley are of unreliable quality.

<u>ATG 23</u>

1,2,3-Trichlorobenzene: **RMDL = 0.010 µg/L**

Candidate parameter at Haley only. Its occurrence classification is frequent low level with average effluent concentration ratio of 1.7. No travelling blank and spiked travelling blank data are available to assess the reliability of the data. The low average effluent concentration ratio which is lower than two indicates the questionable presence of the parameter.

Conclusion: Data from Haley are of equivocal quality.

Octachlorodibenzo-p-dioxin: **RMDL = 0.030 ng/L**

Candidate parameter at Ford Motor and Haley. It is monitored at a semi-annual frequency. Its occurrence classification varies from frequent high level to frequent low level. Its average effluent concentration ratio ranges from 20.3 to 1.3. At both of the plants, no QA/QC data are available to assess the reliability of the data. At Haley, the average effluent concentration ratio of 20.3 ascertains the presence of the parameter. At Ford Motor, the average effluent concentration ratio which is lower than 2.0 indicates the questionable presence of the parameter.

Conclusion: **Data from Haley are of reliable quality. Data from Ford Motor are of equivocal quality.**

Octachlorodibenzofuran: **RMDL = 0.030 ng/L**

Candidate parameter at Ford Motor only. It is monitored at a semi-annual frequency. Its occurrence classification is frequent low level with average effluent concentration ratio of 1.2. No QA/QC data are available to assess the reliability of the data. The average effluent concentration ratio of 1.2 indicates the questionable presence of the parameter.

Conclusion: **Data from Ford Motor are of equivocal quality.**

Total H6CDD: **RMDL = 0.030 ng/L**

Candidate parameter at Haley only. It is monitored at a semi-annual frequency. Its occurrence classification is frequent low level with average effluent concentration ratio of 1.0. No QA/QC data are available to assess the reliability of the data. The average effluent concentration ratio of 1.0 indicates the questionable presence of the parameter.

Conclusion: **Data from Haley are of equivocal quality.**

Total H6CDF: **RMDL = 0.020 ng/L**

Candidate parameter at Haley only. It is monitored at a semi-annual frequency. Its occurrence classification is frequent low level with average effluent concentration ratio of 2.3. No QA/QC data are available to assess the reliability of the data.

Conclusion: **Data from Haley are of equivocal quality.**

Total H7CDD: **RMDL = 0.030 ng/L**

Candidate parameter at Haley only. It is monitored at a semi-annual frequency. Its occurrence classification is frequent low level with average effluent concentration ratio of 2.7. No QA/QC data are available to assess the reliability of the data.

Conclusion: **Data from Haley are of equivocal quality.**

Total H7CDF: **RMDL = 0.030 ng/L**

Candidate parameter at Haley only. It is monitored at a semi-annual frequency. Its occurrence classification is frequent low level with average effluent concentration ratio of 1.1. No QA/QC data are available to assess the reliability of the data.

Conclusion: **Data from Haley are of equivocal quality.**

Total PCDF: **RMDL = 0.015 ng/L**

Candidate parameter at Ford Motor and Haley. It is monitored at a semi-annual frequency. Its occurrence classification is frequent low level with average effluent concentration ratio ranging from 1.1 to 3.4. At both of the plants, no QA/QC data are available to assess the reliability of the data.

Conclusion: **Data from Ford Motor and Haley are of equivocal quality.**

Total TCDF: **RMDL = 0.015 ng/L**

Candidate parameter at Ford Motor and Haley. It is monitored at a semi-annual frequency. Its occurrence classification varies from frequent medium level to frequent low level. Its average effluent concentration ratio ranges from 0.9 to 8.5. At both of the plants, no QA/QC data are available to assess the reliability of the data. At Ford Motor, the average effluent concentration ratio of 8.5 indicate the possible presence of the parameter.

Conclusion: **Data from Ford Motor and Haley are of equivocal quality.**

<u>ATG 25</u>

Oil and Grease: **RMDL = 1.000 mg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification varies from frequent medium level to infrequent low level. Its average effluent concentration ratio ranges from 1.6 to 7.2. At Canada Pipe, Ford Motor, and Haley, no QA/QC concerns are identified with the data. At Haley, the average effluent concentration ratio is lower than 2.0 and indicate the questionable presence of the parameter. At General Motors, the average travelling blank concentration ratio of 1.4 poses a field contamination concern.

Conclusion: **Data from Canada Pipe and Ford Motor are of reliable quality. Data from Haley are of equivocal quality. Data from General Motors are of unreliable quality.**

<u>ATG 26</u>

Abietic Acid: **RMDL = 0.005 mg/L**

Candidate parameter at General Motors and Haley. Its occurrence classification varies from frequent medium level to frequent low level. Its average effluent concentration ratio ranges from 1.4 to 3.2. At General Motors, the average travelling blank concentration ratio which is equal to the average effluent concentration ratio poses a field contamination concern. At Haley, the average travelling blank concentration ratio of 3.0 poses field contamination concern. At Haley, the average spiked travelling blank recovery of 407 percent poses an over-estimation concern. At both plants, the identified concerns indicate the questionable presence of the parameter.

Conclusion: **Data from General Motors and Haley are of unreliable quality.**

Chlorodehydroabietic Acid: RMDL = 0.005 mg/L

Candidate parameter at Haley only. Its occurrence classification is frequent medium level with average effluent concentration ratio 3.4. The average travelling blank concentration ratio of 3.0 poses a field contamination concern. The average spiked travelling blank recovery of 553 percent poses an over-estimation concern. These concerns indicate the questionable presence of the parameter.

Conclusion: Data from Haley are of unreliable quality.

Dehydroabietic Acid: RMDL = 0.005 mg/L

Candidate parameter at Haley only. Its occurrence classification is frequent medium level with average effluent concentration ratio 4.4. The average travelling blank concentration ratio of 3.0 poses a field contamination concern. The average spiked travelling blank recovery of 1414 percent poses an over-estimation concern. These concerns indicate the questionable presence of the parameter.

Conclusion: Data from Haley are of unreliable quality.

Isopimaric Acid: RMDL = 0.005 mg/L

Candidate parameter at Haley only. Its occurrence classification is frequent medium level with average effluent concentration ratio 3.4. The average travelling blank concentration ratio of 3.0 poses a field contamination concern. The average spiked travelling blank recovery of 1506 percent poses an over-estimation concern. These concerns indicate the questionable presence of the parameter.

Conclusion: Data from Haley are of unreliable quality.

Levopimaric Acid: **RMDL = 0.005 mg/L**

Candidate parameter at General Motors and Haley. Its occurrence classification varies from frequent medium level to frequent low level. Its average effluent concentration ratio ranges from 1.8 to 3.4. At General Motors, the average travelling blank concentration ratio which is higher than the average effluent concentration ratio poses a field contamination concern. At Haley, the average travelling blank concentration ratio of 3.0 poses a field contamination concern. At Haley, the average spiked travelling blank recovery of 1682 percent poses an over-estimation concerns. At both plants, the identified concerns indicate the questionable presence of the parameter.

Conclusion: **Data from General Motors and Haley are of unreliable quality.**

Neoabietic Acid: **RMDL = 0.005 mg/L**

Candidate parameter at General Motors and Haley. Its occurrence classification varies from frequent medium level to frequent low level. Its average effluent concentration ratio ranges from 1.8 to 4.0. At General Motors, the average travelling blank concentration ratio which is equal to the average effluent concentration ratio poses a field contamination concern. At Haley, the average travelling blank concentration ratio of 3.0 poses a field contamination concern. At Haley, the average spiked travelling blank recovery of 756 percent poses an over-estimation concern. At both plants, the identified concerns indicate the questionable presence of the parameter.

Conclusion: **Data from General Motors and Haley are of unreliable quality.**

Oleic Acid: **RMDL = 0.005 mg/L**

Candidate parameter at Haley only. Its occurrence classification is frequent medium level with average effluent concentration ratio 6.4. The average travelling blank concentration ratio of 3.6 poses a field contamination concern. The average spiked travelling blank recovery of 1452 percent poses an over-estimation concern. These concerns indicate the questionable presence of the parameter.

Conclusion: **Data from Haley are of unreliable quality.**

Pimaric Acid: **RMDL = 0.005 mg/L**

Candidate parameter at Haley only. Its occurrence classification is frequent medium level with average effluent concentration ratio 3.2. The average travelling blank concentration ratio of 3.0 poses a field contamination concern. The average spiked travelling blank recovery of 1205 percent poses an over-estimation concern. These concerns indicate the questionable presence of the parameter.

Conclusion: **Data from Haley are of unreliable quality.**

ATG 27

PCBT **RMDL = 0.100 µg/L**

Candidate parameter at Ford Motor only. Its occurrence classification is infrequent low level with average effluent concentration ratio of 0.7. No QA/QC concerns are identified with the data. The average effluent concentration ratio which is lower than 1.0 indicates the questionable presence of the parameter.

Conclusion: **Data from Ford Motor are of equivocal quality.**

ATG MC1

Iron: **RMDL = 0.020 mg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification is consistently frequent high level at all the plants. Its average effluent concentration ratio varies from 20422.8 to 30.0. No QA/QC concerns are identified with the data from all four plants. The high field duplicate average difference ratios do not pose any duplicate precision concern since the corresponding average effluent concentration ratios are also very high. The high average effluent concentration ratios ascertain the presence of the parameter.

Conclusion: **Data from Canada Pipe, Ford Motor, General Motors, and Haley are of reliable quality.**

Magnesium: **RMDL = 0.020 mg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification is consistently frequent high level at all the plants. Its average effluent concentration ratio varies from 162954.9 to 458.1. No QA/QC concerns are identified with the data from all four plants. The high field duplicate average difference ratios do not pose any duplicate precision concern since the corresponding average effluent concentration ratios are also very high. The high average effluent concentration ratios ascertain the presence of the parameter.

Conclusion: **Data from Canada Pipe, Ford Motor, General Motors, and Haley are of reliable quality.**

<u>MC2</u>

Fluoride: **RMDL = 0.100 mg/L**

Candidate parameter at Canada Pipe, Ford Motor, General Motors, and Haley. Its occurrence classification ranges from frequent high level to frequent medium level. Its average effluent concentration ratio varies from 2.2 to 302.3. No QA/QC concerns are identified with the data from all four plants. The high field duplicate average difference ratios do not pose any duplicate precision concern since the corresponding average effluent concentration ratios are also very high. The high average effluent concentration ratios ascertain the presence of the parameter.

Conclusion: **Data from Canada Pipe, Ford Motor, General Motors, and Haley are of reliable quality.**

RESULTS OF QA/QC ASSESSMENT FOR NON-CANDIDATE PARAMETERS

The QA/QC assessment for the non-candidate parameters is based on the summary tables given in Table 2 in Appendix IV. The assessment focused on identifying parameters with possible false negative concerns. The parameters with possible false negative concerns are those with an average spiked travelling blank percent recovery lower than 20. These parameters will require further investigation to evaluate the possible causes of the low spiked blank recoveries reported by the laboratories which performed the analysis. Additional effluent monitoring will be required to confirm the presence of these parameters.

The non-candidate parameters with possible false negative concerns are presented in the table below.

ATG	PARAMETER	PLANT	CONTROL POINT
16	1,1,2,2-Tetrachloroethane	Haley Ind.	#0200
18	Acrolein	Ford Motor	#0300
19	Benzobutylphthalate	Haley Ind.	#0200
19	Camphene	Haley Ind.	#0200
19	Di-n-butyl Phthalate	Haley Ind.	#0200
23	Hexachloroethane	General Motors	#0900
26	Abietic Acid	Ford Motor	#0300
26	Levopimaric Acid	Ford Motor	#0300
26	Neoabietic Acid	Ford Motor	#0300

APPENDIX IV

QA/QC ASSESSMENT SUMMARY TABLES

APPENDIX IV
TABLE 1
QUALITY ASSURANCE AND QUALITY CONTROL ASSESSMENT SUMMARY

POTENTIAL CANDIDATE PARAMETERS

ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD	STATUS
1	Chemical Oxygen Demand	CANADA PIPE	0100	FH	4	28.3											1
		HALEY IND.	0100	FH	155	21.7											1
		HALEY IND.	0200	FH	158	40.4	8	0.5					11	2.3			1
		FORD MOTOR	0100	FL	156	1.8											3
		FORD MOTOR	0300	FL	151	2.0	2	1.0					12	0.6			3
		GENERAL MOTORS	0900	FL	153	1.9							12	0.5			1
		GENERAL MOTORS	1000	FL	52	1.9											1
		FORD MOTOR	0500	FM	4	2.4											2
		HALEY IND.	0300	FM	12	9.3											1
2	Cyanide Total	FORD MOTOR	0300	FH	12	9.4	4	0.6					4	2.0			1
		HALEY IND.	0200	FH	12	202.2	4	1.0					4	19.4			1
		FORD MOTOR	0100	FL	12	4.6											1
		GENERAL MOTORS	0900	FL	12	1.4	4	0.4					4	0.8			2
		GENERAL MOTORS	1000	FL	12	1.0											2
		HALEY IND.	0300	FL	12	77.4											1
		CANADA PIPE	0100	FM	4	84.8											1
4a	Ammonia plus Ammonium	HALEY IND.	0100	FH	155	21.3											1
		HALEY IND.	0200	FH	158	128.7	10	11.9					10	5.8			1
		FORD MOTOR	0100	FL	12	1.0											2
		HALEY IND.	0300	FL	12	97.5											1
		CANADA PIPE	0100	FM	4	12.2											1
		FORD MOTOR	0300	FM	12	2.1	4	0.1					4	0.1			1
		GENERAL MOTORS	0900	FM	12	4.3	4	0.1					4	0.1			1
		GENERAL MOTORS	1000	FM	12	2.2											1
4a	Total Kjeldahl Nitrogen	CANADA PIPE	0100	FH	4	30.8											1
		HALEY IND.	0200	FH	2	58.0							1	2.7			1
		FORD MOTOR	0100	FL	4	2.3											2
		FORD MOTOR	0300	FM	4	2.4											2
		GENERAL MOTORS	0900	FM	4	4.1											2
		GENERAL MOTORS	1000	FM	4	3.3											2

NOTE: A GLOSSARY OF TERMS USED IN THIS SUMMARY IS GIVEN AT THE END OF THIS REPORT.

APPENDIX IV
TABLE 1
QUALITY ASSURANCE AND QUALITY CONTROL ASSESSMENT SUMMARY

POTENTIAL CANDIDATE PARAMETERS

ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD	STATUS
4b	Nitrate+Nitrite	CANADA PIPE	0100	FH	4	16.2											1
		HALEY IND.	0200	FH	52	114.3	5	0.1					5	2.9			1
		HALEY IND.	0300	FH	12	9.4											1
		GENERAL MOTORS	1000	FL	3	1.6											2
		FORD MOTOR	0100	FM	12	3.2											1
		FORD MOTOR	0300	FM	12	3.3	4	0.2					4	0.4			1
		GENERAL MOTORS	0900	FM	10	1.8	3	0.9					3	0.1			2
5a	DOC	CANADA PIPE	0100	FH	12	140.2	4	0.7					4	6.4			1
		FORD MOTOR	0100	FH	52	6.8											1
		FORD MOTOR	0300	FH	50	7.7	4	1.2					4	1.6			1
		GENERAL MOTORS	0900	FH	51	6.4	4	1.9					4	1.1			1
		GENERAL MOTORS	1000	FH	52	6.1											1
		HALEY IND.	0100	FH	53	32.1											1
		HALEY IND.	0200	FH	52	72.2	4	1.2					4	5.7			1
		HALEY IND.	0300	FH	12	15.6											1
5b	TOC	CANADA PIPE	0100	FH	3	18.9											1
		HALEY IND.	0200	FH	2	5.9							1	0.8			1
		FORD MOTOR	0100	FL	4	1.2											2
		FORD MOTOR	0300	FL	4	1.6											2
6	Total Phosphorus	HALEY IND.	0100	FH	52	20.2											1
		HALEY IND.	0200	FH	51	19.9	5	0.9					5	0.6			1
		HALEY IND.	0300	FL	12	1.4											2
		CANADA PIPE	0100	FM	4	5.2											1
		GENERAL MOTORS	1000	IL	52	0.8											2
8	Total Suspended Solids	CANADA PIPE	0100	FH	42	295.8							4	90.2			1
		HALEY IND.	0100	FH	253	18.7											1
		HALEY IND.	0200	FH	361	61.5	9	6.1					11	11.6			1
		HALEY IND.	0300	FH	12	35.8											1
		FORD MOTOR	0500	FL	4	3.9											2
		GENERAL MOTORS	0900	FL	344	1.8							12	0.9			2

NOTE: A GLOSSARY OF TERMS USED IN THIS SUMMARY IS GIVEN AT THE END OF THIS REPORT.

APPENDIX IV

TABLE 1

QUALITY ASSURANCE AND QUALITY CONTROL ASSESSMENT SUMMARY

POTENTIAL CANDIDATE PARAMETERS

ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD	STATUS
8	Total Suspended Solids	GENERAL MOTORS	1000	FL	153	2.9											1
		FORD MOTOR	0100	FM	364	2.7											1
		FORD MOTOR	0300	FM	354	3.7							12	3.3			1
8	Volatile Suspended Solids	FORD MOTOR	0100	FL	4	1.6											2
		FORD MOTOR	0300	FL	4	1.6											2
9	Aluminum	CANADA PIPE	0100	FH	12	185.0	4	1.5					4	44.4			1
		FORD MOTOR	0100	FH	156	27.3											1
		FORD MOTOR	0300	FH	151	53.3	12	0.5					12	5.9			1
		GENERAL MOTORS	0900	FH	153	22.0	12	0.8					11	4.5			1
		GENERAL MOTORS	1000	FH	52	17.9											1
		HALEY IND.	0200	FH	155	72.1	12	2.4					12	4.3			1
		HALEY IND.	0300	FH	12	55.0											1
9	Beryllium	HALEY IND.	0300	IH	12	1.0											3
		HALEY IND.	0200	IL	155	0.9	12	1.2					12	0.2			3
9	Cadmium	CANADA PIPE	0100	FH	12	1137.2	4	0.5					4	17.5			1
		HALEY IND.	0200	FL	155	3.0	12	1.8					12	0.3			3
		FORD MOTOR	0300	FM	151	3.5	12	0.5					12	0.7			1
		GENERAL MOTORS	0900	IL	153	1.3	12	1.0					11	0.3			3
		GENERAL MOTORS	1000	IL	52	0.9											3
		FORD MOTOR	0100	IM	156	1.6											2
9	Chromium	HALEY IND.	0200	FH	155	42.5	12	1.3					12	1.8			1
		HALEY IND.	0300	FL	12	1.6											2
		CANADA PIPE	0100	FM	12	27.5	4	0.2					4	0.8			1
		GENERAL MOTORS	0900	IH	154	1.4	12	0.8					12	0.6			2
		GENERAL MOTORS	1000	IM	52	0.8											3
9	Cobalt	HALEY IND.	0300	FL	12	1.8											3
		HALEY IND.	0200	FM	155	2.2	12	1.1					12	0.7			3
9	Copper	CANADA PIPE	0100	FH	12	197.4	4	0.2					4	8.8			1
		HALEY IND.	0200	FH	155	62.5	12	2.9					12	8.4			1
		FORD MOTOR	0300	FL	151	2.0	12	1.0					12	0.4			2

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD	STATUS
9	Copper	HALEY IND.	0300	FL	12	2.1											3
		FORD MOTOR	0100	IM	156	1.3											2
9	Lead	CANADA PIPE	0100	FH	12	1014.1	4	0.3					4	23.4			1
		FORD MOTOR	0100	FL	156	1.8											2
		GENERAL MOTORS	0900	FL	153	1.9	12	0.5					11	0.5			2
		HALEY IND.	0200	FL	155	2.1	12	0.9					12	1.4			1
		HALEY IND.	0300	FL	12	1.5											2
		FORD MOTOR	0300	FM	151	4.3	12	0.3					12	0.5			1
		GENERAL MOTORS	1000	IH	52	1.0											2
9	Molybdenum	FORD MOTOR	0100	FL	156	1.2											2
		CANADA PIPE	0100	FM	12	9.3	4	0.2					4	1.0			1
		HALEY IND.	0200	IM	154	1.4	12	1.1					12	0.3			3
9	Nickel	CANADA PIPE	0100	FL	12	9.4	4	0.5					4	0.1			1
		HALEY IND.	0200	FL	155	2.5	12	1.2					12	0.8			2
9	Silver	HALEY IND.	0200	FH	155	13.2	12	0.5					12	4.3			1
9	Vanadium	HALEY IND.	0200	FL	155	2.1	12	1.3					12	0.8			2
		HALEY IND.	0300	FL	12	2.1											2
9	Zinc	CANADA PIPE	0100	FH	12	31313.3	4	1.38					4	615.0			1
		FORD MOTOR	0100	FH	156	89.3											1
		FORD MOTOR	0300	FH	151	202.5	12	1.2					12	9.0			1
		GENERAL MOTORS	0900	FH	153	66.1	12	0.3					11	11.4			1
		GENERAL MOTORS	1000	FH	52	38.7											1
		HALEY IND.	0200	FH	155	84.6	12	2.0					12	9.4			1
		HALEY IND.	0300	FH	12	30.7											1
10	Antimony	HALEY IND.	0200	FH	2	32.8							1	11.2			1
		CANADA PIPE	0100	FM	4	10.2											1
10	Arsenic	HALEY IND.	0200	FH	2	57.2							1	23.2			1
		CANADA PIPE	0100	FM	4	2.7											2
10	Selenium	HALEY IND.	0200	FH	2	20.1							1				1
		CANADA PIPE	0100	FL	4	10.2											1

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12	Mercury	HALEY IND.	0200	FH	11	47.9	4	1.0					4	31.5			1
		CANADA PIPE	0100	FM	4	8.5											1
		FORD MOTOR	0100	IL	12	1.1											3
		FORD MOTOR	0300	IM	12	1.3	4	1.0					4	0.3			3
13	Tetra-alkyl lead (Total)	CANADA PIPE	0100	IL	8	0.7	3	0.7					3				3
13	Tri-alkyl lead (Total)	CANADA PIPE	0100	IL	8	0.7	3	0.7					3				3
14	Phenolics (4AAP)	CANADA PIPE	0100	FH	42	36.6	4	0.5					4	1.9			1
		FORD MOTOR	0100	FH	360	111.9											1
		FORD MOTOR	0300	FH	349	271.5	12	1.9					12	27.0			1
		FORD MOTOR	0500	FH	4	104.1											1
		GENERAL MOTORS	0900	FH	343	38.8	12	1.1					12	4.6			1
		GENERAL MOTORS	1000	FH	152	25.5											1
		HALEY IND.	0300	FH	12	21.6											1
		HALEY IND.	0200	FL	360	22.2	12	1.5					12	11.1			1
15	Sulphide	CANADA PIPE	0100	FM	4	4.8											2
16	1,1-Dichloroethane	HALEY IND.	0100	FL	4	2.6											2
		HALEY IND.	0200	FL	12	1.1	5	0.3	4		80	120	5	0.3	12	0.4	2
16	Chloroform	GENERAL MOTORS	0900	FL	12	1.2	4	3.5	4	45	143	270	4	0.0	12	0.5	3
		GENERAL MOTORS	1000	FL	4	1.1											3
16	Methylene Chloride	HALEY IND.	0200	FL	12	3.7	5	4.9	4		64	90	5	5.0	12	2.3	3
		HALEY IND.	0100	FM	4	6.8											3
17	Benzene	FORD MOTOR	0300	FL	11	2.2	4	0.7	4	94	107	135	4	0.4	11	0.0	1
		GENERAL MOTORS	0900	FL	12	1.9	4	0.9	4	49	93	119	4	0.2	12	0.4	2
		FORD MOTOR	0100	IL	11	0.9											3
17	Styrene	FORD MOTOR	0300	IM	11	1.5	4	0.5	4	47	97	136	4	0.3	11	0.1	2
17	Toluene	FORD MOTOR	0100	FL	11	0.8											3
		FORD MOTOR	0300	FL	11	1.4	4	0.5	4	91	420	1376	4		11	0.2	3
		GENERAL MOTORS	0900	FL	12	1.4	4	2.2	4	48	101	144	4	0.2	12	0.2	3
17	m-Xylene and p-Xylene	GENERAL MOTORS	0900	IH	12	1.8	4	0.9	4	102	112	123	4	0.2	12		2

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17	o-Xylene	HALEY IND.	0200	IL	12	0.8	5	0.4	4		69	100	5	0.1	12	0.7	3
19	1-Methylnaphthalene	FORD MOTOR	0300	FL	12	1.0	4	0.1	4	63	137	250	4	0.5	12	0.1	3
19	2-Methylnaphthalene	FORD MOTOR	0300	FL	12	1.1	4	0.2	4	63	145	250	4	0.4	12	0.1	3
19	Benzobutylphthalate	FORD MOTOR	0100	FL	12	2.8											3
		FORD MOTOR	0300	FM	12	7.3	4	1.0	4	60	164	263	4	1.7	12		2
19	Biphenyl	FORD MOTOR	0300	IL	12	1.2	4	1.0	4	66	141	238	4	0.2	12		3
19	Bis(2-ethylhexyl)phthalate	HALEY IND.	0100	FH	4	11.9											2
		CANADA PIPE	0100	FL	4	1.0									4	0.3	2
		FORD MOTOR	0300	FL	12	1.7	4	0.7	4	14	59	118	4	0.7	12	2.9	2
		HALEY IND.	0200	FL	12	3.4	5	3.0	4		202	329	4	5.3	12	0.9	3
		FORD MOTOR	0100	IL	12	1.1											2
		GENERAL MOTORS	0900	IM	12	2.2	5	5.9	4	96	164	279	5	0.4	12	1.2	3
19	Di-n-butyl Phthalate	FORD MOTOR	0300	FL	12	1.1	4	0.7	4	66	173	313	4	1.0	12	0.1	3
19	Fluoranthene	FORD MOTOR	0300	FL	12	1.2	4	0.5	4	70	149	250	4	0.1	12		3
19	Naphthalene	FORD MOTOR	0300	FL	50	1.3	4	0.3	3	113	152	188	4	0.4	50		3
19	Phenanthrene	FORD MOTOR	0500	FL	4	1.2											3
		FORD MOTOR	0300	FM	50	4.1	4	1.0	3	125	179	275	4	0.9	50		2
20	2,4-Dimethylphenol	GENERAL MOTORS	0900	FL	12	2.9	5	0.2	5	4	41	57	5	1.3	1		1
		FORD MOTOR	0300	FM	12	4.2	4	0.1	4	49	84	119	4	0.7			1
		FORD MOTOR	0100	IL	12	0.9											2
20	4-Nitrophenol	HALEY IND.	0100	FM	4	3.6											3
		HALEY IND.	0200	FM	12	3.4	5	3.6	4		40	110	4		7	0.4	3
20	Pentachlorophenol	HALEY IND.	0100	FL	4	1.6											3
		HALEY IND.	0200	FL	12	1.8	5	1.5	4		71	150	4	0.5	7	0.1	3
20	Phenol	FORD MOTOR	0300	FH	12	247.6	4	0.3	4		68	125	4	24.0			1
		HALEY IND.	0100	FL	4	2.7											2
		GENERAL MOTORS	0900	IH	12	2.5	5	0.4	4	10	17	27	5	2.5	1		2
20	m-Cresol	GENERAL MOTORS	0900	FL	12	1.9	5	0.2	4	26	65	104	5	1.6	1		2
		FORD MOTOR	0300	FM	12	5.3	4	0.2	4	45	81	123	4	0.6			1

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20	o–Cresol	FORD MOTOR	0300	FH	12	35.5	4	0.3	4	40	79	125	4	2.2			1
		GENERAL MOTORS	0900	FL	12	8.0	5	0.2	4	14	44	77	5	4.0	1		1
20	p–Cresol	FORD MOTOR	0300	FH	12	10.1	4	0.3	4	53	88	125	4	1.3			1
		GENERAL MOTORS	0900	FL	12	1.8	5	0.2	4	26	65	104	5	1.6	1		2
23	1,2,3–Trichlorobenzene	HALEY IND.	0200	FL	4	1.7							1	1.5	2		2
24	Octachlorodibenzo–p–diox	HALEY IND.	0200	FH	2	20.3											1
		FORD MOTOR	0100	FL	2	1.3											2
		FORD MOTOR	0300	FL	2	2.2											2
		GENERAL MOTORS	0900	FL	2	0.8											2
24	Octachlorodibenzofuran	FORD MOTOR	0100	FL	2	1.2											2
		FORD MOTOR	0300	FL	2	1.8											2
24	Total H6CDD	HALEY IND.	0200	FL	2	1.0											2
24	Total H6CDF	FORD MOTOR	0300	FL	2	0.8											2
		HALEY IND.	0200	FL	2	2.3											2
24	Total H7CDD	HALEY IND.	0200	FL	2	2.6											2
24	Total H7CDF	HALEY IND.	0200	FL	2	1.1											2
24	Total PCDF	FORD MOTOR	0100	FL	2	3.4											2
		HALEY IND.	0200	FL	2	1.1											2
24	Total TCDF	HALEY IND.	0200	FL	2	0.9											2
		FORD MOTOR	0100	FM	2	8.5											2
		FORD MOTOR	0300	FM	2	4.7											2
25	Oil and Grease	FORD MOTOR	0500	FH	4	5.0											1
		FORD MOTOR	0100	FL	156	2.2											1
		FORD MOTOR	0300	FL	151	2.0	12	1.0					12	0.1			1
		GENERAL MOTORS	0900	FL	151	1.4	12	1.4					12	0.1			3
		GENERAL MOTORS	1000	FL	152	1.8											3
		CANADA PIPE	0100	FM	41	7.2	4	1.0					4	0.4			1
		HALEY IND.	0100	IL	154	1.4											2
		HALEY IND.	0200	IL	156	1.6	12	0.9					12	0.1			2

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26	Abietic Acid	GENERAL MOTORS	0900	FL	12	1.4	4	1.4	4	47	81	113	4				3
		GENERAL MOTORS	1000	FL	4	1.4											3
		HALEY IND.	0200	FM	11	3.2	4	3.0	4		407	1500	4		6	0.4	3
26	Chlorodehydroabietic Acid	HALEY IND.	0200	FM	12	3.4	4	3.0	4		553	2080	4		7	0.4	3
26	Dehydroabietic Acid	HALEY IND.	0200	FM	12	4.4	4	3.0	4		1414	5500	4	1.0	7	0.2	3
26	Isopimaric Acid	HALEY IND.	0200	FM	12	3.4	4	3.0	4		1506	5900	4		7	0.4	3
26	Levopimaric Acid	GENERAL MOTORS	0900	FL	12	1.6	4	1.8	4	13	36	65	4				3
		GENERAL MOTORS	1000	FL	4	1.8											3
		HALEY IND.	0200	FM	12	3.4	4	3.0	4		1682	6600	4		7	0.4	3
26	Neoabietic Acid	GENERAL MOTORS	0900	FL	12	1.8	4	1.8	4	5	60	131	4				3
		GENERAL MOTORS	1000	FL	4	1.8											3
		HALEY IND.	0200	FM	12	4.0	4	3.0	4		756	3000	4	0.4	7	0.8	3
26	Oleic Acid	HALEY IND.	0200	FM	12	6.4	4	3.6	4		1452	5700	4	8.0	7	1.4	3
26	Pimaric Acid	HALEY IND.	0200	FM	12	3.2	4	3.0	4		1205	4700	4		7		3
27	PCBT	FORD MOTOR	0300	FL	12	1.2	4	0.4	1				4	0.3			2
		FORD MOTOR	0500	FL	4	0.9											2
		FORD MOTOR	0100	IL	12	0.7											2
MC1	Iron	CANADA PIPE	0100	FH	12	16721.7	4	2.5					4	358.0			1
		FORD MOTOR	0100	FH	156	30.0											1
		FORD MOTOR	0300	FH	151	58.5	12	1.1					12	4.9			1
		FORD MOTOR	0500	FH	4	108.9											1
		GENERAL MOTORS	0900	FH	153	36.4	12	4.1					11	12.6			1
		GENERAL MOTORS	1000	FH	52	33.3											1
		HALEY IND.	0200	FH	155	20422.8	12	3.4					12	306.4			1
		HALEY IND.	0300	FH	12	7517.2											1
MC1	Magnesium	CANADA PIPE	0100	FH	12	3013.4	4	1.3					4	120.0			1
		FORD MOTOR	0100	FH	156	458.1											1
		FORD MOTOR	0300	FH	151	468.7	12	2.1					12	31.7			1
		FORD MOTOR	0500	FH	4	433.1											1

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MC1	Magnesium	GENERAL MOTORS	0900	FH	153	456.2	12	1.0					11	15.8			1
		GENERAL MOTORS	1000	FH	52	476.2											1
		HALEY IND.	0200	FH	155	162954.9							12	139.2			1
		HALEY IND.	0300	FH	12	2498.4											1
MC2	Fluoride	CANADA PIPE	0100	FH	12	254.3	4	1.0					4	5.3			1
		FORD MOTOR	0100	FH	156	45.1											1
		FORD MOTOR	0300	FH	151	82.7	12	2.3					12	10.5			1
		FORD MOTOR	0500	FH	4	44.3											1
		HALEY IND.	0200	FH	155	302.3	12	1.0					12	16.9			1
		HALEY IND.	0300	FH	12	89.7											1
		GENERAL MOTORS	0900	FM	12	2.8	4	0.5					4	0.1			1
		GENERAL MOTORS	1000	FM	4	2.2											1

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NON-CANDIDATE PARAMETERS

ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
5b	TOC	GENERAL MOTORS	0900	NO	4	0.6										
6	Total Phosphorus	GENERAL MOTORS	0900	IM	50	1.8	4	0.1					4			
		FORD MOTOR	0300	NO	50	0.3	4	0.2					4	0.2		
8	Volatile Suspended Solids	CANADA PIPE	0100	IM	4	1.2										
		GENERAL MOTORS	0900	NO	4	0.2										
9	Beryllium	FORD MOTOR	0300	IL	151	1.0	12	1.0					12			
		GENERAL MOTORS	0900	IM	153	0.1	12	0.1					11	0.0		
		CANADA PIPE	0100	NO	12	0.2	4	0.1					4	0.0		
9	Chromium	FORD MOTOR	0300	IM	151	1.1	12	1.0					12	0.1		
9	Cobalt	CANADA PIPE	0100	IM	12	1.9	4	0.1					4	0.4		
		FORD MOTOR	0300	NO	151	1.0	12	1.0					12			
		GENERAL MOTORS	0900	NO	154	0.1	12	0.1					12	0.0		
9	Copper	GENERAL MOTORS	0900	IL	153	0.5	12	0.5					11	0.2		
9	Molybdenum	FORD MOTOR	0300	IL	151	1.0	12	1.0					12			
		GENERAL MOTORS	0900	NO	154	0.1	12	0.1					12	0.0		
9	Nickel	FORD MOTOR	0300	IL	151	1.0	12	1.0					12			
		GENERAL MOTORS	0900	IM	154	0.8	12	0.5					12	0.3		
9	Silver	CANADA PIPE	0100	IL	12	0.6	4	0.1					4	0.2		
		FORD MOTOR	0300	NO	151	0.5	12	0.5					12	0.0		
		GENERAL MOTORS	0900	NO	154	0.1	12	0.1					12	0.0		
9	Thallium	HALEY IND.	0200	IH	155	0.7	12	0.1					12	1.4		
		CANADA PIPE	0100	IL	12	0.6	4	0.3					4	0.5		
		GENERAL MOTORS	0900	IL	154	0.8	12	0.8					12			
		FORD MOTOR	0300	NO	151	0.2	12	0.2					12			
9	Vanadium	FORD MOTOR	0300	IL	151	0.4	12	0.4					12	0.1		
		CANADA PIPE	0100	NO	12	0.5	4	0.1					4	0.1		
		GENERAL MOTORS	0900	NO	153	0.1	12	0.1					11	0.0		
10	Antimony	FORD MOTOR	0300	IL	4	0.6										
		GENERAL MOTORS	0900	IL	4	0.7										

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NON-CANDIDATE PARAMETERS

ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
10	Arsenic	FORD MOTOR	0300	NO	4	0.6										
		GENERAL MOTORS	0900	NO	4	0.4										
10	Selenium	FORD MOTOR	0300	NO	4	0.3										
		GENERAL MOTORS	0900	NO	4	0.8										
11	Chromium (hexavalent)	CANADA PIPE	0100	NO	1	0.9	1	0.6								
		FORD MOTOR	0300	NO	151	1.0	12	1.0					12			
		HALEY IND.	0200	NO	36	0.9										
12	Mercury	GENERAL MOTORS	0900	NO	12	0.9	4	0.8					4			
15	Sulphide	HALEY IND.	0200	IH	13	3.7	5	1.0					5			
		FORD MOTOR	0300	IL	12	1.2	4	1.0					4	0.1		
		GENERAL MOTORS	0900	NO	12	0.5	4	0.6					4			
16	1,1,2,2-Tetrachloroethane	CANADA PIPE	0100	NO	4	0.1									4	
		FORD MOTOR	0300	NO	11	0.2	4	0.2	4	43	95	158	4		11	
		GENERAL MOTORS	0900	NO	12	0.7	4	0.7	4	75	100	116	4		12	
		HALEY IND.	0200	NO	12	0.1	5	0.1	3		13	23	5		12	0.0
16	1,1,2-Trichloroethane	CANADA PIPE	0100	NO	4	1.0									4	
		FORD MOTOR	0300	NO	11	0.2	4	0.2	4	37	83	119	4		11	
		GENERAL MOTORS	0900	NO	12	0.8	4	0.8	4	62	106	140	4		12	
		HALEY IND.	0200	NO	12	0.5	5	0.3	4		72	110	5		12	0.1
16	1,1-Dichloroethane	CANADA PIPE	0100	NO	4	0.6									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	88	105	140	4		11	
		GENERAL MOTORS	0900	NO	12	1.0	4	1.0	4	35	128	270	4		12	
16	1,1-Dichloroethylene	CANADA PIPE	0100	NO	4	0.1									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	56	91	126	4		11	
		GENERAL MOTORS	0900	NO	12	0.4	4	0.4	4	65	95	134	4		12	
		HALEY IND.	0200	NO	12	0.1	5	0.1	3		68	110	5		12	0.0
16	1,2-Dichlorobenzene	CANADA PIPE	0100	NO	4	0.3									4	
		FORD MOTOR	0300	NO	11	0.5	4	0.5	4	74	93	121	4		11	
		GENERAL MOTORS	0900	NO	12	0.6	4	0.6	4	90	104	118	4		12	

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
16	1,2-Dichlorobenzene	HALEY IND.	0200	NO	12	0.2	5	0.1	4		78	110	5		12	0.0
16	1,2-Dichloroethane	CANADA PIPE	0100	NO	4	0.5									4	
		FORD MOTOR	0300	NO	11	0.2	4	0.2	4	93	118	148	4		11	
		GENERAL MOTORS	0900	NO	12	1.0	4	1.0	4	45	78	98	4		12	
		HALEY IND.	0200	NO	12	0.5	5	0.5	4		73	110	5		12	0.0
16	1,2-Dichloropropane	CANADA PIPE	0100	NO	4	0.6									4	
		FORD MOTOR	0300	NO	11	0.2	4	0.2	4	98	113	146	4		11	
		GENERAL MOTORS	0900	NO	12	0.9	4	0.9	4	41	87	123	4		12	
		HALEY IND.	0200	NO	12	0.2	5	0.2	4		59	96	5		12	
16	1,3-Dichlorobenzene	CANADA PIPE	0100	NO	4	0.3									4	
		FORD MOTOR	0300	NO	11	0.2	4	0.2	4	78	97	131	4		11	
		GENERAL MOTORS	0900	NO	12	1.0	4	1.0	4	88	101	117	4		12	
		HALEY IND.	0200	NO	12	0.3	5	0.3	4		76	110	5		12	0.0
16	1,4-Dichlorobenzene	HALEY IND.	0200	IH	12	0.7	5	0.1	4		73	110	5	0.3	12	0.1
		CANADA PIPE	0100	NO	4	0.1									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	81	103	148	4		11	
		GENERAL MOTORS	0900	NO	12	0.7	4	0.7	4	78	100	113	4		12	
16	Bromoform	CANADA PIPE	0100	IL	4	0.5									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	93	109	145	4		11	
		GENERAL MOTORS	0900	NO	12	0.7	4	0.7	4	55	95	116	4		12	
		HALEY IND.	0200	NO	12	0.1	5	0.1	3		60	96	5		12	0.0
16	Bromomethane	CANADA PIPE	0100	NO	4	0.7									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	3	49	115	4		11	
		GENERAL MOTORS	0900	NO	12	0.5	4	0.5	4	9	88	150	4		12	
		HALEY IND.	0200	NO	12	0.1	5	0.1	3		62	100	5		12	
16	Carbon Tetrachloride	HALEY IND.	0200	IM	12	0.9	5	0.2	3		61	100	5	0.3	12	1.2
		CANADA PIPE	0100	NO	4	0.2									4	
		FORD MOTOR	0300	NO	11	0.3	4	0.3	4	50	93	138	4		11	
		GENERAL MOTORS	0900	NO	12	0.6	4	0.6	4	41	82	113	4		12	

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
16	Chlorobenzene	CANADA PIPE	0100	NO	4	0.9									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	74	99	141	4		11	
		GENERAL MOTORS	0900	NO	12	0.9	4	0.9	4	31	91	118	4		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		74	110	5		12	0.1
16	Chloroform	CANADA PIPE	0100	IM	4	1.1									4	1.0
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	94	108	140	4		11	0.0
		HALEY IND.	0200	NO	12	0.4	5	2.3	4		75	110	5	0.0	12	0.0
16	Chloromethane	CANADA PIPE	0100	NO	4	0.6									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	14	69	118	4		11	
		GENERAL MOTORS	0900	NO	12	0.3	4	0.3	4	6	92	188	4		12	
		HALEY IND.	0200	NO	12	0.1	5	0.1	3		68	110	5	0.0	12	0.0
16	Cis-1,3-Dichloropropylene	CANADA PIPE	0100	NO	4	0.5									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	7	49	109	4		11	
		GENERAL MOTORS	0900	NO	12	0.7	4	0.7	4	31	80	116	4		12	
		HALEY IND.	0200	NO	12	0.2	5	0.2	3		54	100	5		12	0.0
16	Dibromochloromethane	CANADA PIPE	0100	NO	4	0.4									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	92	111	142	4		11	
		GENERAL MOTORS	0900	NO	12	0.7	4	0.7	4	33	105	134	4		12	
		HALEY IND.	0200	NO	12	0.3	5	0.3	4		48	96	5		12	0.0
16	Ethylene Dibromide	CANADA PIPE	0100	NO	4	0.6									4	
		FORD MOTOR	0300	NO	11	0.2	4	0.2	4	84	104	151	4		11	
		GENERAL MOTORS	0900	NO	12	0.8	4	0.8	4	21	80	181	4	0.0	12	
16	Ethylene Dibromide	HALEY IND.	0200	NO	12	0.1	5	0.1	4		72	100	5		12	0.0
16	Methylene Chloride	FORD MOTOR	0300	IH	11	0.9	4	2.3	4	72	143	211	4	0.3	11	0.2
		GENERAL MOTORS	0900	IM	12	1.2	4	3.5	4	63	159	273	4		12	0.0
		CANADA PIPE	0100	NO	4	0.2									4	1.3
16	Tetrachloroethylene	CANADA PIPE	0100	NO	4	0.2									4	0.0
		FORD MOTOR	0300	NO	11	0.3	4	0.3	4	81	102	137	4		11	
		GENERAL MOTORS	0900	NO	12	0.6	4	0.6	4	13	77	120	4		12	

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
16	Tetrachloroethylene	HALEY IND.	0200	NO	12	0.2	5	0.2	4		70	100	5		12	0.0
16	Trans-1,2-Dichloroethylene	CANADA PIPE	0100	NO	4	0.3									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	67	95	137	4		11	
		GENERAL MOTORS	0900	NO	12	1.0	4	1.0	4	27	166	322	4		12	
		HALEY IND.	0200	NO	12	0.2	5	0.2	4		76	130	5		12	0.0
16	Trans-1,3-Dichloropropylene	CANADA PIPE	0100	NO	4	0.8									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	9	49	108	4		11	
		GENERAL MOTORS	0900	NO	12	0.6	4	0.6	4	23	73	93	4		12	
		HALEY IND.	0200	NO	12	0.1	5	0.1	3		44	72	5		12	0.0
16	Trichloroethylene	CANADA PIPE	0100	NO	4	0.2									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	111	128	145	4		11	
		GENERAL MOTORS	0900	NO	12	0.7	4	0.7	4	40	88	124	4		12	
		HALEY IND.	0200	NO	12	0.3	5	0.2	4		90	140	5		12	
16	Trichlorofluoromethane	CANADA PIPE	0100	NO	4	0.3									4	
		FORD MOTOR	0300	NO	11	1.0	4	0.8	4	83	160	323	4		11	
		GENERAL MOTORS	0900	NO	12	1.0	4	1.0	4	39	72	101	4		12	
		HALEY IND.	0200	NO	12	0.4	5	0.3	3		58	100	5	0.1	12	0.5
16	Vinyl Chloride	CANADA PIPE	0100	NO	4	0.7									4	
		FORD MOTOR	0300	NO	11	0.1	4	0.1	4	75	109	139	4		11	
		GENERAL MOTORS	0900	NO	12	0.5	4	0.5	4	9	88	163	4		12	
		HALEY IND.	0200	NO	12	0.1	5	0.1	3		67	100	5		12	
17	Benzene	CANADA PIPE	0100	NO	4	0.4									4	2.5
		HALEY IND.	0200	NO	12	1.4	5	0.8	4		88	120	5		12	
17	Styrene	CANADA PIPE	0100	IL	4	0.9									4	
		GENERAL MOTORS	0900	NO	12	1.0	4	1.0	4	29	105	168	4		12	
		HALEY IND.	0200	NO	12	0.5	5	0.4	4		66	95	5		12	0.1
17	Toluene	HALEY IND.	0200	IL	12	1.1	5	1.2	4		71	110	5	0.2	12	0.1
		CANADA PIPE	0100	NO	4	0.8									4	3.3
17	m-Xylene and p-Xylene	HALEY IND.	0200	IH	12	1.0	5	0.4	4		114	190	5	0.1	12	

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
17	m–Xylene and p–Xylene	CANADA PIPE	0100	NO	4	0.5									4	0.2
		FORD MOTOR	0300	NO	11	0.3	4	0.1	4	87	102	130	4	0.1	11	0.0
17	o–Xylene	GENERAL MOTORS	0900	IL	12	1.2	4	1.0	4	98	114	139	4		12	
		CANADA PIPE	0100	NO	4	0.8									4	
17	o–Xylene	FORD MOTOR	0300	NO	11	0.3	4	0.2	4	22	86	139	4		11	0.0
18	Acrolein	CANADA PIPE	0100	NO	4	0.8									4	
		FORD MOTOR	0300	NO	11	0.3	4	0.3	4	1	12	25	4		11	
		GENERAL MOTORS	0900	NO	12	0.9	4	0.9	4	39	74	150	4		12	
		HALEY IND.	0200	NO	2	0.2									1	0.1
18	Acrylonitrile	CANADA PIPE	0100	NO	4	0.5									4	
		FORD MOTOR	0300	NO	11	0.3	4	0.2	4	40	89	130	4		11	
		GENERAL MOTORS	0900	NO	12	0.7	4	0.7	4	14	69	138	4		12	
		HALEY IND.	0200	NO	2	0.1									1	0.1
19	1–Chloronaphthalene	CANADA PIPE	0100	NO	4	0.3									4	
		FORD MOTOR	0300	NO	12	0.2	4	0.2	4	67	137	225	4		12	
		GENERAL MOTORS	0900	NO	12	0.2	5	0.2	5	66	83	102	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		58	89	4		12	0.1
19	1–Methylnaphthalene	CANADA PIPE	0100	NO	4	0.7									4	
		GENERAL MOTORS	0900	NO	12	0.2	5	0.1	4	60	85	114	5	0.0	12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		47	110	4	0.0	12	0.1
19	2,4–Dinitrotoluene	CANADA PIPE	0100	NO	4	0.6									4	
		FORD MOTOR	0300	NO	12	0.5	4	0.5	4	79	157	300	4		12	
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	5	60	91	109	5		12	
		HALEY IND.	0200	NO	12	0.6	5	0.6	4		95	160	4		12	0.0
19	2,6–Dinitrotoluene	FORD MOTOR	0300	IL	12	0.9	4	0.4	4	79	139	250	4		12	
		CANADA PIPE	0100	IM	4	1.5									4	
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	5	66	90	121	5		12	
		HALEY IND.	0200	NO	12	0.7	5	0.7	4		88	150	4		12	0.0
19	2–Chloronaphthalene	CANADA PIPE	0100	NO	4	0.5									4	

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
19	2-Chloronaphthalene	FORD MOTOR	0300	NO	12	0.2	4	0.2	4	67	129	213	4		12	
		GENERAL MOTORS	0900	NO	12	0.4	5	0.4	4	59	84	103	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		57	86	4		12	0.1
19	2-Methylnaphthalene	CANADA PIPE	0100	NO	4	0.7									4	
		GENERAL MOTORS	0900	NO	12	0.4	5	0.4	4	64	85	106	5	0.0	12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		55	82	4	0.0	12	0.1
19	4-Bromophenyl Phenyl Ether	CANADA PIPE	0100	NO	4	1.0									4	
		FORD MOTOR	0300	NO	12	0.7	4	0.7	4	71	155	325	4		12	
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	5	48	88	102	5		12	
		HALEY IND.	0200	NO	12	0.5	5	0.5	4		64	100	4		12	0.1
19	4-Chlorophenyl Phenyl Ether	CANADA PIPE	0100	NO	4	1.0									4	
		FORD MOTOR	0300	NO	12	0.4	4	0.4	4	73	138	250	4		12	
		GENERAL MOTORS	0900	NO	12	0.6	5	0.6	5	54	81	104	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.2	4		70	100	4		12	0.1
19	5-Nitro, Acenaphthene	CANADA PIPE	0100	NO	4	0.4									4	
		FORD MOTOR	0300	NO	12	0.1	4	0.1	4	75	171	325	4		12	
		GENERAL MOTORS	0900	NO	12	0.2	5	0.2	5	33	75	123	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		40	86	4		12	0.1
19	Acenaphthene	CANADA PIPE	0100	NO	4	0.5									4	
		FORD MOTOR	0300	NO	12	0.3	4	0.3	4	67	148	263	4	0.0	12	
		GENERAL MOTORS	0900	NO	12	0.9	6	0.9	5	57	79	108	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.2	4		68	96	4	0.0	12	0.1
19	Acenaphthylene	CANADA PIPE	0100	NO	4	0.3									4	
		FORD MOTOR	0300	NO	12	0.3	4	0.3	4	63	142	238	4		12	
		GENERAL MOTORS	0900	NO	12	0.6	5	0.6	5	61	77	97	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		65	94	4		12	0.1
19	Anthracene	CANADA PIPE	0100	NO	4	0.2									4	
		FORD MOTOR	0300	NO	12	0.4	4	0.4	4	76	146	238	4	0.0	12	
		GENERAL MOTORS	0900	NO	12	0.9	5	0.9	5	45	84	124	5		12	

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19	Anthracene	HALEY IND.	0200	NO	12	0.2	5	0.1	4		70	94	4	0.0	12	0.1
19	Benzo(a)anthracene	CANADA PIPE	0100	NO	4	0.4									4	
		FORD MOTOR	0300	NO	12	0.6	4	0.6	4	65	108	155	4		12	
		GENERAL MOTORS	0900	NO	12	0.4	5	0.4	5	27	101	235	5		12	
		HALEY IND.	0200	NO	12	0.3	5	0.2	4		80	120	4		12	0.1
19	Benzo(a)pyrene	CANADA PIPE	0100	NO	4	0.8									4	
		FORD MOTOR	0300	NO	12	1.0	4	1.0	4	30	95	145	4		12	
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	5	39	118	248	5		12	
		HALEY IND.	0200	NO	12	0.3	5	0.3	4		80	120	4		12	0.1
19	Benzo(b)fluoranthene	CANADA PIPE	0100	NO	4	0.6									4	
		FORD MOTOR	0300	NO	12	0.9	4	0.9	4	59	106	155	4		12	
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	5	34	100	197	5		12	
		HALEY IND.	0200	NO	12	0.3	5	0.3	4		80	120	4		12	0.1
19	Benzo(g,h,i)perylene	CANADA PIPE	0100	NO	4	0.6									4	
		FORD MOTOR	0300	NO	12	0.9	4	0.9	4	16	95	143	4		12	
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	4	43	119	239	5		12	
		HALEY IND.	0200	NO	12	0.3	5	0.2	4		84	140	4		12	0.1
19	Benzo(k)fluoranthene	CANADA PIPE	0100	NO	4	0.6									4	
		FORD MOTOR	0300	NO	12	0.7	4	0.7	4	59	105	140	4		12	
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	5	36	116	269	5		12	
		HALEY IND.	0200	NO	12	0.3	5	0.2	4		88	140	4	0.0	12	0.1
19	Benzobutylphthalate	CANADA PIPE	0100	IL	4	1.0									4	
		GENERAL MOTORS	0900	NO	12	0.7	5	0.7	5	23	123	337	5		12	
		HALEY IND.	0200	NO	12	0.4	5	0.4	4		9	20	4		12	0.1
19	Biphenyl	CANADA PIPE	0100	NO	4	0.7									4	
		GENERAL MOTORS	0900	NO	12	0.7	5	0.7	4	58	84	106	5		12	
		HALEY IND.	0200	NO	12	0.8	5	0.3	4		43	87	4	0.4	12	0.4
19	Bis(2–chloroethoxyl)methane	CANADA PIPE	0100	NO	4	0.4									4	
		FORD MOTOR	0300	NO	12	0.1	4	0.1	4	64	148	213	4		12	

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
19	Bis(2-chloroethoxyl)methane	GENERAL MOTORS	0900	NO	12	0.4	5	0.4	5	68	91	138	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		48	100	4		12	0.1
19	Bis(2-chloroethyl)ether	CANADA PIPE	0100	NO	4	0.4									4	
		FORD MOTOR	0300	NO	12	0.1	4	0.1	4		80	164	4		12	
		GENERAL MOTORS	0900	NO	12	0.4	5	0.4	4	60	82	113	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		58	140	4		12	0.1
19	Bis(2-chloroisopropyl)ether	CANADA PIPE	0100	NO	4	0.7									4	
		FORD MOTOR	0300	NO	12	0.2	4	0.2	4		83	155	4		12	
		GENERAL MOTORS	0900	NO	12	0.5	5	0.5	4	58	80	109	5		12	
		HALEY IND.	0200	NO	11	0.2	5	0.1	4		30	71	4		11	0.1
19	Camphene	CANADA PIPE	0100	NO	4	0.3									4	
		FORD MOTOR	0300	NO	12	0.1	4	0.1	4		20	51	4		12	
		GENERAL MOTORS	0900	NO	12	0.6	5	0.6	4	12	48	84	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		5	16	4		12	0.1
19	Chrysene	CANADA PIPE	0100	NO	4	1.0									4	
		FORD MOTOR	0300	NO	12	1.1	4	1.0	4	24	92	130	4		12	
		GENERAL MOTORS	0900	NO	12	0.7	5	0.7	5	28	91	187	5		12	
		HALEY IND.	0200	NO	12	0.4	5	0.3	4		80	120	4		12	0.1
19	Di-n-butyl Phthalate	GENERAL MOTORS	0900	IL	12	0.6	5	0.3	5	35	107	190	5	4.1	12	0.0
		CANADA PIPE	0100	NO	4	0.3									4	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		12	31	4	0.0	12	0.1
19	Dibenz(a,h)anthracene	CANADA PIPE	0100	NO	4	0.3									4	
		FORD MOTOR	0300	NO	12	0.6	4	0.6	4	13	89	158	4		12	
		GENERAL MOTORS	0900	NO	12	0.6	5	0.6	4	55	125	278	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.2	4		100	180	4		12	0.1
19	Diphenyl Ether	CANADA PIPE	0100	NO	4	1.0									4	
		FORD MOTOR	0300	NO	12	1.0	4	1.0	4	67	141	238	4		12	
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	4	62	86	105	5		12	
		HALEY IND.	0200	NO	12	0.4	5	0.4	4		41	88	4		12	0.0

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19	Diphenylamine	CANADA PIPE	0100	NO	4	0.1									4	
		FORD MOTOR	0300	NO	12	0.1	4	0.1	4	65	104	127	4		12	
		GENERAL MOTORS	0900	NO	12	0.1	5	0.1	4	30	53	94	5		12	
		HALEY IND.	0200	NO	11	0.2	5	0.1	4		117	260	4	0.0	11	0.1
19	Fluoranthene	CANADA PIPE	0100	NO	4	0.6									4	
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	5	29	95	188	5		12	
		HALEY IND.	0200	NO	12	0.3	5	0.3	4		76	120	4		12	0.1
19	Fluorene	CANADA PIPE	0100	NO	4	0.2									4	
		FORD MOTOR	0300	NO	12	0.4	4	0.2	4	69	133	200	4	0.1	12	
		GENERAL MOTORS	0900	NO	12	0.7	5	0.7	5	57	85	104	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		69	96	4	0.0	12	0.1
19	Indeno(1,2,3–cd)pyrene	CANADA PIPE	0100	NO	4	0.5									4	
		FORD MOTOR	0300	NO	12	0.5	4	0.5	4	30	92	158	4		12	
		GENERAL MOTORS	0900	NO	12	0.8	5	0.8	4	39	74	111	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.2	4		103	180	4		12	0.1
19	Indole	CANADA PIPE	0100	NO	4	0.6									4	
		FORD MOTOR	0300	NO	12	0.8	4	0.8	4	67	106	125	4		12	
		GENERAL MOTORS	0900	NO	12	0.3	5	0.3	4	33	76	129	5		12	
		HALEY IND.	0200	NO	12	0.4	5	0.1	4		39	100	4	0.2	12	0.2
19	N–Nitrosodi–n–propylamine	CANADA PIPE	0100	NO	4	0.7									4	
		FORD MOTOR	0300	NO	12	0.1	4	0.1	4		90	173	4		12	
		GENERAL MOTORS	0900	NO	12	0.7	5	0.7	5	53	71	88	5		12	
		HALEY IND.	0200	NO	10	0.2	5	0.1	4		43	88	4		10	0.1
19	N–Nitrosodiphenylamine	CANADA PIPE	0100	NO	4	0.1									4	
		FORD MOTOR	0300	NO	12	0.1	4	0.1	4	65	104	138	4		12	
		GENERAL MOTORS	0900	NO	12	0.1	5	0.1	4	30	53	94	5		12	
		HALEY IND.	0200	NO	11	0.2	5	0.1	4		100	260	4	0.0	11	0.1
19	Naphthalene	CANADA PIPE	0100	NO	4	0.2									4	
		GENERAL MOTORS	0900	NO	50	1.0	5	0.9	5	15	69	115	6	0.0	49	

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
19	Naphthalene	HALEY IND.	0200	NO	12	0.2	5	0.1	4		53	85	4	0.0	12	0.1
19	Perylene	CANADA PIPE	0100	NO	4	0.2									4	
		FORD MOTOR	0300	NO	12	0.7	4	0.7	4	14	89	145	4		12	
		GENERAL MOTORS	0900	NO	12	0.7	5	0.7	4	41	99	217	5		12	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		51	100	4		12	0.1
19	Phenanthrene	CANADA PIPE	0100	IL	4	1.0									4	
		GENERAL MOTORS	0900	IL	50	1.1	5	1.0	5	4	63	103	6	0.2	49	
		HALEY IND.	0200	NO	12	0.3	5	0.3	4		70	99	4		12	0.1
19	Pyrene	CANADA PIPE	0100	IL	4	0.9									4	
		FORD MOTOR	0300	IL	12	1.1	4	0.8	4	71	152	263	4	0.1	12	
		GENERAL MOTORS	0900	NO	12	0.8	5	0.8	5	29	101	202	5		12	
		HALEY IND.	0200	NO	12	0.3	5	0.3	4		73	110	4	0.2	12	0.1
20	2,3,4,5-Tetrachlorophenol	CANADA PIPE	0100	NO	4	1.0										
		FORD MOTOR	0300	NO	12	1.0	4	1.0	4	60	76	97	4			
		GENERAL MOTORS	0900	NO	12	1.0	5	1.0	4	54	86	117	5		1	
		HALEY IND.	0200	NO	12	0.6	5	0.4	4		82	120	4	0.3	7	0.1
20	2,3,4,6-Tetrachlorophenol	CANADA PIPE	0100	NO	4	0.3										
		FORD MOTOR	0300	NO	12	0.4	4	0.4	4	39	95	168	4			
		GENERAL MOTORS	0900	NO	12	0.3	5	0.3	4	65	85	116	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		38	100	4	0.0	7	0.1
20	2,3,4-Trichlorophenol	CANADA PIPE	0100	IH	4	4.3										
		FORD MOTOR	0300	NO	12	0.7	4	0.7	4	25	47	65	4			
		GENERAL MOTORS	0900	NO	12	0.8	5	0.8	4	69	93	112	5		1	
		HALEY IND.	0200	NO	12	0.4	5	0.3	4		58	120	4	0.1	7	0.1
20	2,3,5,6-Tetrachlorophenol	CANADA PIPE	0100	NO	4	0.4										
		FORD MOTOR	0300	NO	12	0.9	4	0.9	4	33	113	239	4			
		GENERAL MOTORS	0900	NO	12	0.6	5	0.6	4	55	80	111	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		53	110	4	0.0	7	0.1
20	2,3,5-Trichlorophenol	CANADA PIPE	0100	NO	4	0.3										

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
20	2,3,5-Trichlorophenol	FORD MOTOR	0300	NO	12	0.3	4	0.3	4	55	80	114	4			
		GENERAL MOTORS	0900	NO	12	0.4	5	0.4	4	69	94	113	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		60	140	4	0.0	7	0.1
20	2,4,5-Trichlorophenol	CANADA PIPE	0100	NO	4	0.5										
		FORD MOTOR	0300	NO	12	0.4	4	0.4	4	54	79	110	4			
		GENERAL MOTORS	0900	NO	12	0.5	5	0.5	4	74	98	117	5		1	
20	2,4,5-Trichlorophenol	HALEY IND.	0200	NO	12	0.3	5	0.2	4		53	110	4	0.1	7	0.1
		CANADA PIPE	0100	NO	4	0.9										
		FORD MOTOR	0300	NO	12	0.4	4	0.4	4	75	99	120	4			
		GENERAL MOTORS	0900	NO	12	0.4	5	0.4	5	46	77	99	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		50	100	4	0.0	7	0.1
20	2,4-Dichlorophenol	CANADA PIPE	0100	NO	4	0.7										
		FORD MOTOR	0300	NO	12	0.3	4	0.3	4	49	88	150	4			
		GENERAL MOTORS	0900	NO	12	0.6	5	0.6	5	60	76	102	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		44	100	4		7	0.1
20	2,4-Dimethylphenol	CANADA PIPE	0100	NO	4	0.4										
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		28	73	4		7	0.1
20	2,4-Dinitrophenol	CANADA PIPE	0100	NO	4	0.1										
		FORD MOTOR	0300	NO	12	0.7	4	0.7	4	36	292	725	4			
		GENERAL MOTORS	0900	NO	12	0.1	5	0.1	5	17	58	94	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		25	69	4		7	0.1
20	2,6-Dichlorophenol	CANADA PIPE	0100	NO	4	0.6										
		FORD MOTOR	0300	NO	12	0.3	4	0.3	4	65	94	138	4			
		GENERAL MOTORS	0900	NO	12	0.3	5	0.3	4	59	86	128	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		48	110	4		7	0.1
20	2-Chlorophenol	CANADA PIPE	0100	NO	4	0.7										
		FORD MOTOR	0300	NO	12	0.2	4	0.2	4	45	84	138	4			
		GENERAL MOTORS	0900	NO	12	0.3	5	0.3	5	14	52	96	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		22	75	4		7	0.1

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ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
20	4,6-Dinitro-o-cresol	CANADA PIPE	0100	NO	4	0.1										
		FORD MOTOR	0300	NO	12	0.2	4	0.2	4	58	115	150	4			
		GENERAL MOTORS	0900	NO	12	0.1	5	0.1	5	44	82	119	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.2	4		60	120	4		7	0.1
20	4-Chloro-3-methylphenol	CANADA PIPE	0100	NO	4	0.9										
		FORD MOTOR	0300	NO	12	0.4	4	0.4	4	43	85	138	4	0.0		
		GENERAL MOTORS	0900	NO	12	0.5	5	0.5	5	8	65	95	5		1	
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		95	140	4		7	0.1
20	4-Nitrophenol	CANADA PIPE	0100	NO	4	1.0										
		FORD MOTOR	0300	NO	12	0.5	4	0.4	4	56	97	138	4	0.1		
		GENERAL MOTORS	0900	NO	12	0.3	5	0.3	5	5	28	57	5		1	
20	Pentachlorophenol	CANADA PIPE	0100	IL	4	1.0										
		FORD MOTOR	0300	NO	12	1.2	4	0.9	4	44	226	417	4			
		GENERAL MOTORS	0900	NO	12	0.5	5	0.5	5	40	84	101	5		1	
20	Phenol	CANADA PIPE	0100	IH	4	29.5										
		HALEY IND.	0200	NO	12	0.3	5	0.1	4		34	89	4	0.1	7	0.1
20	m-Cresol	CANADA PIPE	0100	IH	4	2.5										
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		41	92	4		7	0.1
20	o-Cresol	CANADA PIPE	0100	IH	4	1.8										
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		36	87	4		7	0.1
20	p-Cresol	CANADA PIPE	0100	IH	4	2.5										
		HALEY IND.	0200	NO	12	0.2	5	0.1	4		41	92	4		7	0.1
23	1,2,3,4-Tetrachlorobenzene	FORD MOTOR	0300	NO	4	0.5										
		GENERAL MOTORS	0900	NO	4	0.9	1	1.0	1	41	41	41				
		HALEY IND.	0200	NO	4	1.0							1		2	
23	1,2,3,5-Tetrachlorobenzene	FORD MOTOR	0300	NO	4	0.5										
		GENERAL MOTORS	0900	NO	4	0.9	1	1.0	1	38	38	38				
		HALEY IND.	0200	NO	4	1.0							1		2	
23	1,2,3-Trichlorobenzene	GENERAL MOTORS	0900	IM	4	1.1	1	1.0	1	35	35	35				

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23	1,2,3-Trichlorobenzene	FORD MOTOR	0300	NO	4	1.0										
23	1,2,4,5-Tetrachlorobenzene	FORD MOTOR	0300	NO	4	0.5										
		GENERAL MOTORS	0900	NO	4	0.9	1	1.0	1	47	47	47				
		HALEY IND.	0200	NO	4	1.0							1		2	
23	1,2,4-Trichlorobenzene	GENERAL MOTORS	0900	IM	4	1.1	1	1.0	1	35	35	35				
		FORD MOTOR	0300	NO	4	1.0										
		HALEY IND.	0200	NO	4	1.0							1		2	
23	2,4,5-Trichlorotoluene	GENERAL MOTORS	0900	IL	4	0.9	1	1.0	1	38	38	38				
		FORD MOTOR	0300	NO	4	1.0										
		HALEY IND.	0200	NO	4	1.0							1		2	
23	Hexachlorobenzene	FORD MOTOR	0300	NO	4	0.1										
		GENERAL MOTORS	0900	NO	4	0.9	1	1.0	1	46	46	46				
		HALEY IND.	0200	NO	4	1.0							1		2	
23	Hexachlorobutadiene	FORD MOTOR	0300	NO	4	0.5										
		GENERAL MOTORS	0900	NO	4	0.9	1	1.0	1	35	35	35				
		HALEY IND.	0200	NO	4	1.0							1		2	
23	Hexachlorocyclopentadiene	HALEY IND.	0200	IM	4	1.6							1	2.5	2	
		FORD MOTOR	0300	NO	4	0.5										
		GENERAL MOTORS	0900	NO	4	1.0	1	1.0	1	28	28	28				
23	Hexachloroethane	FORD MOTOR	0300	NO	4	0.5										
		GENERAL MOTORS	0900	NO	4	0.9	1	1.0	1	3	3	3				
		HALEY IND.	0200	NO	4	1.0							1		2	
23	Octachlorostyrene	FORD MOTOR	0300	NO	4	0.1										
		GENERAL MOTORS	0900	NO	4	0.9	1	1.0	1	63	63	63				
		HALEY IND.	0200	NO	4	1.0							1		2	
23	Pentachlorobenzene	HALEY IND.	0200	IM	4	1.3							1	1.4	2	
		FORD MOTOR	0300	NO	4	0.5										
		GENERAL MOTORS	0900	NO	4	0.9	1	1.0	1	46	46	46				
24	2,3,7,8 TCDD	FORD MOTOR	0300	NO	2	0.5										

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24	2,3,7,8 TCDD	GENERAL MOTORS	0900	NO	2	0.5										
		HALEY IND.	0200	NO	2	1.0										
24	Octachlorodibenzofuran	GENERAL MOTORS	0900	NO	2	0.5										
		HALEY IND.	0200	NO	2	1.0										
24	Total H6CDD	FORD MOTOR	0300	NO	2	0.5										
		GENERAL MOTORS	0900	NO	2	0.4										
24	Total H6CDF	GENERAL MOTORS	0900	NO	2	0.5										
24	Total H7CDD	FORD MOTOR	0300	NO	2	0.5										
		GENERAL MOTORS	0900	NO	2	0.4										
24	Total H7CDF	FORD MOTOR	0300	NO	2	0.3										
		GENERAL MOTORS	0900	NO	2	0.5										
24	Total PCDD	FORD MOTOR	0300	NO	2	0.5										
		GENERAL MOTORS	0900	NO	2	0.5										
		HALEY IND.	0200	NO	2	1.0										
24	Total PCDF	FORD MOTOR	0300	NO	2	0.7										
		GENERAL MOTORS	0900	NO	2	0.5										
24	Total TCDD	FORD MOTOR	0300	NO	2	0.5										
		GENERAL MOTORS	0900	NO	2	0.5										
		HALEY IND.	0200	NO	2	1.0										
24	Total TCDF	GENERAL MOTORS	0900	NO	2	0.5										
26	Abietic Acid	CANADA PIPE	0100	NO	4	0.8										
		FORD MOTOR	0300	NO	11	1.0	4	1.0	4	1	6	13	4			
26	Chlorodehydroabietic Acid	CANADA PIPE	0100	NO	4	0.6										
		FORD MOTOR	0300	NO	11	1.0	4	1.0	4	6	29	75	4			
		GENERAL MOTORS	0900	NO	12	1.0	4	1.0	4	75	94	110	4			
26	Dehydroabietic Acid	GENERAL MOTORS	0900	IL	12	1.0	4	1.0	4	85	100	110	4			
		CANADA PIPE	0100	NO	4	0.8										
26	Dehydroabietic Acid	FORD MOTOR	0300	NO	11	1.0	4	1.0	3	7	34	77	4			
26	Isopimaric Acid	CANADA PIPE	0100	NO	4	0.6										

NOTE: A GLOSSARY OF TERMS USED IN THIS SUMMARY IS GIVEN AT THE END OF THIS REPORT.

APPENDIX IV
TABLE 2
QUALITY ASSURANCE AND QUALITY CONTROL ASSESSMENT SUMMARY
NON-CANDIDATE PARAMETERS

ATG	PARAMETER	PLANT	POINT	CLASS	TNS	MONAVR	GAATNS	GAAAVR	DAATNS	DAAMIRC	DAAAVRC	DAAMARC	FAATNS	FAAAVD	AAUTNS	AAUAVD
26	Isopimaric Acid	FORD MOTOR	0300	NO	11	1.0	4	1.0	4	1	21	49	4			
		GENERAL MOTORS	0900	NO	12	0.8	4	1.0	4	79	91	102	4			
26	Levopimaric Acid	CANADA PIPE	0100	NO	4	0.8										
		FORD MOTOR	0300	NO	11	1.0	4	1.0	4	1	11	38	4			
26	Neoabietic Acid	CANADA PIPE	0100	NO	4	0.4										
		FORD MOTOR	0300	NO	11	1.0	4	1.0	4		1	2	4			
26	Oleic Acid	CANADA PIPE	0100	NO	4	0.8										
		FORD MOTOR	0300	NO	11	1.2	4	1.4	4	5	35	81	4	0.4		
		GENERAL MOTORS	0900	NO	12	0.8	4	1.0	4	55	85	98	4			
26	Pimaric Acid	CANADA PIPE	0100	NO	4	0.6										
		FORD MOTOR	0300	NO	11	1.0	4	1.0	4	6	34	84	4			
		GENERAL MOTORS	0900	NO	12	0.8	4	0.8	4	55	81	102	4			
27	PCBT	CANADA PIPE	0100	NO	4	0.5										
		GENERAL MOTORS	0900	NO	12	0.4	4	0.3					4	0.1		
		HALEY IND.	0200	NO	12	0.5	5	0.5	3				4		4	

NOTE: A GLOSSARY OF TERMS USED IN THIS SUMMARY IS GIVEN AT THE END OF THIS REPORT.

APPENDIX V

EFFLUENT MONITORING DATA

APPENDIX V
TABLE 1

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

CANADA PIPE COMPANY LTD., HAMILTON

CONTROL POINT #: 0100 STREAM: CUPOLA SCRUBBER (FINAL)
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
1	Chemical Oxygen Demand	4	FH	100	100	75	3.10	80.00	28.28
2	Cyanide Total	4	FM	100	100	50	3.40	320.00	84.80
4a	Ammonia plus Ammonium	4	FM	75	75	50	.96	30.80	12.24
	Total Kjeldahl Nitrogen	4	FH	100	100	75	2.80	62.00	30.80
4b	Nitrate+Nitrite	4	FH	100	100	75	2.08	29.60	16.22
5a	DOC	12	FH	100	100	100	10.40	700.00	140.20
5b	TOC	3	FH	100	100	67	4.80	40.00	18.93
6	Total Phosphorus	4	FM	100	75	25	1.50	15.00	5.20
7	Specific Conductance	4	FH	100	100	100	94.00	5800.00	2633.50
8	Total Suspended Solids	42	FH	93	90	86	.84	8200.00	295.83
	Volatile Suspended Solids	4	IM	25	25	0	.40	3.00	1.23
9	Aluminum	12	FH	100	100	92	3.17	1100.00	185.01
	Beryllium	12	NO	0	0	0	.10	.50	.18
	Cadmium	12	FH	100	100	100	5.00	6500.00	1137.17
	Chromium	12	FM	67	58	17	.15	260.00	27.46
	Cobalt	12	IM	17	17	8	.10	16.50	1.94
	Copper	12	FH	100	92	83	1.50	1900.00	197.36
	Lead	12	FH	100	100	92	2.73	8000.00	1014.06
	Molybdenum	12	FM	83	67	42	.15	60.00	9.29
	Nickel	12	FL	50	25	17	.45	85.00	9.43
	Silver	12	IL	25	0	0	.10	1.50	.61
	Thallium	12	IL	17	8	0	.33	2.00	.61
	Vanadium	12	NO	8	8	0	.10	4.33	.53
	Zinc	12	FH	100	100	100	180.00	220000.00	31313.33
10	Antimony	4	FM	100	75	50	1.00	20.00	10.20
	Arsenic	4	FM	75	75	0	.80	4.60	2.65
	Selenium	4	FL	50	50	50	.60	30.00	10.20
11	Chromium (hexavalent)	1	NO	0	0	0	.90	.90	.90
12	Mercury	4	FM	75	75	50	.60	17.00	8.47
13	Tetra-alkyl lead (Total)	8	IL	38	0	0	.50	1.00	.69
	Tri-alkyl lead (Total)	8	IL	38	0	0	.50	1.00	.69
14	Phenolics (4AAP)	42	FH	100	100	88	2.00	320.00	36.61
15	Sulphide	4	FM	100	100	50	2.00	9.00	4.75
16	1,1,2,2-Tetrachloroethane	4	NO	0	0	0	.10	.10	.10
	1,1,2-Trichloroethane	4	NO	0	0	0	1.00	1.00	1.00
	1,1-Dichloroethane	4	NO	0	0	0	.63	.63	.63
	1,1-Dichloroethylene	4	NO	0	0	0	.14	.14	.14
	1,2-Dichlorobenzene	4	NO	0	0	0	.29	.29	.29
	1,2-Dichloroethane	4	NO	0	0	0	.50	.50	.50
	1,2-Dichloropropane	4	NO	0	0	0	.56	.56	.56
	1,3-Dichlorobenzene	4	NO	0	0	0	.27	.27	.27
	1,4-Dichlorobenzene	4	NO	0	0	0	.12	.12	.12
	Bromoform	4	IL	25	0	0	.10	1.38	.47

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 1 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

CANADA PIPE COMPANY LTD., HAMILTON

CONTROL POINT #: 0100 STREAM: CUPOLA SCRUBBER (FINAL)
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
16	Bromomethane	4	NO	0	0	0	.65	.65	.65
	Carbon Tetrachloride	4	NO	0	0	0	.23	.23	.23
	Chlorobenzene	4	NO	0	0	0	.86	.86	.86
	Chloroform	4	IM	25	25	0	.57	2.57	1.07
	Chloromethane	4	NO	0	0	0	.62	.62	.62
	Cis-1,3-Dichloropropylene	4	NO	0	0	0	.50	.50	.50
	Dibromochloromethane	4	NO	0	0	0	.36	.45	.39
	Ethylene Dibromide	4	NO	0	0	0	.60	.60	.60
	Methylene Chloride	4	NO	0	0	0	.23	.23	.23
	Tetrachloroethylene	4	NO	0	0	0	.18	.18	.18
	Trans-1,2-Dichloroethylene	4	NO	0	0	0	.29	.29	.29
	Trans-1,3-Dichloropropylene	4	NO	0	0	0	.79	.79	.79
	Trichloroethylene	4	NO	0	0	0	.16	.16	.16
	Trichlorofluoromethane	4	NO	0	0	0	.30	.30	.30
	Vinyl Chloride	4	NO	0	0	0	.72	.72	.72
17	Benzene	4	NO	0	0	0	.40	.40	.40
	Styrene	4	IL	25	0	0	.80	1.20	.90
	Toluene	4	NO	0	0	0	.80	.80	.80
	m-Xylene and p-Xylene	4	NO	0	0	0	.45	.45	.45
	o-Xylene	4	NO	0	0	0	.80	.80	.80
18	Acrolein	4	NO	0	0	0	.75	.75	.75
	Acrylonitrile	4	NO	0	0	0	.45	.45	.45
19	1-Chloronaphthalene	4	NO	0	0	0	.32	.32	.32
	1-Methylnaphthalene	4	NO	0	0	0	.69	.69	.69
	2,4-Dinitrotoluene	4	NO	0	0	0	.63	.63	.63
	2,6-Dinitrotoluene	4	IM	25	25	0	.86	3.43	1.50
	2-Chloronaphthalene	4	NO	0	0	0	.50	.50	.50
	2-Methylnaphthalene	4	NO	0	0	0	.68	.68	.68
	4-Bromophenyl Phenyl Ether	4	NO	0	0	0	1.00	1.00	1.00
	4-Chlorophenyl Phenyl Ether	4	NO	0	0	0	1.00	1.00	1.00
	5-Nitro, Acenaphthene	4	NO	0	0	0	.42	.42	.42
	Acenaphthene	4	NO	0	0	0	.54	.54	.54
	Acenaphthylene	4	NO	0	0	0	.29	.29	.29
	Anthracene	4	NO	0	0	0	.17	.17	.17
	Benzo(a)anthracene	4	NO	0	0	0	.40	.40	.40
	Benzo(a)pyrene	4	NO	0	0	0	.83	.83	.83
	Benzo(b)fluoranthene	4	NO	0	0	0	.57	.57	.57
	Benzo(g,h,i)perylene	4	NO	0	0	0	.57	.57	.57
	Benzo(k)fluoranthene	4	NO	0	0	0	.57	.57	.57
	Benzobutylphthalate	4	IL	25	0	0	1.00	1.00	1.00
	Biphenyl	4	NO	0	0	0	.67	.67	.67
	Bis(2-chloroethoxyl)methane	4	NO	0	0	0	.37	.37	.37

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 1 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

CANADA PIPE COMPANY LTD., HAMILTON

CONTROL POINT #: 0100 STREAM: CUPOLA SCRUBBER (FINAL)
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
19	Bis(2-chloroethyl)ether	4	NO	0	0	0	.41	.41	.41
	Bis(2-chloroisopropyl)ether	4	NO	0	0	0	.68	.68	.68
	Bis(2-ethylhexyl)phthalate	4	FL	50	0	0	.64	1.32	.97
	Camphene	4	NO	0	0	0	.29	.29	.29
	Chrysene	4	NO	0	0	0	1.00	1.00	1.00
	Di-n-butyl Phthalate	4	NO	0	0	0	.29	.37	.31
	Dibenz(a,h)anthracene	4	NO	0	0	0	.31	.31	.31
	Diphenyl Ether	4	NO	0	0	0	1.00	1.00	1.00
	Diphenylamine	4	NO	0	0	0	.14	.14	.14
	Fluoranthene	4	NO	0	0	0	.50	.75	.56
	Fluorene	4	NO	0	0	0	.18	.18	.18
	Indeno(1,2,3-cd)pyrene	4	NO	0	0	0	.46	.46	.46
	Indole	4	NO	0	0	0	.63	.63	.63
	N-Nitrosodi-n-propylamine	4	NO	0	0	0	.68	.68	.68
	N-Nitrosodiphenylamine	4	NO	0	0	0	.14	.14	.14
	Naphthalene	4	NO	0	0	0	.19	.19	.19
	Perylene	4	NO	0	0	0	.20	.20	.20
	Phenanthrene	4	IL	25	0	0	.75	1.75	1.00
	Pyrene	4	IL	25	0	0	.75	1.25	.87
20	2,3,4,5-Tetrachlorophenol	4	NO	0	0	0	1.00	1.00	1.00
	2,3,4,6-Tetrachlorophenol	4	NO	0	0	0	.25	.25	.25
	2,3,4-Trichlorophenol	4	IH	25	25	25	.83	14.67	4.29
	2,3,5,6-Tetrachlorophenol	4	NO	0	0	0	.44	.44	.44
	2,3,5-Trichlorophenol	4	NO	0	0	0	.31	.31	.31
	2,4,5-Trichlorophenol	4	NO	0	0	0	.46	.46	.46
	2,4,6-Trichlorophenol	4	NO	0	0	0	.92	.92	.92
	2,4-Dichlorophenol	4	NO	0	0	0	.71	.71	.71
	2,4-Dimethylphenol	4	NO	0	0	0	.23	.75	.36
	2,4-Dinitrophenol	4	NO	0	0	0	.11	.11	.11
	2,6-Dichlorophenol	4	NO	0	0	0	.55	.55	.55
	2-Chlorophenol	4	NO	0	0	0	.73	.73	.73
	4,6-Dinitro-o-cresol	4	NO	0	0	0	.10	.10	.10
	4-Chloro-3-methylphenol	4	NO	0	0	0	.93	.93	.93
	4-Nitrophenol	4	NO	0	0	0	1.00	1.00	1.00
	Pentachlorophenol	4	IL	25	0	0	.85	1.54	1.02
	Phenol	4	IH	25	25	25	.46	116.67	29.51
	m-Cresol	4	IH	25	25	25	.88	7.35	2.50
	o-Cresol	4	IH	25	25	25	.46	5.68	1.76
	p-Cresol	4	IH	25	25	25	1.00	7.14	2.54
25	Oil and Grease	41	FM	85	78	46	.96	36.00	7.18
26	Abietic Acid	4	NO	0	0	0	.80	.80	.80
	Chlorodehydroabietic Acid	4	NO	0	0	0	.60	.60	.60

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 1 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

CANADA PIPE COMPANY LTD., HAMILTON

CONTROL POINT #: 0100 STREAM: CUPOLA SCRUBBER (FINAL)
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
26	Dehydroabietic Acid	4	NO	0	0	0	.80	.80	.80
	Isopimaric Acid	4	NO	0	0	0	.60	.60	.60
	Levopimaric Acid	4	NO	0	0	0	.80	.80	.80
	Neoabietic Acid	4	NO	0	0	0	.40	.40	.40
	Oleic Acid	4	NO	0	0	0	.80	.80	.80
	Pimaric Acid	4	NO	0	0	0	.60	.60	.60
27	PCBT	4	NO	0	0	0	.50	.50	.50
MC1	Iron	12	FH	100	100	100	40.00	175000.00	16721.65
	Magnesium	12	FH	100	100	100	420.00	17000.00	3013.35
MC2	Fluoride	12	FH	100	100	100	14.00	1700.00	254.33

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 2

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

FORD MOTOR COMPANY OF CANADA, WINDSOR

CONTROL POINT #: 0100 STREAM: FINAL
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
1	Chemical Oxygen Demand	156	FL	69	35	3	1.00	7.70	1.84
2	Cyanide Total	12	FL	50	50	42	.60	13.80	4.60
4a	Ammonia plus Ammonium	12	FL	67	0	0	.12	1.56	1.02
	Total Kjeldahl Nitrogen	4	FL	100	50	0	1.32	3.58	2.27
4b	Nitrate+Nitrite	12	FM	100	83	17	1.36	6.16	3.18
5a	DOC	52	FH	100	98	67	1.80	16.20	6.80
5b	TOC	4	FL	75	0	0	.86	1.42	1.15
6	Total Phosphorus	52	NO	4	0	0	.10	1.40	.31
7	Specific Conductance	364	FH	100	100	100	45.60	109.60	64.91
8	Total Suspended Solids	364	FM	85	60	9	.20	31.20	2.70
	Volatile Suspended Solids	4	FL	50	25	0	.60	3.59	1.64
9	Aluminum	156	FH	99	99	94	.33	111.00	27.26
	Beryllium	156	IL	3	1	0	1.00	2.00	1.01
	Cadmium	156	IM	31	31	6	.50	12.50	1.63
	Chromium	156	IL	3	1	0	1.00	2.50	1.02
	Cobalt	156	IL	1	0	0	1.00	1.00	1.00
	Copper	156	IM	19	19	1	1.00	5.00	1.28
	Lead	156	FL	60	48	3	.33	7.00	1.79
	Molybdenum	156	FL	50	11	0	1.00	4.00	1.21
	Nickel	156	IL	4	2	0	1.00	2.50	1.03
	Silver	156	NO	1	0	0	.50	1.00	.51
	Thallium	156	NO	0	0	0	.17	.20	.17
	Vanadium	156	IL	3	1	0	.33	2.00	.38
	Zinc	156	FH	99	99	83	1.00	339.00	89.34
10	Antimony	4	NO	0	0	0	.20	.80	.35
	Arsenic	4	NO	0	0	0	.40	.60	.50
	Selenium	4	NO	0	0	0	.20	.60	.30
11	Chromium (hexavalent)	156	NO	0	0	0	1.00	1.00	1.00
12	Mercury	12	IL	33	8	0	1.00	2.00	1.08
14	Phenolics (4AAP)	360	FH	93	90	81	1.00	545.00	111.92
15	Sulphide	12	IL	17	0	0	1.00	1.00	1.00
16	1,1,2,2-Tetrachloroethane	11	NO	0	0	0	.19	.19	.19
	1,1,2-Trichloroethane	11	NO	0	0	0	.17	.17	.17
	1,1-Dichloroethane	11	NO	0	0	0	.13	.13	.13
	1,1-Dichloroethylene	11	NO	0	0	0	.10	.10	.10
	1,2-Dichlorobenzene	11	NO	0	0	0	.50	.50	.50
	1,2-Dichloroethane	11	NO	0	0	0	.19	.19	.19
	1,2-Dichloropropane	11	NO	0	0	0	.18	.18	.18
	1,3-Dichlorobenzene	11	NO	0	0	0	.18	.18	.18
	1,4-Dichlorobenzene	11	NO	0	0	0	.12	.12	.12
	Bromoform	11	NO	0	0	0	.10	.10	.10
	Bromomethane	11	NO	0	0	0	.10	.10	.10

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 2 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

FORD MOTOR COMPANY OF CANADA, WINDSOR

CONTROL POINT #: 0100 STREAM: FINAL
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
16	Carbon Tetrachloride	11	NO	0	0	0	.31	.31	.31
	Chlorobenzene	11	NO	0	0	0	.14	.14	.14
	Chloroform	11	NO	0	0	0	.14	.57	.19
	Chloromethane	11	NO	0	0	0	.10	.10	.10
	Cis-1,3-Dichloropropylene	11	NO	0	0	0	.14	.14	.14
	Dibromochloromethane	11	NO	0	0	0	.10	.10	.10
	Ethylene Dibromide	11	NO	0	0	0	.20	.20	.20
	Methylene Chloride	11	NO	9	9	9	.15	6.15	.76
	Tetrachloroethylene	11	NO	0	0	0	.27	.27	.27
	Trans-1,2-Dichloroethylene	11	NO	0	0	0	.10	.10	.10
	Trans-1,3-Dichloropropylene	11	NO	0	0	0	.11	.11	.11
	Trichloroethylene	11	NO	0	0	0	.10	.10	.10
	Trichlorofluoromethane	11	NO	0	0	0	1.00	1.00	1.00
	Vinyl Chloride	11	NO	0	0	0	.10	.10	.10
17	Benzene	11	IL	36	18	0	.20	2.00	.93
	Styrene	11	IL	27	0	0	.52	1.80	.77
	Toluene	11	FL	45	18	0	.12	2.00	.82
	m-Xylene and p-Xylene	11	NO	0	0	0	.10	.82	.27
	o-Xylene	11	NO	0	0	0	.20	.80	.27
18	Acrolein	11	NO	0	0	0	.25	.25	.25
	Acrylonitrile	11	NO	0	0	0	.12	.19	.16
19	1-Chloronaphthalene	12	NO	0	0	0	.20	.20	.20
	1-Methylnaphthalene	12	NO	0	0	0	.13	.47	.20
	2,4-Dinitrotoluene	12	NO	0	0	0	.50	.50	.50
	2,6-Dinitrotoluene	12	NO	0	0	0	.43	.43	.43
	2-Chloronaphthalene	12	NO	0	0	0	.22	.22	.22
	2-Methylnaphthalene	12	NO	0	0	0	.18	.50	.26
	4-Bromophenyl Phenyl Ether	12	NO	0	0	0	.67	.67	.67
	4-Chlorophenyl Phenyl Ether	12	NO	0	0	0	.44	.44	.44
	5-Nitro, Acenaphthene	12	NO	0	0	0	.10	.10	.10
	Acenaphthene	12	NO	0	0	0	.31	.31	.31
	Acenaphthylene	12	NO	0	0	0	.29	.29	.29
	Anthracene	12	NO	0	0	0	.42	.42	.42
	Benzo(a)anthracene	12	NO	0	0	0	.60	.60	.60
	Benzo(a)pyrene	12	NO	0	0	0	1.00	1.00	1.00
	Benzo(b)fluoranthene	12	NO	0	0	0	.86	.86	.86
	Benzo(g,h,i)perylene	12	NO	0	0	0	.86	.86	.86
	Benzo(k)fluoranthene	12	NO	0	0	0	.71	.71	.71
	Benzobutylphthalate	12	FL	67	42	17	1.00	7.33	2.81
	Biphenyl	12	NO	0	0	0	1.00	1.00	1.00
	Bis(2-chloroethoxyl)methane	12	NO	0	0	0	.11	.11	.11
	Bis(2-chloroethyl)ether	12	NO	0	0	0	.10	.10	.10

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 2 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

FORD MOTOR COMPANY OF CANADA, WINDSOR

CONTROL POINT #: 0100 STREAM: FINAL
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
19	Bis(2-chloroisopropyl)ether	12	NO	0	0	0	.18	.18	.18
	Bis(2-ethylhexyl)phthalate	12	IL	33	17	0	.68	2.59	1.13
	Camphene	12	NO	0	0	0	.10	.10	.10
	Chrysene	12	NO	0	0	0	1.00	1.00	1.00
	Di-n-butyl Phthalate	12	NO	8	0	0	.76	1.45	.84
	Dibenz(a,h)anthracene	12	NO	0	0	0	.62	.62	.62
	Diphenyl Ether	12	NO	0	0	0	1.00	1.00	1.00
	Diphenylamine	12	NO	0	0	0	.10	.10	.10
	Fluoranthene	12	NO	0	0	0	.50	.75	.54
	Fluorene	12	NO	0	0	0	.24	.41	.25
	Indeno(1,2,3-cd)pyrene	12	NO	0	0	0	.54	.54	.54
	Indole	12	NO	0	0	0	.79	.79	.79
	N-Nitrosodi-n-propylamine	12	NO	0	0	0	.13	.13	.13
	N-Nitrosodiphenylamine	12	NO	0	0	0	.10	.10	.10
	Naphthalene	12	NO	0	0	0	.31	.87	.36
	Perylene	12	NO	0	0	0	.73	.73	.73
	Phenanthrene	12	IL	17	0	0	1.00	1.75	1.08
	Pyrene	12	NO	8	8	0	.75	3.00	.94
20	2,3,4,5-Tetrachlorophenol	12	NO	0	0	0	1.00	1.00	1.00
	2,3,4,6-Tetrachlorophenol	12	NO	0	0	0	.36	.36	.36
	2,3,4-Trichlorophenol	12	NO	0	0	0	.67	.67	.67
	2,3,5,6-Tetrachlorophenol	12	NO	0	0	0	.94	.94	.94
	2,3,5-Trichlorophenol	12	NO	0	0	0	.31	.31	.31
	2,4,5-Trichlorophenol	12	NO	0	0	0	.38	.38	.38
	2,4,6-Trichlorophenol	12	NO	0	0	0	.38	.38	.38
	2,4-Dichlorophenol	12	NO	0	0	0	.29	.29	.29
	2,4-Dimethylphenol	12	IL	33	8	0	.10	3.97	.94
	2,4-Dinitrophenol	12	NO	0	0	0	.69	.69	.69
	2,6-Dichlorophenol	12	NO	0	0	0	.25	.25	.25
	2-Chlorophenol	12	NO	0	0	0	.16	.16	.16
	4,6-Dinitro-o-cresol	12	NO	0	0	0	.24	.24	.24
	4-Chloro-3-methylphenol	12	NO	0	0	0	.40	.40	.40
	4-Nitrophenol	12	NO	0	0	0	.36	.57	.38
	Pentachlorophenol	12	NO	0	0	0	.92	.92	.92
	Phenol	12	IH	17	17	17	.25	250.00	35.97
	m-Cresol	12	IL	17	8	0	.24	3.53	.61
	o-Cresol	12	IH	17	17	17	.32	19.73	3.42
	p-Cresol	12	IH	17	17	17	.31	8.57	1.48
23	1,2,3,4-Tetrachlorobenzene	4	NO	0	0	0	.50	.50	.50
	1,2,3,5-Tetrachlorobenzene	4	NO	0	0	0	.50	.50	.50
	1,2,3-Trichlorobenzene	4	NO	0	0	0	1.00	1.00	1.00
	1,2,4,5-Tetrachlorobenzene	4	NO	0	0	0	.50	.50	.50

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 2 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

FORD MOTOR COMPANY OF CANADA, WINDSOR

CONTROL POINT #: 0100 STREAM: FINAL
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
23	1,2,4-Trichlorobenzene	4	NO	0	0	0	1.00	1.00	1.00
	2,4,5-Trichlorotoluene	4	NO	0	0	0	1.00	1.00	1.00
	Hexachlorobenzene	4	NO	0	0	0	.10	.10	.10
	Hexachlorobutadiene	4	NO	0	0	0	.50	.50	.50
	Hexachlorocyclopentadiene	4	NO	0	0	0	.50	.50	.50
	Hexachloroethane	4	NO	0	0	0	.50	.50	.50
	Octachlorostyrene	4	NO	0	0	0	.10	.10	.10
	Pentachlorobenzene	4	NO	0	0	0	.50	.50	.50
24	2,3,7,8 TCDD	2	NO	0	0	0	.50	.50	.50
	Octachlorodibenzo-p-dioxin	2	FL	50	50	0	.67	2.00	1.33
	Octachlorodibenzofuran	2	FL	50	0	0	.67	1.67	1.17
	Total H6CDD	2	NO	0	0	0	.33	.33	.33
	Total H6CDF	2	NO	0	0	0	.50	.90	.70
	Total H7CDD	2	NO	0	0	0	.33	.67	.50
	Total H7CDF	2	NO	0	0	0	.33	.33	.33
	Total PCDD	2	NO	0	0	0	.50	.50	.50
	Total PCDF	2	FL	50	50	50	.67	6.20	3.40
	Total TCDD	2	NO	0	0	0	.50	.50	.50
	Total TCDF	2	FM	100	100	50	2.40	14.67	8.53
25	Oil and Grease	156	FL	47	38	6	1.00	25.00	2.20
26	Abietic Acid	12	NO	0	0	0	1.00	1.00	1.00
	Chlorodehydroabietic Acid	12	NO	0	0	0	1.00	1.00	1.00
	Dehydroabietic Acid	12	NO	0	0	0	1.00	1.00	1.00
	Isopimaric Acid	12	NO	0	0	0	1.00	1.00	1.00
	Levopimaric Acid	12	NO	0	0	0	1.00	1.00	1.00
	Neoabietic Acid	12	NO	0	0	0	1.00	1.00	1.00
	Oleic Acid	12	IM	17	17	8	1.00	7.20	1.60
	Pimaric Acid	12	NO	0	0	0	1.00	1.00	1.00
27	PCBT	12	IL	33	0	0	.20	1.20	.74
MC1	Iron	156	FH	99	98	97	1.00	101.00	29.95
	Magnesium	156	FH	100	100	99	4.50	685.00	458.05
MC2	Fluoride	156	FH	99	96	79	1.00	170.00	45.06

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RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 3

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

FORD MOTOR COMPANY OF CANADA, WINDSOR

CONTROL POINT #: 0300 STREAM: PROCESS
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
1	Chemical Oxygen Demand	151	FL	70	38	4	1.00	7.20	1.96
2	Cyanide Total	12	FH	58	58	58	.60	20.60	9.40
4a	Ammonia plus Ammonium	12	FM	92	67	0	.10	3.28	2.14
	Total Kjeldahl Nitrogen	4	FM	100	75	0	1.78	3.16	2.44
4b	Nitrate+Nitrite	12	FM	100	83	17	1.36	6.04	3.33
5a	DOC	50	FH	100	98	80	1.80	16.20	7.67
5b	TOC	4	FL	100	25	0	1.16	2.14	1.62
6	Total Phosphorus	50	NO	4	0	0	.10	1.30	.27
7	Specific Conductance	354	FH	100	100	100	24.00	85.80	60.44
8	Total Suspended Solids	354	FM	94	72	19	.20	37.60	3.73
	Volatile Suspended Solids	4	FL	50	25	0	.60	3.66	1.62
9	Aluminum	151	FH	99	99	99	.33	301.67	53.32
	Beryllium	151	IL	2	0	0	1.00	1.00	1.00
	Cadmium	151	FM	54	54	31	.50	15.50	3.51
	Chromium	151	IM	3	2	0	1.00	4.00	1.05
	Cobalt	151	NO	0	0	0	1.00	1.00	1.00
	Copper	151	FL	48	48	3	1.00	14.00	1.97
	Lead	151	FM	70	66	46	.33	15.33	4.33
	Molybdenum	151	IL	7	1	0	1.00	2.50	1.02
	Nickel	151	IL	3	1	0	1.00	2.50	1.02
	Silver	151	NO	1	0	0	.50	1.33	.51
	Thallium	151	NO	0	0	0	.17	.27	.17
	Vanadium	151	IL	4	1	0	.33	2.67	.38
	Zinc	151	FH	100	100	88	2.00	885.00	202.52
10	Antimony	4	IL	25	0	0	.20	1.40	.55
	Arsenic	4	NO	0	0	0	.40	.60	.55
	Selenium	4	NO	0	0	0	.20	.40	.30
11	Chromium (hexavalent)	151	NO	0	0	0	1.00	1.00	1.00
12	Mercury	12	IM	33	25	0	1.00	2.00	1.25
14	Phenolics (4AAP)	349	FH	94	90	82	1.00	845.00	271.54
15	Sulphide	12	IL	25	8	0	1.00	3.00	1.15
16	1,1,2,2-Tetrachloroethane	11	NO	0	0	0	.19	.19	.19
	1,1,2-Trichloroethane	11	NO	0	0	0	.17	.17	.17
	1,1-Dichloroethane	11	NO	0	0	0	.13	.13	.13
	1,1-Dichloroethylene	11	NO	0	0	0	.10	.10	.10
	1,2-Dichlorobenzene	11	NO	0	0	0	.50	.50	.50
	1,2-Dichloroethane	11	NO	0	0	0	.19	.19	.19
	1,2-Dichloropropane	11	NO	0	0	0	.18	.18	.18
	1,3-Dichlorobenzene	11	NO	0	0	0	.18	.18	.18
	1,4-Dichlorobenzene	11	NO	0	0	0	.12	.12	.12
	Bromoform	11	NO	0	0	0	.10	.10	.10
	Bromomethane	11	NO	0	0	0	.10	.10	.10

TNS = NUMBER OF VALID SAMPLES
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CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 3 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

FORD MOTOR COMPANY OF CANADA, WINDSOR

CONTROL POINT #: 0300 STREAM: PROCESS
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
16	Carbon Tetrachloride	11	NO	0	0	0	.31	.31	.31
	Chlorobenzene	11	NO	0	0	0	.14	.14	.14
	Chloroform	11	NO	0	0	0	.14	.14	.14
	Chloromethane	11	NO	0	0	0	.10	.10	.10
	Cis-1,3-Dichloropropylene	11	NO	0	0	0	.14	.14	.14
	Dibromochloromethane	11	NO	0	0	0	.10	.10	.10
	Ethylene Dibromide	11	NO	0	0	0	.20	.20	.20
	Methylene Chloride	11	IH	18	9	9	.15	6.92	.94
	Tetrachloroethylene	11	NO	0	0	0	.27	.27	.27
	Trans-1,2-Dichloroethylene	11	NO	0	0	0	.10	.10	.10
	Trans-1,3-Dichloropropylene	11	NO	0	0	0	.11	.11	.11
	Trichloroethylene	11	NO	0	0	0	.10	.10	.10
	Trichlorofluoromethane	11	NO	0	0	0	1.00	1.00	1.00
	Vinyl Chloride	11	NO	0	0	0	.10	.10	.10
17	Benzene	11	FL	73	36	0	.20	4.00	2.15
	Styrene	11	IM	36	27	0	.52	4.00	1.48
	Toluene	11	FL	64	27	0	.12	4.00	1.36
	m-Xylene and p-Xylene	11	NO	0	0	0	.10	.45	.26
	o-Xylene	11	NO	0	0	0	.20	.60	.33
18	Acrolein	11	NO	0	0	0	.25	.25	.25
	Acrylonitrile	11	NO	9	0	0	.17	1.19	.34
19	1-Chloronaphthalene	12	NO	0	0	0	.20	.20	.20
	1-Methylnaphthalene	12	FL	42	8	0	.13	2.09	.96
	2,4-Dinitrotoluene	12	NO	0	0	0	.50	.63	.51
	2,6-Dinitrotoluene	12	IL	17	8	0	.43	4.71	.85
	2-Chloronaphthalene	12	NO	0	0	0	.22	.22	.22
	2-Methylnaphthalene	12	FL	50	17	0	.18	2.32	1.08
	4-Bromophenyl Phenyl Ether	12	NO	0	0	0	.67	.67	.67
	4-Chlorophenyl Phenyl Ether	12	NO	0	0	0	.44	.44	.44
	5-Nitro, Acenaphthene	12	NO	0	0	0	.10	.19	.11
	Acenaphthene	12	NO	0	0	0	.31	.38	.31
	Acenaphthylene	12	NO	0	0	0	.29	.29	.29
	Anthracene	12	NO	0	0	0	.42	.58	.43
	Benzo(a)anthracene	12	NO	0	0	0	.60	.60	.60
	Benzo(a)pyrene	12	NO	0	0	0	1.00	1.00	1.00
	Benzo(b)fluoranthene	12	NO	0	0	0	.86	.86	.86
	Benzo(g,h,i)perylene	12	NO	0	0	0	.86	.86	.86
	Benzo(k)fluoranthene	12	NO	0	0	0	.71	.71	.71
	Benzobutylphthalate	12	FM	75	67	50	1.00	21.67	7.26
	Biphenyl	12	IL	33	0	0	1.00	1.83	1.22
	Bis(2-chloroethoxyl)methane	12	NO	0	0	0	.11	.11	.11
	Bis(2-chloroethyl)ether	12	NO	0	0	0	.10	.10	.10

TNS = NUMBER OF VALID SAMPLES
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RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 3 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

FORD MOTOR COMPANY OF CANADA, WINDSOR

CONTROL POINT #: 0300 STREAM: PROCESS
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
19	Bis(2-chloroisopropyl)ether	12	NO	0	0	0	.18	.18	.18
	Bis(2-ethylhexyl)phthalate	12	FL	50	25	8	.68	5.73	1.65
	Camphene	12	NO	0	0	0	.10	.10	.10
	Chrysene	12	NO	8	0	0	1.00	1.67	1.06
	Di-n-butyl Phthalate	12	FL	42	8	0	.29	2.05	1.12
	Dibenz(a,h)anthracene	12	NO	0	0	0	.62	.62	.62
	Diphenyl Ether	12	NO	0	0	0	1.00	1.00	1.00
	Diphenylamine	12	NO	0	0	0	.10	.25	.11
	Fluoranthene	12	FL	42	25	0	.50	3.25	1.17
	Fluorene	12	NO	8	0	0	.24	1.00	.42
	Indeno(1,2,3-cd)pyrene	12	NO	0	0	0	.54	.54	.54
	Indole	12	NO	0	0	0	.79	.79	.79
	N-Nitrosodi-n-propylamine	12	NO	0	0	0	.13	.13	.13
	N-Nitrosodiphenylamine	12	NO	0	0	0	.10	.10	.10
	Naphthalene	50	FL	58	24	0	.31	3.62	1.25
	Perylene	12	NO	0	0	0	.73	.73	.73
	Phenanthrene	50	FM	74	66	42	1.00	10.75	4.05
	Pyrene	12	IL	25	8	0	.75	2.75	1.08
20	2,3,4,5-Tetrachlorophenol	12	NO	0	0	0	1.00	1.00	1.00
	2,3,4,6-Tetrachlorophenol	12	NO	0	0	0	.36	.36	.36
	2,3,4-Trichlorophenol	12	NO	0	0	0	.67	.67	.67
	2,3,5,6-Tetrachlorophenol	12	NO	0	0	0	.94	.94	.94
	2,3,5-Trichlorophenol	12	NO	0	0	0	.31	.31	.31
	2,4,5-Trichlorophenol	12	NO	0	0	0	.38	.38	.38
	2,4,6-Trichlorophenol	12	NO	0	0	0	.38	.38	.38
	2,4-Dichlorophenol	12	NO	0	0	0	.29	.29	.29
	2,4-Dimethylphenol	12	FM	92	92	33	.10	7.81	4.24
	2,4-Dinitrophenol	12	NO	0	0	0	.69	.69	.69
	2,6-Dichlorophenol	12	NO	0	0	0	.25	.25	.25
	2-Chlorophenol	12	NO	0	0	0	.16	.16	.16
	4,6-Dinitro-o-cresol	12	NO	0	0	0	.24	.24	.24
	4-Chloro-3-methylphenol	12	NO	0	0	0	.40	.40	.40
	4-Nitrophenol	12	NO	0	0	0	.36	.93	.45
	Pentachlorophenol	12	NO	8	8	0	.92	3.69	1.15
	Phenol	12	FH	92	92	92	.25	625.00	247.59
	m-Cresol	12	FM	92	92	50	.24	9.12	5.30
	o-Cresol	12	FH	92	92	92	.32	75.68	35.48
	p-Cresol	12	FH	92	92	92	.31	18.57	10.10
23	1,2,3,4-Tetrachlorobenzene	4	NO	0	0	0	.50	.50	.50
	1,2,3,5-Tetrachlorobenzene	4	NO	0	0	0	.50	.50	.50
	1,2,3-Trichlorobenzene	4	NO	0	0	0	1.00	1.00	1.00
	1,2,4,5-Tetrachlorobenzene	4	NO	0	0	0	.50	.50	.50

TNS = NUMBER OF VALID SAMPLES
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APPENDIX V
TABLE 3 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

FORD MOTOR COMPANY OF CANADA, WINDSOR

CONTROL POINT #: 0300 STREAM: PROCESS
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
23	1,2,4-Trichlorobenzene	4	NO	0	0	0	1.00	1.00	1.00
	2,4,5-Trichlorotoluene	4	NO	0	0	0	1.00	1.00	1.00
	Hexachlorobenzene	4	NO	0	0	0	.10	.10	.10
	Hexachlorobutadiene	4	NO	0	0	0	.50	.50	.50
	Hexachlorocyclopentadiene	4	NO	0	0	0	.50	.50	.50
	Hexachloroethane	4	NO	0	0	0	.50	.50	.50
	Octachlorostyrene	4	NO	0	0	0	.10	.10	.10
	Pentachlorobenzene	4	NO	0	0	0	.50	.50	.50
24	2,3,7,8 TCDD	2	NO	0	0	0	.50	.50	.50
	Octachlorodibenzo-p-dioxin	2	FL	100	50	0	1.33	3.00	2.17
	Octachlorodibenzofuran	2	FL	50	50	0	.67	3.00	1.83
	Total H6CDD	2	NO	0	0	0	.33	.67	.50
	Total H6CDF	2	FL	50	0	0	.50	1.00	.75
	Total H7CDD	2	NO	0	0	0	.33	.67	.50
	Total H7CDF	2	NO	0	0	0	.33	.33	.33
	Total PCDD	2	NO	0	0	0	.50	.50	.50
	Total PCDF	2	NO	0	0	0	.67	.67	.67
	Total TCDD	2	NO	0	0	0	.50	.50	.50
	Total TCDF	2	FM	100	100	50	3.00	6.27	4.67
25	Oil and Grease	151	FL	46	36	5	1.00	24.00	2.00
26	Abietic Acid	11	NO	0	0	0	1.00	1.00	1.00
	Chlorodehydroabietic Acid	11	NO	0	0	0	1.00	1.00	1.00
	Dehydroabietic Acid	11	NO	0	0	0	1.00	1.00	1.00
	Isopimaric Acid	11	NO	0	0	0	1.00	1.00	1.00
	Levopimaric Acid	11	NO	0	0	0	1.00	1.00	1.00
	Neoabietic Acid	11	NO	9	0	0	1.00	1.80	1.00
	Oleic Acid	11	NO	9	9	0	1.00	3.00	1.20
	Pimaric Acid	11	NO	0	0	0	1.00	1.00	1.00
27	PCBT	12	FL	58	17	0	.20	2.70	1.23
MC1	Iron	151	FH	99	99	99	1.00	154.00	58.45
	Magnesium	151	FH	100	100	100	270.00	715.00	468.65
MC2	Fluoride	151	FH	99	97	89	1.00	350.00	82.68

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 4

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

FORD MOTOR COMPANY OF CANADA, WINDSOR

CONTROL POINT #: 0500 STREAM: COMBINED EMERGENCY OVERFLOW
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
1	Chemical Oxygen Demand	4	FM	100	75	0	1.40	3.00	2.35
5b	TOC	4	IL	25	0	0	.48	1.34	.91
8	Total Suspended Solids	4	FL	100	25	25	1.20	11.20	3.85
14	Phenolics (4AAP)	4	FH	100	75	75	1.00	172.00	104.13
19	Naphthalene	4	NO	0	0	0	.31	.44	.34
	Phenanthrene	4	FL	50	0	0	1.00	1.75	1.19
25	Oil and Grease	4	FH	100	100	75	2.00	6.00	5.00
27	PCBT	4	FL	50	0	0	.20	1.70	.87
MC1	Iron	4	FH	100	100	100	33.50	210.50	108.90
	Magnesium	4	FH	100	100	100	313.50	535.00	433.10
MC2	Fluoride	4	FH	100	100	75	2.00	92.00	44.25

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 5

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

GENERAL MOTORS OF CANADA, ST.CATHARINES

CONTROL POINT #: 0900 STREAM: FOUNDARY PROCESS
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
1	Chemical Oxygen Demand	153	FL	73	42	1	.30	9.70	1.86
2	Cyanide Total	12	FL	50	25	0	.60	4.80	1.40
4a	Ammonia plus Ammonium	12	FM	92	83	33	.86	8.08	4.28
	Total Kjeldahl Nitrogen	4	FM	100	100	25	3.02	6.88	4.07
4b	Nitrate+Nitrite	10	FM	90	60	0	.80	2.72	1.84
5a	DOC	51	FH	100	98	55	1.60	30.00	6.42
5b	TOC	4	NO	0	0	0	.40	.78	.61
6	Total Phosphorus	50	IM	14	8	4	.10	41.00	1.75
7	Specific Conductance	339	FH	100	100	100	52.00	639.00	71.76
8	Total Suspended Solids	344	FL	40	22	8	.20	19.60	1.77
	Volatile Suspended Solids	4	NO	0	0	0	.20	.20	.20
9	Aluminum	153	FH	99	99	93	.10	139.33	22.01
	Beryllium	153	IM	1	1	0	.10	3.13	.14
	Cadmium	153	IL	25	8	1	.55	39.50	1.34
	Chromium	154	IH	16	10	7	.10	23.70	1.39
	Cobalt	154	NO	0	0	0	.10	.25	.11
	Copper	153	IL	7	2	1	.10	5.50	.48
	Lead	153	FL	61	33	5	.10	16.50	1.86
	Molybdenum	154	NO	0	0	0	.10	.55	.14
	Nickel	154	IM	10	8	4	.25	12.75	.80
	Silver	154	NO	0	0	0	.10	.27	.10
	Thallium	154	IL	4	0	0	.53	1.33	.80
	Vanadium	153	NO	0	0	0	.10	.35	.11
	Zinc	153	FH	99	99	99	.10	299.00	66.12
10	Antimony	4	IL	25	0	0	.18	1.80	.65
	Arsenic	4	NO	0	0	0	.40	.42	.40
	Selenium	4	NO	0	0	0	.80	.80	.80
12	Mercury	12	NO	8	0	0	.80	1.80	.88
14	Phenolics (4AAP)	343	FH	92	85	73	.10	400.00	38.84
15	Sulphide	12	NO	0	0	0	.50	.65	.50
16	1,1,2,2-Tetrachloroethane	12	NO	0	0	0	.72	.72	.72
	1,1,2-Trichloroethane	12	NO	0	0	0	.83	.83	.83
	1,1-Dichloroethane	12	NO	0	0	0	1.00	1.00	1.00
	1,1-Dichloroethylene	12	NO	0	0	0	.43	.43	.43
	1,2-Dichlorobenzene	12	NO	0	0	0	.64	.64	.64
	1,2-Dichloroethane	12	NO	0	0	0	1.00	1.00	1.00
	1,2-Dichloropropane	12	NO	0	0	0	.89	.89	.89
	1,3-Dichlorobenzene	12	NO	0	0	0	1.00	1.00	1.00
	1,4-Dichlorobenzene	12	NO	0	0	0	.65	.65	.65
	Bromoform	12	NO	0	0	0	.70	.70	.70
	Bromomethane	12	NO	0	0	0	.49	.49	.49
	Carbon Tetrachloride	12	NO	0	0	0	.62	.62	.62

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 5 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

GENERAL MOTORS OF CANADA, ST.CATHARINES

CONTROL POINT #: 0900 STREAM: FOUNDARY PROCESS
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
16	Chlorobenzene	12	NO	0	0	0	.86	.86	.86
	Chloroform	12	FL	42	8	0	.57	2.71	1.23
	Chloromethane	12	NO	0	0	0	.32	.32	.32
	Cis-1,3-Dichloropropylene	12	NO	0	0	0	.71	.71	.71
	Dibromochloromethane	12	NO	0	0	0	.73	.73	.73
	Ethylene Dibromide	12	NO	0	0	0	.80	.80	.80
	Methylene Chloride	12	IM	17	17	0	.92	2.92	1.24
	Tetrachloroethylene	12	NO	0	0	0	.64	.64	.64
	Trans-1,2-Dichloroethylene	12	NO	0	0	0	1.00	1.00	1.00
	Trans-1,3-Dichloropropylene	12	NO	0	0	0	.64	.64	.64
	Trichloroethylene	12	NO	0	0	0	.68	.68	.68
	Trichlorofluoromethane	12	NO	0	0	0	1.00	1.00	1.00
	Vinyl Chloride	12	NO	0	0	0	.45	.45	.45
17	Benzene	12	FL	75	50	0	.80	3.40	1.90
	Styrene	12	NO	0	0	0	1.00	1.00	1.00
	Toluene	12	FL	50	17	0	1.00	2.60	1.35
	m-Xylene and p-Xylene	12	IH	33	8	8	.91	9.55	1.75
	o-Xylene	12	IL	17	8	0	1.00	3.00	1.17
18	Acrolein	12	NO	0	0	0	.85	.85	.85
	Acrylonitrile	12	NO	0	0	0	.69	.69	.69
19	1-Chloronaphthalene	12	NO	0	0	0	.24	.24	.24
	1-Methylnaphthalene	12	NO	0	0	0	.13	.31	.16
	2,4-Dinitrotoluene	12	NO	0	0	0	1.00	1.00	1.00
	2,6-Dinitrotoluene	12	NO	0	0	0	1.00	1.00	1.00
	2-Chloronaphthalene	12	NO	0	0	0	.44	.44	.44
	2-Methylnaphthalene	12	NO	0	0	0	.32	.77	.42
	4-Bromophenyl Phenyl Ether	12	NO	0	0	0	1.00	1.00	1.00
	4-Chlorophenyl Phenyl Ether	12	NO	0	0	0	.56	.56	.56
	5-Nitro, Acenaphthene	12	NO	0	0	0	.23	.23	.23
	Acenaphthene	12	NO	0	0	0	.85	.85	.85
	Acenaphthylene	12	NO	0	0	0	.57	.57	.57
	Anthracene	12	NO	0	0	0	.33	1.00	.89
	Benzo(a)anthracene	12	NO	0	0	0	.40	.40	.40
	Benzo(a)pyrene	12	NO	0	0	0	1.00	1.00	1.00
	Benzo(b)fluoranthene	12	NO	0	0	0	1.00	1.00	1.00
	Benzo(g,h,i)perylene	12	NO	0	0	0	1.00	1.00	1.00
	Benzo(k)fluoranthene	12	NO	0	0	0	1.00	1.00	1.00
	Benzobutylphthalate	12	NO	0	0	0	.67	.67	.67
	Biphenyl	12	NO	0	0	0	.67	.83	.68
	Bis(2-chloroethoxyl)methane	12	NO	0	0	0	.40	.40	.40
	Bis(2-chloroethyl)ether	12	NO	0	0	0	.36	.36	.36
	Bis(2-chloroisopropyl)ether	12	NO	0	0	0	.50	.50	.50

TNS = NUMBER OF VALID SAMPLES
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CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 5 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

GENERAL MOTORS OF CANADA, ST.CATHARINES

CONTROL POINT #: 0900 STREAM: FOUNDARY PROCESS
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
19	Bis(2-ethylhexyl)phthalate	12	IM	33	33	17	.68	9.95	2.22
	Camphene	12	NO	0	0	0	.60	.60	.60
	Chrysene	12	NO	0	0	0	.67	.67	.67
	Di-n-butyl Phthalate	12	IL	17	0	0	.32	1.58	.58
	Dibenz(a,h)anthracene	12	NO	0	0	0	.62	.62	.62
	Diphenyl Ether	12	NO	0	0	0	1.00	1.00	1.00
	Diphenylamine	12	NO	0	0	0	.10	.10	.10
	Fluoranthene	12	NO	0	0	0	1.00	1.00	1.00
	Fluorene	12	NO	0	0	0	.71	.71	.71
	Indeno(1,2,3-cd)pyrene	12	NO	0	0	0	.77	.77	.77
	Indole	12	NO	0	0	0	.32	.32	.32
	N-Nitrosodi-n-propylamine	12	NO	0	0	0	.65	.65	.65
	N-Nitrosodiphenylamine	12	NO	0	0	0	.10	.10	.10
	Naphthalene	50	NO	6	0	0	.94	1.19	.95
	Perylene	12	NO	0	0	0	.67	.67	.67
	Phenanthrene	50	IL	14	6	0	1.00	2.50	1.10
	Pyrene	12	NO	0	0	0	.75	.75	.75
20	2,3,4,5-Tetrachlorophenol	12	NO	0	0	0	1.00	1.00	1.00
	2,3,4,6-Tetrachlorophenol	12	NO	0	0	0	.29	.29	.29
	2,3,4-Trichlorophenol	12	NO	0	0	0	.83	.83	.83
	2,3,5,6-Tetrachlorophenol	12	NO	0	0	0	.63	.63	.63
	2,3,5-Trichlorophenol	12	NO	0	0	0	.38	.38	.38
	2,4,5-Trichlorophenol	12	NO	0	0	0	.46	.46	.46
	2,4,6-Trichlorophenol	12	NO	0	0	0	.38	.38	.38
	2,4-Dichlorophenol	12	NO	0	0	0	.59	.59	.59
	2,4-Dimethylphenol	12	FL	50	42	17	.15	13.58	2.88
	2,4-Dinitrophenol	12	NO	0	0	0	.10	.10	.10
	2,6-Dichlorophenol	12	NO	0	0	0	.25	.25	.25
	2-Chlorophenol	12	NO	0	0	0	.27	.27	.27
	4,6-Dinitro-o-cresol	12	NO	0	0	0	.10	.10	.10
	4-Chloro-3-methylphenol	12	NO	0	0	0	.47	.47	.47
	4-Nitrophenol	12	NO	0	0	0	.29	.29	.29
	Pentachlorophenol	12	NO	0	0	0	.54	.54	.54
	Phenol	12	IH	33	33	25	.38	11.33	2.50
	m-Cresol	12	FL	42	33	8	.24	10.24	1.86
	o-Cresol	12	FL	58	50	50	.19	37.84	7.97
	p-Cresol	12	FL	42	25	8	.23	9.97	1.81
23	1,2,3,4-Tetrachlorobenzene	4	NO	0	0	0	.50	1.00	.90
	1,2,3,5-Tetrachlorobenzene	4	NO	0	0	0	.50	1.00	.90
	1,2,3-Trichlorobenzene	4	IM	25	25	0	.50	2.00	1.10
	1,2,4,5-Tetrachlorobenzene	4	NO	0	0	0	.50	1.00	.90
	1,2,4-Trichlorobenzene	4	IM	25	25	0	.50	2.00	1.10

TNS = NUMBER OF VALID SAMPLES
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CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 5 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

GENERAL MOTORS OF CANADA, ST.CATHARINES

CONTROL POINT #: 0900 STREAM: FOUNDARY PROCESS
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
23	2,4,5-Trichlorotoluene	4	IL	25	0	0	.50	1.00	.90
	Hexachlorobenzene	4	NO	0	0	0	.50	1.00	.90
	Hexachlorobutadiene	4	NO	0	0	0	.50	1.00	.90
	Hexachlorocyclopentadiene	4	NO	0	0	0	1.00	1.00	1.00
	Hexachloroethane	4	NO	0	0	0	.50	1.00	.90
	Octachlorostyrene	4	NO	0	0	0	.50	1.00	.90
	Pentachlorobenzene	4	NO	0	0	0	.50	1.00	.90
24	2,3,7,8 TCDD	2	NO	0	0	0	.10	.75	.45
	Octachlorodibenzo-p-dioxin	2	FL	50	0	0	.33	1.33	.83
	Octachlorodibenzofuran	2	NO	0	0	0	.10	.87	.47
	Total H6CDD	2	NO	0	0	0	.10	.70	.40
	Total H6CDF	2	NO	0	0	0	.10	.90	.50
	Total H7CDD	2	NO	0	0	0	.10	.70	.40
	Total H7CDF	2	NO	0	0	0	.10	.83	.47
	Total PCDD	2	NO	0	0	0	.10	.90	.50
	Total PCDF	2	NO	0	0	0	.07	.87	.47
	Total TCDD	2	NO	0	0	0	.10	.75	.45
	Total TCDF	2	NO	0	0	0	.07	.80	.47
25	Oil and Grease	151	FL	55	23	2	1.00	6.00	1.43
26	Abietic Acid	12	FL	50	0	0	.60	2.00	1.40
	Chlorodehydroabietic Acid	12	NO	0	0	0	.60	1.00	1.00
	Dehydroabietic Acid	12	IL	17	0	0	.60	1.80	1.00
	Isopimaric Acid	12	NO	0	0	0	.60	1.00	.80
	Levopimaric Acid	12	FL	67	0	0	1.00	2.00	1.60
	Neoabietic Acid	12	FL	83	0	0	1.00	2.00	1.80
	Oleic Acid	12	NO	0	0	0	.60	1.00	.80
	Pimaric Acid	12	NO	0	0	0	.60	1.00	.80
27	PCBT	12	NO	8	0	0	.20	1.40	.41
MC1	Iron	153	FH	100	99	86	1.50	249.00	36.40
	Magnesium	153	FH	100	100	100	18.50	790.00	456.20
MC2	Fluoride	12	FM	100	75	0	1.40	4.90	2.79

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 6

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

GENERAL MOTORS OF CANADA, ST.CATHARINES

CONTROL POINT #: 1000 STREAM: FOUNDARY COMBINED
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
1	Chemical Oxygen Demand	52	FL	79	42	2	.70	5.10	1.92
2	Cyanide Total	12	FL	50	0	0	.20	1.60	1.00
4a	Ammonia plus Ammonium	12	FM	92	58	0	.43	3.60	2.24
	Total Kjeldahl Nitrogen	4	FM	100	100	25	2.54	5.06	3.25
4b	Nitrate+Nitrite	3	FL	67	33	0	.80	2.44	1.61
5a	DOC	52	FH	98	96	58	.80	17.60	6.07
5b	TOC	4	NO	0	0	0	.34	.86	.59
6	Total Phosphorus	52	IL	21	10	4	.10	9.00	.82
7	Specific Conductance	151	FH	100	100	100	47.20	88.60	70.04
8	Total Suspended Solids	153	FL	50	22	10	.40	112.20	2.92
	Volatile Suspended Solids	4	IL	25	0	0	.20	1.00	.45
9	Aluminum	52	FH	100	100	98	4.33	177.67	17.92
	Beryllium	52	NO	0	0	0	.10	.50	.11
	Cadmium	52	IL	19	4	0	.55	3.00	.93
	Chromium	52	IM	19	12	4	.10	6.90	.81
	Cobalt	52	NO	2	0	0	.10	1.45	.13
	Copper	52	NO	6	2	0	.20	4.20	.57
	Lead	52	IH	29	2	2	.33	12.00	.97
	Molybdenum	52	NO	2	0	0	.10	1.51	.17
	Nickel	52	IM	13	10	2	.25	7.75	.65
	Silver	52	NO	0	0	0	.10	.10	.10
	Thallium	52	NO	2	0	0	.60	1.67	.81
	Vanadium	52	NO	0	0	0	.10	.96	.12
	Zinc	52	FH	100	100	98	3.46	341.00	38.67
10	Antimony	4	NO	0	0	0	.14	.80	.39
	Arsenic	4	NO	0	0	0	.40	.42	.40
	Selenium	4	IM	25	25	0	.80	2.00	1.10
12	Mercury	4	NO	0	0	0	.80	.80	.80
14	Phenolics (4AAP)	152	FH	95	84	63	.50	200.00	25.47
15	Sulphide	4	NO	0	0	0	.50	.65	.55
16	1,1,2,2-Tetrachloroethane	4	NO	0	0	0	.72	.72	.72
	1,1,2-Trichloroethane	4	NO	0	0	0	.83	.83	.83
	1,1-Dichloroethane	4	NO	0	0	0	1.00	1.00	1.00
	1,1-Dichloroethylene	4	NO	0	0	0	.43	.43	.43
	1,2-Dichlorobenzene	4	NO	0	0	0	.64	.64	.64
	1,2-Dichloroethane	4	NO	0	0	0	1.00	1.00	1.00
	1,2-Dichloropropane	4	NO	0	0	0	.89	.89	.89
	1,3-Dichlorobenzene	4	NO	0	0	0	1.00	1.00	1.00
	1,4-Dichlorobenzene	4	NO	0	0	0	.65	.65	.65
	Bromoform	4	NO	0	0	0	.70	.70	.70
	Bromomethane	4	NO	0	0	0	.49	.49	.49
	Carbon Tetrachloride	4	NO	0	0	0	.62	.62	.62

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 6 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

GENERAL MOTORS OF CANADA, ST.CATHARINES

CONTROL POINT #: 1000 STREAM: FOUNDARY COMBINED
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
16	Chlorobenzene	4	NO	0	0	0	.86	.86	.86
	Chloroform	4	FL	50	0	0	1.00	1.43	1.14
	Chloromethane	4	NO	0	0	0	.32	.32	.32
	Cis-1,3-Dichloropropylene	4	NO	0	0	0	.71	.71	.71
	Dibromochloromethane	4	NO	0	0	0	.73	.73	.73
	Ethylene Dibromide	4	NO	0	0	0	.80	.80	.80
	Methylene Chloride	4	IH	25	25	25	.92	5.15	1.98
	Tetrachloroethylene	4	NO	0	0	0	.64	.64	.64
	Trans-1,2-Dichloroethylene	4	NO	0	0	0	1.00	1.00	1.00
	Trans-1,3-Dichloropropylene	4	NO	0	0	0	.64	.64	.64
	Trichloroethylene	4	NO	0	0	0	.68	.68	.68
	Trichlorofluoromethane	4	NO	0	0	0	1.00	1.00	1.00
	Vinyl Chloride	4	NO	0	0	0	.45	.45	.45
17	Benzene	2	NO	0	0	0	.80	.80	.80
	Styrene	4	NO	0	0	0	1.00	1.00	1.00
	Toluene	4	NO	0	0	0	1.00	1.00	1.00
	m-Xylene and p-Xylene	4	NO	0	0	0	.91	.91	.91
	o-Xylene	4	NO	0	0	0	1.00	1.00	1.00
18	Acrolein	4	NO	0	0	0	.85	.85	.85
	Acrylonitrile	4	NO	0	0	0	.69	.69	.69
19	1-Chloronaphthalene	12	NO	0	0	0	.24	.24	.24
	1-Methylnaphthalene	12	NO	0	0	0	.13	.19	.13
	2,4-Dinitrotoluene	12	NO	0	0	0	1.00	1.00	1.00
	2,6-Dinitrotoluene	12	NO	0	0	0	1.00	1.00	1.00
	2-Chloronaphthalene	12	NO	0	0	0	.44	.44	.44
	2-Methylnaphthalene	12	NO	0	0	0	.32	.77	.44
	4-Bromophenyl Phenyl Ether	12	NO	0	0	0	1.00	1.00	1.00
	4-Chlorophenyl Phenyl Ether	12	NO	0	0	0	.56	.56	.56
	5-Nitro, Acenaphthene	12	NO	0	0	0	.23	.23	.23
	Acenaphthene	12	NO	0	0	0	.85	.85	.85
	Acenaphthylene	12	NO	0	0	0	.57	.57	.57
	Anthracene	12	NO	0	0	0	.33	1.00	.83
	Benzo(a)anthracene	12	NO	0	0	0	.40	.40	.40
	Benzo(a)pyrene	12	NO	0	0	0	1.00	1.00	1.00
	Benzo(b)fluoranthene	12	NO	0	0	0	1.00	1.00	1.00
	Benzo(g,h,i)perylene	12	NO	0	0	0	1.00	1.00	1.00
	Benzo(k)fluoranthene	12	NO	0	0	0	1.00	1.00	1.00
	Benzobutylphthalate	12	NO	0	0	0	.67	.67	.67
	Biphenyl	12	NO	0	0	0	.67	.67	.67
	Bis(2-chloroethoxyl)methane	12	NO	0	0	0	.40	.40	.40
	Bis(2-chloroethyl)ether	12	NO	0	0	0	.36	.36	.36
	Bis(2-chloroisopropyl)ether	12	NO	0	0	0	.50	.50	.50

TNS = NUMBER OF VALID SAMPLES
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CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 6 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

GENERAL MOTORS OF CANADA, ST.CATHARINES

CONTROL POINT #: 1000 STREAM: FOUNDARY COMBINED
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
19	Bis(2-ethylhexyl)phthalate	12	IL	25	8	0	.68	2.86	.96
	Camphene	12	NO	0	0	0	.60	.60	.60
	Chrysene	12	NO	0	0	0	.67	.67	.67
	Di-n-butyl Phthalate	12	NO	0	0	0	.32	.84	.41
	Dibenz(a,h)anthracene	12	NO	0	0	0	.62	.62	.62
	Diphenyl Ether	12	NO	0	0	0	1.00	1.00	1.00
	Diphenylamine	12	NO	0	0	0	.10	.10	.10
	Fluoranthene	12	NO	0	0	0	1.00	1.00	1.00
	Fluorene	12	NO	0	0	0	.71	.71	.71
	Indeno(1,2,3-cd)pyrene	12	NO	0	0	0	.77	.77	.77
	Indole	12	NO	0	0	0	.32	.32	.32
	N-Nitrosodi-n-propylamine	12	NO	0	0	0	.65	.65	.65
	N-Nitrosodiphenylamine	12	NO	0	0	0	.10	.10	.10
	Naphthalene	12	NO	0	0	0	.94	.94	.94
	Perylene	12	NO	0	0	0	.67	.67	.67
	Phenanthrene	12	IL	17	0	0	1.00	1.25	1.02
	Pyrene	12	NO	0	0	0	.75	.75	.75
20	2,3,4,5-Tetrachlorophenol	12	NO	0	0	0	1.00	1.00	1.00
	2,3,4,6-Tetrachlorophenol	12	NO	0	0	0	.29	.29	.29
	2,3,4-Trichlorophenol	12	NO	0	0	0	.83	.83	.83
	2,3,5,6-Tetrachlorophenol	12	NO	0	0	0	.63	.63	.63
	2,3,5-Trichlorophenol	12	NO	0	0	0	.38	.38	.38
	2,4,5-Trichlorophenol	12	NO	0	0	0	.46	.46	.46
	2,4,6-Trichlorophenol	12	NO	0	0	0	.38	.38	.38
	2,4-Dichlorophenol	12	NO	0	0	0	.59	.59	.59
	2,4-Dimethylphenol	12	NO	8	0	0	.15	1.67	.34
	2,4-Dinitrophenol	12	NO	0	0	0	.10	.10	.10
	2,6-Dichlorophenol	12	NO	0	0	0	.25	.25	.25
	2-Chlorophenol	12	NO	0	0	0	.27	.27	.27
	4,6-Dinitro-o-cresol	12	NO	0	0	0	.10	.10	.10
	4-Chloro-3-methylphenol	12	NO	0	0	0	.47	.47	.47
	4-Nitrophenol	12	NO	0	0	0	.29	.29	.29
	Pentachlorophenol	12	NO	0	0	0	.54	.54	.54
	Phenol	12	NO	8	8	0	.38	2.75	.61
	m-Cresol	12	NO	8	0	0	.24	1.06	.30
	o-Cresol	12	IL	17	8	0	.19	4.49	.65
	p-Cresol	12	NO	8	0	0	.23	1.03	.30
23	1,2,3,4-Tetrachlorobenzene	4	NO	0	0	0	.50	1.00	.90
	1,2,3,5-Tetrachlorobenzene	4	NO	0	0	0	.50	1.00	.90
	1,2,3-Trichlorobenzene	4	NO	0	0	0	.50	1.00	.90
	1,2,4,5-Tetrachlorobenzene	4	NO	0	0	0	.50	1.00	.90
	1,2,4-Trichlorobenzene	4	NO	0	0	0	.50	1.00	.90

TNS = NUMBER OF VALID SAMPLES
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RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 6 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

GENERAL MOTORS OF CANADA, ST.CATHARINES

CONTROL POINT #: 1000 STREAM: FOUNDARY COMBINED
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
23	2,4,5-Trichlorotoluene	4	NO	0	0	0	.50	1.00	.90
	Hexachlorobenzene	4	NO	0	0	0	.50	1.00	.90
	Hexachlorobutadiene	4	NO	0	0	0	.50	1.00	.90
	Hexachlorocyclopentadiene	4	NO	0	0	0	1.00	1.00	1.00
	Hexachloroethane	4	NO	0	0	0	.50	1.00	.90
	Octachlorostyrene	4	NO	0	0	0	.50	1.00	.90
	Pentachlorobenzene	4	NO	0	0	0	.50	1.00	.90
24	2,3,7,8 TCDD	1	NO	0	0	0	.75	.75	.75
	Octachlorodibenzo-p-dioxin	1	NO	0	0	0	.33	.33	.33
	Octachlorodibenzofuran	1	NO	0	0	0	.87	.87	.87
	Total H6CDD	1	NO	0	0	0	.70	.70	.70
	Total H6CDF	1	NO	0	0	0	.90	.90	.90
	Total H7CDD	1	NO	0	0	0	.70	.70	.70
	Total H7CDF	1	NO	0	0	0	.83	.83	.83
	Total PCDD	1	NO	0	0	0	.90	.90	.90
	Total PCDF	1	NO	0	0	0	.87	.87	.87
	Total TCDD	1	NO	0	0	0	.75	.75	.75
	Total TCDF	1	NO	0	0	0	.80	.80	.80
25	Oil and Grease	152	FL	66	28	3	1.00	12.00	1.75
26	Abietic Acid	4	FL	50	0	0	1.00	2.00	1.40
	Chlorodehydroabietic Acid	4	NO	0	0	0	1.00	1.00	1.00
	Dehydroabietic Acid	4	IL	25	0	0	.60	1.80	1.00
	Isopimaric Acid	4	NO	0	0	0	.80	1.00	1.00
	Levopimaric Acid	4	FL	75	0	0	1.00	2.00	1.80
	Neoabietic Acid	4	FL	75	0	0	1.00	2.00	1.80
	Oleic Acid	4	IL	25	0	0	.80	1.00	1.00
	Pimaric Acid	4	NO	0	0	0	.60	1.00	.80
27	PCBT	12	NO	0	0	0	.20	.60	.33
MC1	Iron	52	FH	100	100	100	5.00	382.00	33.25
	Magnesium	52	FH	100	100	100	192.00	950.00	476.20
MC2	Fluoride	4	FM	100	75	0	1.80	2.60	2.17

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RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 7

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

HALEY INDUSTRIES LTD., HALEY

CONTROL POINT #: 0100 STREAM: SEWAGE TREATMENT PLANT
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
1	Chemical Oxygen Demand	155	FH	100	99	86	1.20	146.00	21.67
4a	Ammonia plus Ammonium	155	FH	58	55	50	.88	130.44	21.32
5a	DOC	53	FH	100	100	100	14.24	152.00	32.06
6	Total Phosphorus	52	FH	98	98	94	1.00	100.00	20.19
8	Total Suspended Solids	253	FH	98	89	61	.20	405.20	18.66
16	1,1,2,2-Tetrachloroethane	4	NO	0	0	0	.10	.10	.10
	1,1,2-Trichloroethane	4	NO	0	0	0	.33	.33	.33
	1,1-Dichloroethane	4	FL	50	50	25	.25	7.38	2.56
	1,1-Dichloroethylene	4	NO	0	0	0	.10	.10	.10
	1,2-Dichlorobenzene	4	NO	0	0	0	.14	.14	.14
	1,2-Dichloroethane	4	NO	0	0	0	.50	.50	.50
	1,2-Dichloropropane	4	NO	0	0	0	.22	.22	.22
	1,3-Dichlorobenzene	4	NO	0	0	0	.27	.27	.27
	1,4-Dichlorobenzene	4	IL	25	0	0	.12	1.65	.71
	Bromoform	4	NO	0	0	0	.10	.10	.10
	Bromomethane	4	NO	0	0	0	.10	.10	.10
	Carbon Tetrachloride	4	IL	25	0	0	.23	1.15	.50
	Chlorobenzene	4	NO	0	0	0	.14	.14	.14
	Chloroform	4	IH	25	25	25	.29	5.29	1.57
	Chloromethane	4	NO	0	0	0	.10	.10	.10
	Cis-1,3-Dichloropropylene	4	NO	0	0	0	.21	.21	.21
	Dibromochloromethane	4	NO	0	0	0	.27	.27	.27
	Ethylene Dibromide	4	NO	0	0	0	.10	.10	.10
	Methylene Chloride	4	FM	75	75	50	.15	12.31	6.75
	Tetrachloroethylene	4	NO	0	0	0	.18	.18	.18
	Trans-1,2-Dichloroethylene	4	NO	0	0	0	.21	.21	.21
	Trans-1,3-Dichloropropylene	4	NO	0	0	0	.10	.10	.10
	Trichloroethylene	4	NO	0	0	0	.21	.21	.21
	Trichlorofluoromethane	4	NO	0	0	0	.20	.30	.28
	Vinyl Chloride	4	NO	0	0	0	.10	.10	.10
17	Benzene	4	NO	0	0	0	.80	.80	.80
	Styrene	4	NO	0	0	0	.40	.40	.40
	Toluene	4	NO	0	0	0	1.00	1.00	1.00
	m-Xylene and p-Xylene	4	NO	0	0	0	.36	.36	.36
	o-Xylene	4	NO	0	0	0	.40	.40	.40
18	Acrolein	4	NO	0	0	0	.13	.20	.18
	Acrylonitrile	4	NO	0	0	0	.10	.17	.15
19	1-Chloronaphthalene	4	NO	0	0	0	.10	.10	.10
	1-Methylnaphthalene	4	NO	0	0	0	.10	.10	.10
	2,4-Dinitrotoluene	4	NO	0	0	0	.63	.63	.63
	2,6-Dinitrotoluene	4	NO	0	0	0	.71	.71	.71
	2-Chloronaphthalene	4	NO	0	0	0	.11	.11	.11

TNS = NUMBER OF VALID SAMPLES
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RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 7 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

HALEY INDUSTRIES LTD., HALEY

CONTROL POINT #: 0100 STREAM: SEWAGE TREATMENT PLANT
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
19	2-Methylnaphthalene	4	NO	0	0	0	.10	.10	.10
	4-Bromophenyl Phenyl Ether	4	NO	0	0	0	.40	.40	.40
	4-Chlorophenyl Phenyl Ether	4	NO	0	0	0	.16	.16	.16
	5-Nitro, Acenaphthene	4	NO	0	0	0	.10	.10	.10
	Acenaphthene	4	NO	0	0	0	.15	.15	.15
	Acenaphthylene	4	NO	0	0	0	.11	.11	.11
	Anthracene	4	NO	0	0	0	.10	.10	.10
	Benzo(a)anthracene	4	NO	0	0	0	.24	.24	.24
	Benzo(a)pyrene	4	NO	0	0	0	.28	.28	.28
	Benzo(b)fluoranthene	4	NO	0	0	0	.26	.26	.26
	Benzo(g,h,i)perylene	4	NO	0	0	0	.24	.24	.24
	Benzo(k)fluoranthene	4	NO	0	0	0	.21	.21	.21
	Benzobutylphthalate	4	NO	0	0	0	.37	.37	.37
	Biphenyl	4	NO	0	0	0	.30	.30	.30
	Bis(2-chloroethoxyl)methane	4	NO	0	0	0	.10	.10	.10
	Bis(2-chloroethyl)ether	4	NO	0	0	0	.10	.10	.10
	Bis(2-chloroisopropyl)ether	4	NO	0	0	0	.10	.10	.10
	Bis(2-ethylhexyl)phthalate	4	FH	100	100	75	4.82	19.55	11.85
	Camphene	4	NO	0	0	0	.10	.10	.10
	Chrysene	4	NO	0	0	0	.33	.33	.33
	Di-n-butyl Phthalate	4	NO	0	0	0	.10	.10	.10
	Dibenz(a,h)anthracene	4	NO	0	0	0	.16	.16	.16
	Diphenyl Ether	4	NO	0	0	0	.37	.37	.37
	Diphenylamine	4	NO	0	0	0	.10	.10	.10
	Fluoranthene	4	NO	0	0	0	.20	.20	.20
	Fluorene	4	NO	0	0	0	.10	.10	.10
	Indeno(1,2,3-cd)pyrene	4	NO	0	0	0	.15	.15	.15
	Indole	4	NO	0	0	0	.12	.12	.12
	N-Nitrosodi-n-propylamine	4	NO	0	0	0	.10	.10	.10
	N-Nitrosodiphenylamine	4	NO	0	0	0	.10	.10	.10
	Naphthalene	4	NO	0	0	0	.13	.13	.13
	Perylene	4	NO	0	0	0	.11	.11	.11
	Phenanthrene	4	NO	0	0	0	.20	.20	.20
	Pyrene	4	NO	0	0	0	.20	.50	.27
20	2,3,4,5-Tetrachlorophenol	4	NO	0	0	0	.37	.87	.50
	2,3,4,6-Tetrachlorophenol	4	NO	0	0	0	.10	.13	.11
	2,3,4-Trichlorophenol	4	NO	0	0	0	.27	.27	.27
	2,3,5,6-Tetrachlorophenol	4	NO	0	0	0	.10	.23	.13
	2,3,5-Trichlorophenol	4	NO	0	0	0	.11	.11	.11
	2,4,5-Trichlorophenol	4	NO	0	0	0	.15	.15	.15
	2,4,6-Trichlorophenol	4	NO	0	0	0	.12	.69	.27
	2,4-Dichlorophenol	4	NO	0	0	0	.11	.71	.31

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APPENDIX V
TABLE 7 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

HALEY INDUSTRIES LTD., HALEY

CONTROL POINT #: 0100 STREAM: SEWAGE TREATMENT PLANT
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
20	2,4-Dimethylphenol	4	NO	0	0	0	.10	.10	.10
	2,4-Dinitrophenol	4	NO	0	0	0	.10	.10	.10
	2,6-Dichlorophenol	4	NO	0	0	0	.11	.11	.11
	2-Chlorophenol	4	NO	0	0	0	.10	.10	.10
	4,6-Dinitro-o-cresol	4	NO	0	0	0	.17	.17	.17
	4-Chloro-3-methylphenol	4	NO	0	0	0	.10	.10	.10
	4-Nitrophenol	4	FM	100	100	0	3.57	3.57	3.57
	Pentachlorophenol	4	FL	100	0	0	1.54	1.62	1.56
	Phenol	4	FL	50	50	25	.14	7.08	2.68
	m-Cresol	4	IM	25	25	0	.10	2.47	.69
	o-Cresol	4	NO	0	0	0	.10	.11	.10
	p-Cresol	4	IM	25	25	0	.10	2.40	.67
25	Oil and Grease	154	IL	21	8	3	.30	29.50	1.38

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 8

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

HALEY INDUSTRIES LTD., HALEY

CONTROL POINT #: 0200 STREAM: EAST PROCESS SEWER
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
1	Chemical Oxygen Demand	158	FH	100	100	94	2.80	131.20	40.42
2	Cyanide Total	12	FH	100	100	100	57.80	400.00	202.20
4a	Ammonia plus Ammonium	158	FH	97	97	96	.88	386.00	128.67
	Total Kjeldahl Nitrogen	2	FH	100	100	100	17.34	98.70	58.02
4b	Nitrate+Nitrite	52	FH	90	87	81	.10	584.00	114.30
5a	DOC	52	FH	100	100	100	17.80	248.00	72.24
5b	TOC	2	FH	100	100	100	5.30	6.40	5.85
6	Total Phosphorus	51	FH	100	98	69	1.00	520.00	19.91
7	Specific Conductance	356	FH	100	100	100	34.40	4132.80	713.95
8	Total Suspended Solids	361	FH	100	98	95	.60	499.20	61.48
9	Aluminum	155	FH	100	100	97	3.33	845.33	72.12
	Beryllium	155	IL	35	8	4	.10	5.00	.92
	Cadmium	155	FL	64	48	19	.90	19.00	2.95
	Chromium	155	FH	98	97	95	1.00	332.00	42.53
	Cobalt	155	FM	68	50	6	.10	6.50	2.17
	Copper	155	FH	99	99	98	.90	460.00	62.48
	Lead	155	FL	67	48	8	.50	13.33	2.13
	Molybdenum	154	IM	34	22	1	.90	7.00	1.39
	Nickel	155	FL	48	29	11	1.00	43.50	2.48
	Silver	155	FH	88	83	67	.33	64.33	13.18
	Thallium	155	IH	3	3	2	.10	66.67	.72
	Vanadium	155	FL	44	34	6	.67	22.00	2.14
	Zinc	155	FH	100	100	99	3.00	1271.00	84.59
10	Antimony	2	FH	100	100	100	10.00	55.60	32.80
	Arsenic	2	FH	100	100	100	10.00	104.40	57.20
	Selenium	2	FH	100	100	100	10.00	30.20	20.10
11	Chromium (hexavalent)	36	NO	3	0	0	.10	1.10	.92
12	Mercury	11	FH	82	82	82	1.00	212.00	47.91
14	Phenolics (4AAP)	360	FL	55	50	47	1.00	285.00	22.17
15	Sulphide	13	IH	15	15	15	.95	29.50	3.65
16	1,1,2,2-Tetrachloroethane	12	NO	0	0	0	.10	.12	.10
	1,1,2-Trichloroethane	12	NO	0	0	0	.33	.83	.46
	1,1-Dichloroethane	12	FL	42	25	0	.25	3.62	1.13
	1,1-Dichloroethylene	12	NO	0	0	0	.10	.18	.11
	1,2-Dichlorobenzene	12	NO	0	0	0	.14	.36	.16
	1,2-Dichloroethane	12	NO	0	0	0	.46	.63	.53
	1,2-Dichloropropane	12	NO	0	0	0	.19	.22	.22
	1,3-Dichlorobenzene	12	NO	0	0	0	.26	.45	.29
	1,4-Dichlorobenzene	12	IH	17	8	8	.12	5.47	.74
	Bromoform	12	NO	0	0	0	.10	.14	.10
	Bromomethane	12	NO	0	0	0	.10	.14	.10
	Carbon Tetrachloride	12	IM	25	17	0	.23	3.92	.88

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 8 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

HALEY INDUSTRIES LTD., HALEY

CONTROL POINT #: 0200 STREAM: EAST PROCESS SEWER
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

ATG	PARAMETER	TNS	CLASS	% FREQUENCY OF DETECTION >RMDL	>2*RMDL	>5*RMDL	CONCENTRATION RATIO MINIMUM	MAXIMUM	AVERAGE
16	Chlorobenzene	12	NO	0	0	0	.14	.71	.19
	Chloroform	12	NO	0	0	0	.29	.71	.35
	Chloromethane	12	NO	0	0	0	.10	.14	.10
	Cis-1,3-Dichloropropylene	12	NO	0	0	0	.18	.36	.22
	Dibromochloromethane	12	NO	0	0	0	.23	.45	.28
	Ethylene Dibromide	12	NO	0	0	0	.10	.50	.14
	Methylene Chloride	12	FL	67	25	17	.15	20.77	3.69
	Tetrachloroethylene	12	NO	0	0	0	.18	.45	.21
	Trans-1,2-Dichloroethylene	12	NO	0	0	0	.18	.36	.22
	Trans-1,3-Dichloropropylene	12	NO	0	0	0	.10	.36	.12
	Trichloroethylene	12	NO	8	0	0	.21	1.16	.33
	Trichlorofluoromethane	12	NO	8	0	0	.10	1.10	.37
	Vinyl Chloride	12	NO	0	0	0	.10	.13	.10
17	Benzene	12	NO	8	8	8	.80	8.40	1.44
	Styrene	12	NO	0	0	0	.38	1.00	.45
	Toluene	12	IL	25	0	0	1.00	1.40	1.07
	m-Xylene and p-Xylene	12	IH	17	8	8	.36	5.73	.96
	o-Xylene	12	IL	33	8	0	.40	2.40	.78
18	Acrolein	2	NO	0	0	0	.13	.20	.16
	Acrylonitrile	2	NO	0	0	0	.10	.17	.13
19	1-Chloronaphthalene	12	NO	0	0	0	.10	1.00	.18
	1-Methylnaphthalene	12	NO	0	0	0	.10	1.00	.18
	2,4-Dinitrotoluene	12	NO	0	0	0	.10	1.00	.61
	2,6-Dinitrotoluene	12	NO	0	0	0	.10	1.00	.69
	2-Chloronaphthalene	12	NO	0	0	0	.11	.89	.17
	2-Methylnaphthalene	12	NO	0	0	0	.10	1.00	.19
	4-Bromophenyl Phenyl Ether	12	NO	0	0	0	.40	1.00	.45
	4-Chlorophenyl Phenyl Ether	12	NO	0	0	0	.16	1.00	.23
	5-Nitro, Acenaphthene	12	NO	0	0	0	.10	1.00	.17
	Acenaphthene	12	NO	0	0	0	.15	1.00	.22
	Acenaphthylene	12	NO	0	0	0	.11	1.00	.18
	Anthracene	12	NO	0	0	0	.10	1.00	.17
	Benzo(a)anthracene	12	NO	0	0	0	.24	1.00	.30
	Benzo(a)pyrene	12	NO	0	0	0	.28	1.00	.34
	Benzo(b)fluoranthene	12	NO	0	0	0	.26	1.00	.32
	Benzo(g,h,i)perylene	12	NO	0	0	0	.24	1.00	.31
	Benzo(k)fluoranthene	12	NO	0	0	0	.21	1.00	.29
	Benzobutylphthalate	12	NO	0	0	0	.37	1.00	.42
	Biphenyl	12	NO	8	8	8	.30	5.50	.82
	Bis(2-chloroethoxyl)methane	12	NO	0	0	0	.10	1.00	.17
	Bis(2-chloroethyl)ether	12	NO	0	0	0	.10	1.00	.17
	Bis(2-chloroisopropyl)ether	11	NO	0	0	0	.10	1.00	.18

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 8 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

HALEY INDUSTRIES LTD., HALEY

CONTROL POINT #: 0200 STREAM: EAST PROCESS SEWER
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
19	Bis(2-ethylhexyl)phthalate	12	FL	75	50	33	.18	8.18	3.41
	Camphene	12	NO	0	0	0	.10	1.00	.17
	Chrysene	12	NO	0	0	0	.33	1.00	.39
	Di-n-butyl Phthalate	12	NO	0	0	0	.10	1.00	.18
	Dibenz(a,h)anthracene	12	NO	0	0	0	.16	1.00	.23
	Diphenyl Ether	12	NO	0	0	0	.10	.37	.35
	Diphenylamine	11	NO	0	0	0	.10	1.00	.21
	Fluoranthene	12	NO	0	0	0	.20	1.00	.27
	Fluorene	12	NO	0	0	0	.10	1.00	.17
	Indeno(1,2,3-cd)pyrene	12	NO	0	0	0	.15	1.00	.22
	Indole	12	NO	8	0	0	.12	1.79	.39
	N-Nitrosodi-n-propylamine	10	NO	0	0	0	.10	1.00	.19
	N-Nitrosodiphenylamine	11	NO	0	0	0	.10	1.00	.21
	Naphthalene	12	NO	0	0	0	.13	1.00	.22
	Perylene	12	NO	0	0	0	.11	1.00	.19
	Phenanthrene	12	NO	0	0	0	.20	1.00	.27
	Pyrene	12	NO	0	0	0	.20	1.00	.29
20	2,3,4,5-Tetrachlorophenol	12	NO	8	0	0	.37	1.00	.55
	2,3,4,6-Tetrachlorophenol	12	NO	0	0	0	.10	.93	.17
	2,3,4-Trichlorophenol	12	NO	0	0	0	.27	1.00	.38
	2,3,5,6-Tetrachlorophenol	12	NO	0	0	0	.10	1.00	.18
	2,3,5-Trichlorophenol	12	NO	0	0	0	.11	1.00	.21
	2,4,5-Trichlorophenol	12	NO	0	0	0	.15	1.00	.26
	2,4,6-Trichlorophenol	12	NO	0	0	0	.12	1.00	.23
	2,4-Dichlorophenol	12	NO	0	0	0	.11	1.00	.19
	2,4-Dimethylphenol	12	NO	0	0	0	.10	1.00	.17
	2,4-Dinitrophenol	12	NO	0	0	0	.10	1.00	.17
	2,6-Dichlorophenol	12	NO	0	0	0	.11	1.00	.18
	2-Chlorophenol	12	NO	0	0	0	.10	1.00	.17
	4,6-Dinitro-o-cresol	12	NO	0	0	0	.17	1.00	.24
	4-Chloro-3-methylphenol	12	NO	0	0	0	.10	1.00	.17
	4-Nitrophenol	12	FM	92	92	0	1.00	3.57	3.36
	Pentachlorophenol	12	FL	92	17	0	1.00	3.69	1.76
	Phenol	12	NO	0	0	0	.14	1.00	.31
	m-Cresol	12	NO	0	0	0	.10	1.00	.17
	o-Cresol	12	NO	0	0	0	.10	1.00	.17
	p-Cresol	12	NO	0	0	0	.10	1.00	.17
23	1,2,3,4-Tetrachlorobenzene	4	NO	0	0	0	1.00	1.00	1.00
	1,2,3,5-Tetrachlorobenzene	4	NO	0	0	0	1.00	1.00	1.00
	1,2,3-Trichlorobenzene	4	FL	50	50	0	1.00	2.50	1.70
	1,2,4,5-Tetrachlorobenzene	4	NO	0	0	0	1.00	1.00	1.00
	1,2,4-Trichlorobenzene	4	NO	0	0	0	1.00	1.00	1.00

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RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 8 (continued)

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

HALEY INDUSTRIES LTD., HALEY

CONTROL POINT #: 0200 STREAM: EAST PROCESS SEWER
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
23	2,4,5-Trichlorotoluene	4	NO	0	0	0	1.00	1.00	1.00
	Hexachlorobenzene	4	NO	0	0	0	1.00	1.00	1.00
	Hexachlorobutadiene	4	NO	0	0	0	1.00	1.00	1.00
	Hexachlorocyclopentadiene	4	IM	25	25	0	1.00	3.50	1.60
	Hexachloroethane	4	NO	0	0	0	1.00	1.00	1.00
	Octachlorostyrene	4	NO	0	0	0	1.00	1.00	1.00
	Pentachlorobenzene	4	IM	25	25	0	1.00	2.40	1.30
24	2,3,7,8 TCDD	2	NO	0	0	0	1.00	1.00	1.00
	Octachlorodibenzo-p-dioxin	2	FH	100	100	100	7.33	33.33	20.33
	Octachlorodibenzofuran	2	NO	0	0	0	1.00	1.00	1.00
	Total H6CDD	2	FL	50	0	0	.67	1.37	1.00
	Total H6CDF	2	FL	50	50	0	1.00	3.60	2.30
	Total H7CDD	2	FL	50	50	0	.83	4.43	2.63
	Total H7CDF	2	FL	50	0	0	.83	1.37	1.10
	Total PCDD	2	NO	0	0	0	1.00	1.00	1.00
	Total PCDF	2	FL	50	0	0	1.00	1.27	1.13
	Total TCDD	2	NO	0	0	0	1.00	1.00	1.00
	Total TCDF	2	FL	50	0	0	.67	1.00	.87
25	Oil and Grease	156	IL	39	18	3	.10	11.10	1.58
26	Abietic Acid	11	FM	100	100	0	3.00	4.00	3.20
	Chlorodehydroabietic Acid	12	FM	100	100	0	3.00	4.60	3.40
	Dehydroabietic Acid	12	FM	100	100	25	3.00	7.60	4.40
	Isopimaric Acid	12	FM	100	100	0	3.00	4.40	3.40
	Levopimaric Acid	12	FM	100	100	0	3.00	4.40	3.40
	Neoabietic Acid	12	FM	100	100	33	3.00	7.60	4.00
	Oleic Acid	12	FM	100	100	33	3.00	22.00	6.40
	Pimaric Acid	12	FM	100	100	0	3.00	4.40	3.20
27	PCBT	12	NO	0	0	0	.50	.50	.50
MC1	Iron	155	FH	100	100	100	8.00	1309500.00	20422.75
	Magnesium	155	FH	100	100	100	13.50	4005500.00	162954.90
MC2	Fluoride	155	FH	100	100	100	5.80	1160.00	302.34

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

APPENDIX V
TABLE 9

EFFLUENT MONITORING DATA
DETECTION FREQUENCY AND CONCENTRATION RATIOS

HALEY INDUSTRIES LTD., HALEY

CONTROL POINT #: 0300 STREAM: WEST STORM SEWER
FOR THE PERIOD FROM MAY 1, 1990 TO APRIL 30, 1991

				% FREQUENCY OF DETECTION			CONCENTRATION RATIO		
ATG	PARAMETER	TNS	CLASS	>RMDL	>2*RMDL	>5*RMDL	MINIMUM	MAXIMUM	AVERAGE
1	Chemical Oxygen Demand	12	FM	100	100	50	2.80	45.30	9.28
2	Cyanide Total	12	FL	50	33	25	.80	906.00	77.40
4a	Ammonia plus Ammonium	12	FL	50	42	25	.80	1012.00	97.46
4b	Nitrate+Nitrite	12	FH	100	100	58	2.60	47.20	9.35
5a	DOC	12	FH	100	100	92	4.20	69.30	15.57
6	Total Phosphorus	12	FL	50	17	0	.90	3.80	1.37
8	Total Suspended Solids	12	FH	100	83	67	1.60	161.20	35.78
9	Aluminum	12	FH	92	83	58	1.00	340.33	55.00
	Beryllium	12	IH	33	8	8	.30	5.30	.98
	Cadmium	12	IL	25	8	0	.90	3.50	1.18
	Chromium	12	FL	67	17	8	1.00	5.00	1.58
	Cobalt	12	FL	58	33	0	1.00	4.50	1.75
	Copper	12	FL	75	33	17	.90	7.00	2.14
	Lead	12	FL	50	25	8	.50	5.00	1.49
	Molybdenum	12	IM	25	17	8	.90	7.50	1.73
	Nickel	12	IH	25	8	8	1.00	8.50	1.71
	Silver	12	NO	8	8	8	.33	10.33	1.24
	Thallium	12	NO	0	0	0	.10	1.00	.22
	Vanadium	12	FL	50	25	8	1.00	10.33	2.06
	Zinc	12	FH	92	92	92	.90	86.00	30.70
14	Phenolics (4AAP)	12	FH	67	67	58	.10	141.50	21.55
15	Sulphide	12	IH	25	25	17	.95	717.00	61.30
25	Oil and Grease	12	NO	0	0	0	.50	1.00	.92
MC1	Iron	12	FH	100	100	100	14.50	88500.00	7517.20
	Magnesium	12	FH	100	100	100	339.00	20095.00	2498.35
MC2	Fluoride	12	FH	92	92	92	.30	370.00	89.72

TNS = NUMBER OF VALID SAMPLES
%FREQ = PERCENT FREQUENCY OF DETECTION ABOVE RMDL
CLASS = CLASSIFICATION CODE FOR FREQUENCY OF OCCURRENCE OF ANALYTE
RATIO = CONCENTRATION DIVIDED BY REGULATION METHOD DETECTION LIMIT

GLOSSARY OF TERMS

EXPLNOTE.WK3

GLOSSARY OF TERMS

TERM USED	EXPLANATION
ATG	Analytical Test Group
RMDL	Regulation Method Detection Limit
PLANT	Plant or Company Name
POINT	Control Point Number (Stream Identification Number)
CLASS	Classification Code for Frequency of Occurrence
	FH = Frequent High Level
	FM = Frequent Medium Level
	FL = Frequent Low Level
	IH = Infrquent High Level
	IM = Infrquent Medium Level
	IL = Infrequent Low Level
	NO = Non-occurrence
AVERAGE CONCENTRATION RATIO	Long term average concentration divided by the Regulation Method Detection Limit (RMDL).
AVERAGE CONCENTRATION DIFFERENCE RATIO	The average of the absolute values of the difference between the concentration of the effluent sample and its duplicate sample divided by the Regulation Method Detection Limit (RMDL).
TNS	Total Number of Valid Samples – Effluent
MONAVR	Average Effluent Monitoring Concentration Ratio
GAATNS	Total Number of Valid Samples – Travelling Blank
GAAAVR	Average Travelling Blank Concentration Ratio
DAATNS	Total Number of Valid Samples – Spiked Travelling Blank
DAAMIRC	Minimum Spiked Travelling Blank Percent Recovery
DAAAVRC	Average Spiked Travelling Blank Percent Recovery
DAAMARC	Maximum Spiked Travelling Blank Percent Recovery
FAATNS	Total Number of Valid Samples – Field Duplicate
FAAAVD	Field Duplicate Average Concentration Difference Ratio
AAUTNS	Total Number of Valid Samples – Uncorrected Sample
AAUAVD	Uncorrected Sample Average Concentration Difference Ratio
STATUS	QA/QC Data Assessment Status
	1 = Data are of reliable quality
	2 = Data are of equivocal quality
	3 = Data are of unreliable quality