**STOPPING
WATER POLLUTION
AT ITS SOURCE**

MISA

Municipal/Industrial Strategy for Abatement

**REPORT ON THE ASSESSMENT
OF THE
QUALITY ASSURANCE AND
QUALITY CONTROL DATA
FOR THE
ORGANIC CHEMICAL MANUFACTURING SECTOR**

Ontario

**Environment
Environnement**

ISBN 0-7778-0333-X

MISA
REPORT ON THE ASSESSMENT OF THE
QUALITY ASSURANCE AND QUALITY CONTROL DATA
FOR THE ORGANIC CHEMICAL MANUFACTURING SECTOR

MARCH 1993

Cette publication technique
n'est disponible qu'en anglais.

Copyright: Queen's Printer for Ontario, 1993
This publication may be reproduced for non-commercial purposes
with appropriate attribution.

PIBS 2203

MISA
REPORT ON THE ASSESSMENT OF THE
QUALITY ASSURANCE AND QUALITY CONTROL DATA
FOR THE ORGANIC CHEMICAL MANUFACTURING SECTOR

Report prepared by:

S. Michajluk and D. Boyd
MISA Industrial Section
Water Resources Branch
Ontario Ministry of Environment and Energy

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	1
I	INTRODUCTION	2
II	BACKGROUND	2
III	THE EFFLUENT MONITORING DATABASE	3
IV	IMPORTANCE OF THE QA/QC ASSESSMENT PROCESS	4
V	THE QA/QC ASSESSMENT PROCESS	5
	BACKGROUND	5
	METHODOLOGY	6
	1. RETRIEVAL AND SCREENING	6
	2. SORTING AND SUMMARIZING	8
	3. EVALUATION OF QA/QC DATA	11
VI	SPECIFIC PARAMETER QA/QC DATA ASSESSMENT	12
VII	RESULTS AND CONCLUSIONS	15
VIII	REFERENCES	20
IX	GLOSSARY	21
LIST OF TABLES		
	Table 1 -Types of QA/QC Samples	16
	Table 2 -Parameters Requiring Discretion of Limits Use	17
	Table 3 -Parameters "Found" on Basis of LMDL Above RMDL	18
	Table 4 -"Not Found" Parameters with Laboratory Blank Problems	19
	Table 5 -"Not Found" Parameters With Under-Recoveries of Travelling Spiked Blanks	19
LIST OF APPENDICES		
	Appendix A -MISA OCM Sector Plants	A-1
	Appendix B -Regulation Method Detection Limits	B-1
	Appendix C -QA/QC Working Tables	C-1
	Appendix D -Problematical Data Analysis Tables	D-1
	Appendix E -Found/Classified Parameter Tables	E-1

EXECUTIVE SUMMARY

Twenty-six Organic Chemical Manufacturing (OCM) Sector plants were regulated under the MISA (Municipal-Industrial Strategy for Abatement) program to provide twelve months of effluent monitoring data.

To assess the quality of the effluent monitoring data, OCM Sector plants were also required to submit under Regulation specified quality assurance and quality control (QA/QC) data. The assessment of QA/QC data as discussed in this report provided information on the "analytical goodness" of the larger effluent monitoring database. Based on the QA/QC assessment, decisions on the suitability of the effluent monitoring data for use in the effluent limits setting process were then made.

The QA/QC data assessment process was based on the approach outlined in the draft report of the Issue Resolution Committee on Quality Assurance and Quality Control.

The QA/QC data assessment process has confirmed that the majority of the effluent monitoring data for the MISA OCM Sector are acceptable for use in the development of effluent limits. The assessment has also identified parameters, (Table 2), which will require further specific attention before being considered for limits. Parameters that were categorized as "found" on the basis of the Laboratory Method Detection Limit (LMDL) being greater than the Regulation Method Detection Limit (RMDL) are also identified in a table (Table 3).

Parameters classified as "not found" for which analytical difficulties were encountered are listed in Tables 4 and 5.

The GLOSSARY section defines the terms used in this report.

Specific data used in the QA/QC assessment for each plant is shown in Appendices C and D.

The results of the QA/QC assessment, in terms of the acceptability of individual "found" parameters for limit setting, are shown in Appendix E.

I INTRODUCTION

The Ontario Ministry of the Environment Municipal-Industrial Strategy for Abatement (MISA) program is a regulatory program with the ultimate goal of virtual elimination of persistent toxic contaminants in municipal and industrial discharges into Ontario waterways.

MISA Effluent Monitoring Regulations were promulgated for nine industrial sectors, including the Organic Chemical Manufacturing (OCM) Sector. The Effluent Monitoring Regulations required direct dischargers to sample and analyze their effluents for a period of twelve consecutive months.

This report is an assessment of the quality assurance/quality control (QA/QC) data which was submitted by the OCM Sector plants along with the effluent monitoring data. The QA/QC assessment process, as outlined in the draft MISA Issue Resolution Committee Reports (1), was used to evaluate the suitability of the effluent monitoring data for use in the effluent limits setting process and to confirm the presence/absence of contaminants in the effluent, intake, once-through cooling water and storm water streams.

II BACKGROUND

Twenty-six OCM Sector plants that discharge effluent directly to surface watercourses have completed twelve months of intensive effluent monitoring under the MISA program.

Twenty-two plants under the original Ontario Regulation 209/89 and its amendment O. Regulation 532/89 completed their monitoring on September 30, 1990. Five plants, added for twelve months of monitoring as of February 1, 1990 under O. Regulation 45/90 completed their monitoring on January 31, 1991. One plant added as of August 1, 1990 under O. Regulation 416/90, completed its monitoring on July 31, 1991.

Two plants were shutdown in 1989-90 period for business reasons unrelated to the MISA program.

Under the MISA OCM Monitoring Regulations, each plant had its own site-specific monitoring schedule including QA/QC requirements. The QA/QC data for each plant was analyzed separately.

Generally each plant was required to collect QA/QC samples consisting of travelling blanks, travelling spiked blanks and duplicates/splits both monthly to match regular daily and thrice-weekly parameter monitoring and quarterly to match weekly and monthly parameter monitoring.

The monitoring data for the MISA OCM Sector have been published in a six-month (2) and a twelve-month (3) report.

III THE EFFLUENT MONITORING DATABASE

Because of the staggered start for the MISA OCM Sector regulatory monitoring, the last plant of the twenty-six plants completed its twelve months of monitoring on July 31, 1991. The data provided in this report reflects the validated industry supplied effluent monitoring database as of November 6, 1991.

The effluent data was validated and used in calculations on the basis of the following rules:

- All analytical results with the following remark codes were excluded from the calculations:

I	Interference suspected
MP	Multiphase sample
SID	Sample identification problem
SIP	Sample improperly preserved
UCR	Data unreliable; could not confirm by re-analysis
!IN	No data, insufficient volume
!NM	No effluent, no sample
>	Data values greater than
N/A	No data will be reported-zero values/blank fields only
- For other remark codes, zero or blank concentration values were omitted.
- Data with analytical results below the Regulation Method Detection Limit (RMDL) were used as reported.
- For values less than RMDL/10 (see Appendix B for list of RMDLs), the value of RMDL/10 was substituted.
- It should be noted that when a parameter level is reported as less than a detection limit (i.e. "<DL" remark coded data) the actual concentration in the effluent is generally understood to be within the range from zero to the detection limit.

IV IMPORTANCE OF THE QA/QC ASSESSMENT PROCESS

To assess the quality of the effluent monitoring data submitted under the Effluent Monitoring Regulation, OCM Sector plants were required to submit quality assurance and quality control (QA/QC) data. The assessment of the QA/QC data using a formal process provided information on the "analytical goodness" of the larger effluent monitoring database. It allowed classification of the parameters in the effluent database as to their suitability for use in the limits setting process and to confirm the presence/absence of parameters in the effluent, intake, once-through cooling water and storm water streams.

The QA/QC data consisted of field QA/QC data submitted by each plant and internal laboratory QA/QC data kept on file at each laboratory that performed sample analysis. Table 1 lists the types of field QA/QC samples taken, their significance, and the expected results.

The laboratory QA/QC data consisting of laboratory QA/QC checks (laboratory blanks, spiked blanks and replicate analyses), was retained by the laboratories for possible review by the Ministry.

The purpose of the QA/QC data is two-fold:

- to identify and assess the significance of:
 - biases
 - chronic contamination
 - data variability
 - false results (either positive or negative)
 - field sampling or laboratory analytical problems; and
- to determine the validity of the effluent monitoring database.

One of the following conclusions could be drawn from the QA/QC assessment process with respect to the effluent monitoring data:

- The data are acceptable and can be used for limits setting;
- The data are equivocal (of limited quality) and should be interpreted carefully before being considered for limits setting; or
- The data are unsuitable and the given parameters should only be used for limits setting if it can be shown that they are generated or used at the plant site and their presence in the effluents is probable.

V THE QA/QC ASSESSMENT PROCESS

BACKGROUND

The QA/QC assessment process used in evaluating the effluent monitoring data for the OCM Sector followed the approach outlined in Ref (1). The approach consisted of three main steps:

- Step 1. The RETRIEVAL AND SCREENING for each plant of all the field QA/QC data for the "found parameters" and all the corresponding effluent monitoring data for that plant.
- Step 2. The SORTING AND SUMMARIZING of the QA/QC and effluent monitoring data.
- Step 3. The EVALUATION OF THE QA/QC DATA and effluent monitoring data.

"Found" Parameters

In the evaluation of the QA/QC data, emphasis was placed on those parameters "found" at each plant site in either the intake, process, combined, once-through cooling water or storm water streams¹. In order to determine these "found" parameters, the effluent monitoring data were analyzed and parameters defined as "found" according to the following 90/10 rule.

- In selecting "found" parameters for each plant site in the OCM Sector, a parameter was listed as "found" unless the monitoring data showed (at a 95 % confidence level) that a statistical proportion of 0.9 of the data was at a concentration of less than the Regulation Method Detection Limit (RMDL).

Individual site "found" parameter totals ranged from 5 parameters at Akzo Chemicals Ltd. (Sarnia) to 77 parameters at the Dow Chemical Canada Inc., Sarnia plant. pH was not included in the QA/QC assessment since it will be regulated within the range specified in the Effluent Limits Regulation. QA/QC data for specific conductance was not required from the plant sites.

Emphasis was placed on the evaluation of the QA/QC data for "found" parameters since these parameters are candidates for effluent limits setting.

¹ "Found" parameters for the process and combined effluents will be considered for effluent limits setting. "Found" parameters identified in either the effluent, intake, once-through cooling water and storm water effluents will be assessed for presence only.

All the parameters listed in Appendix E (Tables E1 to E26) are the "found" parameters identified at each OCM plant site. Any letter in the tables ie. A, E, U, L, or R indicates that the parameter was "found" for the specific stream.

Parameters that were categorized as "not found" using the 90/10 selection rule were also investigated. They were evaluated for possible false negative results by examining the recovery levels of the travelling spiked blanks to check for under-recoveries and by examining the uncorrected and corrected monitoring data for over-corrections.

METHODOLOGY

1. RETRIEVAL AND SCREENING

Appendix C contains the Working QA/QC tables summarizing the effluent monitoring data and the accompanying field QA/QC data on a plant-by-plant basis. The information presented in these tables represented the first step in the QA/QC assessment. The following tables, where feasible, were assembled for each plant:

- Detection Frequencies and Concentration Ratios for Frequently Monitored "Found" Parameters.²
- Detection Frequencies and Concentration Ratios for Infrequently Monitored "Found" Parameters.³
- Detection Frequencies and Concentration Ratios for "Found" Parameters in Travelling Blanks
 - to identify any sample contamination from field operations.
- Absolute Value of the Difference Between Uncorrected Travelling Blank Sample Concentration and Corrected Travelling Blank Sample Concentration Divided by the Regulation Method Detection Limit for "Found" Parameters
 - to identify any laboratory corrections made to the travelling blank results.

² Frequently monitored parameters are those parameters monitored daily, thrice-weekly and weekly.

³ Infrequently monitored parameters are those parameters monitored monthly, quarterly and semi-annually.

- Range of Recoveries and Ratio of Spiked Quantity to Regulation Method Detection Limit for "Found" Parameters
 - to provide a check on method recovery.
- Absolute Value of the Difference Between Uncorrected Travelling Spiked Blank Sample Concentration and Corrected Travelling Spiked Blank Sample Concentration Divided by the Regulation Method Detection Limit for "Found" Parameters
 - to identify any laboratory corrections made to the travelling spiked blank results.
- Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for "Found" Parameters
 - to assess precision of analysis.
- Absolute Value of the Difference Between Uncorrected Duplicate Sample Concentration and Corrected Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for "Found" Parameters
 - to identify any laboratory corrections made to the duplicate results.
- Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for "Found" Parameters
 - to assess precision of analysis.
- Absolute Value of the Difference Between Uncorrected Split Sample Concentration and Corrected Split Sample Concentration Divided by the Regulation Method Detection Limit for "Found" Parameters
 - to identify any laboratory corrections made to the split results.
- Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for "Found" Parameters
 - to identify any laboratory corrections made to the effluent monitoring results.
(The difference is known as the laboratory blank. This is normally used to correct for labware/reagent contamination.)

Specific problematical data was individually analyzed and is reported in Appendix D.

2. **SORTING AND SUMMARIZING**

After summarizing the effluent monitoring data and QA/QC data, the second step in the QA/QC assessment process was to classify individual parameters according to their frequency of occurrence and their level in each effluent stream.

Classification of parameters according to their frequency of occurrence dictates the strategy which is to be followed for interpreting the QA/QC data. The report of the Issue Resolution Committee on QA/QC (1) presents three strategies for use in evaluating QA/QC data. These strategies provided guidance for the systematic evaluation of specific QA/QC data:

Strategy 1: Evaluation of "Frequently Found" Analytes

Assess the likelihood of over-estimation or under-estimation based on the recovery of travelling spiked blanks. Assess the possibility of error in blank corrections. Assess precision using field duplicates and, if necessary, assess precision using laboratory replicates.

Strategy 2: Evaluation of "Infrequently Found" Analytes

Determine the possibility of false negative conclusions based on the possible under-recovery of travelling spiked blanks. Determine the possibility of false positive conclusions based on possible chronic positive travelling blanks. If necessary, determine the possibility of under-correction or over-correction for laboratory blanks.

Strategy 3: Evaluation of "Non-occurrence" Analytes

Determine the possibility of false negative conclusions based on the possible under-recovery of travelling spiked blanks. If necessary, determine the possibility of over-correction for laboratory blanks.

The following three main categories were used for sorting according to the strategies identified above:

- Frequent Occurrence
- Infrequent Occurrence
- Non-occurrence

The categorical division was only used for the purpose of identifying data in the QA/QC data review exercise.

A sorting criteria of 40% frequency of detection above the (RMDL) was used to distinguish each category. Thus, the following classifications were developed:

FREQUENT OCCURRENCE: More than 40% of the parameter observations are above the RMDL.

INFREQUENT OCCURRENCE: Between 1% and 40% of the parameter observations are above the RMDL.

NON-OCCURRENCE: Less than 1% of the parameter observations are above the RMDL.

Within both the Frequent and the Infrequent Occurrence categories it was necessary to further classify the parameters according to the levels at which they were observed. Three sub-categories were used for this further classification:

- High Level - Used to describe quantitative data.⁴
- Medium Level - Used to describe semi-quantitative data.⁴
- Low Level - Used to describe qualitative data.⁴

The following criteria for these classifications were then developed:

Frequent Occurrence:

HIGH LEVEL: More than 50% of the parameter observations are above 5 times the RMDL.

MEDIUM LEVEL: More than 50% of the parameter observations are above 2 times the RMDL.

LOW LEVEL: More than 40% of the parameter observations are above the RMDL.

⁴ See Glossary for definition of "quantitative", "semi-quantitative", and "qualitative".

Infrequent Occurrence:

- HIGH LEVEL:** Of those observations greater than 2 times the RMDL, more than 50% are higher than 5 times the RMDL.
- MEDIUM LEVEL:** Of those observations greater than the RMDL, more than 50% are higher than 2 times the RMDL.
- LOW LEVEL:** More than 1% but no more than 40% of the parameter observations are above the RMDL.

The following categorization of data was developed:

Frequent Occurrence - High Level (FH)

More than 50% of the observations are greater than 5 times the RMDL.

Frequent Occurrence - Medium Level (FM)

More than 50% of the observations are greater than 2 times the RMDL.

Frequent Occurrence - Low Level (FL)

More than 40% of the observations are above the RMDL.

Infrequent Occurrence - High Level (IH)

Between 1% and 40% of the observations are above the RMDL, and of those observations greater than 2 times the RMDL, more than 50% are higher than 5 times the RMDL.

Infrequent Occurrence - Medium Level (IM)

Between 1% and 40% of the observations are above the RMDL, and of those observations higher than the RMDL, more than 50% are higher than 2 times the RMDL.

Infrequent Occurrence - Low Level (IL)

Between 1% and 40% of the observations are above the RMDL.

Non-occurrence (NO)

Less than 1% of the observations are above the RMDL.

DATA CLASSIFICATION METHOD

In order to classify the effluent monitoring data according to the frequency of occurrence categories, the twelve month average was calculated for each parameter for the control point where QA/QC samples were taken at each plant. The average was then divided by the RMDL for the parameter. This value was defined as the parameter "concentration ratio". This ratio allowed for the comparison of data for different parameters. A concentration ratio of 1.0 or less would indicate that there was little or no significant presence of the parameter in the intake or effluent stream(s) since the concentration was equal to or below the RMDL.

3. EVALUATION OF QA/QC DATA

"FOUND" PARAMETERS

The QA/QC data for "found" parameters were evaluated as follows (based on the classification of each parameter):

Frequent Occurrence - High Level

Accuracy, recovery, and precision were investigated.

Frequent Occurrence - Medium Level

Recovery, precision and potential for blank biases were investigated.

Frequent Occurrence - Low Level

Potential for false positives (travelling blank detections or high recoveries of travelling spiked blanks) and precision were investigated.

Infrequent Occurrence - High Level

Process changes and potential for contamination were investigated.

Infrequent Occurrence - Medium Level

Recovery and potential for blank biases were investigated.

Infrequent Occurrence - Low Level

The potential for false positives (high recoveries) or false negatives (low recoveries of travelling spiked blanks or over-corrections for laboratory blanks) was investigated.

Non-occurrence

The potential for false negatives (low recoveries of travelling spiked blanks or over-corrections for laboratory blanks) was investigated.

"NOT FOUND" PARAMETERS

Uncorrected data and the recovery levels of the travelling spiked blanks for parameters that were "not found" using the 90/10 selection criteria were also investigated.

VI SPECIFIC PARAMETER QA/QC DATA ASSESSMENT

"FOUND" PARAMETERS

In order to assess the QA/QC data for the sector, each individual plant site required its own QA/QC assessment.

In the QA/QC assessment process, the following steps were used:

- In assessing the travelling blank data, average travelling blank concentration ratios which were consistently less than 1.0 or much lower than the average effluent concentration ratio often indicated that the effluent monitoring data for that parameter were satisfactory. If the data did not meet this criteria, individual travelling blank results were compared to the effluent monitoring data to assess field contamination.
- In assessing the travelling spiked blank data, a range of recoveries inside 60% to 140% were deemed satisfactory. If the data did not meet this criteria, individual recoveries were compared to the effluent monitoring data to assess potential false negatives or false positives. Recoveries lower than 60% increase the risk of a false negative conclusion as to the presence or absence of a parameter. Recoveries higher than 140% can only be attributed to either data entry errors or field/laboratory contamination. If an over-recovery was due to field contamination, the contamination would also be present in the blank samples and would be identified through the evaluation of travelling blanks.
- In assessing the duplicate or split sample data, average difference ratios⁵ that were less than 1.0 or much less than the average effluent concentration ratio implied that precision was satisfactory. If the data did not meet this criteria, then the individual duplicate/split results were compared to the effluent monitoring data to assess analysis variability.

⁵ See Glossary for definition of "difference ratio".

- In assessing the uncorrected monitoring data, average difference ratios which were less than 1.0 or not comparable to the average effluent concentration ratio implied that laboratory blank corrections (the difference) were insignificant. If the data did not meet this criteria, individual uncorrected results were compared to the effluent monitoring data for reliability of corrections. If corrections were made to the effluent monitoring samples, then corrections to the QA/QC samples were checked for consistency.

One of the following conclusions was then made about the parameter:

- Data are acceptable.
- Data are equivocal.
- Data are unsuitable.

During the analysis of the QA/QC data, consideration was also given to the following:

- "Found" parameters with out of compliance Laboratory Method Detection Limits (LMDLs).

A parameter may have become a "found" parameter because the laboratory was unable to meet the RMDL. Such a parameter may still be limited depending on how much higher the LMDL (ie. "<DL" remark-coded data) was compared to the RMDL or because its generation or use at the plant site and its presence in effluents is probable.

- "Found" parameters with analytical difficulties.

Some plants diluted their effluent samples before analysis in order to avoid potential interference problems or contamination of their laboratory analytical equipment. Due to this process, a laboratory may not have been able to meet the RMDL for some analytes. As a result, the number reported would be higher than the RMDL with a "<" or "<WE" remark code indicating that this process was carried out. The parameter may still be considered for effluent limits setting depending on how much higher the remark-coded data was compared to the RMDL or if it can be shown that the parameter was generated or used at the plant site and its presence in effluents is probable.

"NOT FOUND" PARAMETERS

Under special circumstances, a "not found" parameter may be considered for effluent limits if it poses a significant threat to human health and the environment. Any significant analytical difficulties associated with the "not found" parameters have to be taken into consideration to set meaningful limits.

In assessing the QA/QC data for the "not found" parameters, the following steps were used (tables for "not found" parameters are **not** shown in this report):

- If the average or maximum recovery was less than 40%, then the individual travelling spiked blank results were examined for potential data entry errors. If no errors existed, the parameter was deemed to be a probable false negative as its concentration was likely to have been under-estimated.
- If there were corrections for laboratory blanks, then the individual uncorrected monitoring results were compared to the effluent monitoring results to assess labware/reagent contamination. If the corrections were significant enough to categorize the parameter as "not found", the parameter was deemed to be a potential false negative.

VII RESULTS AND CONCLUSIONS

The complete results of the QA/QC assessment are shown in Appendix E where for each plant site each "found" contaminant is listed and is designated with one of the following codes:

- A Data are Acceptable.
- E Data are Equivocal.
- U Data are Unsuitable.
- L Found on basis of LMDL greater than the RMDL.
- R Analytical difficulties were encountered.
- E/R Combination of E and R.

The background data leading to the classification is shown in Appendices C and D.

Courtaulds, Du Pont (Kingston), Du Pont (Maitland), Ethyl and Polysar had analytical difficulties with parameters in ATGs 16-23 (identified by "<" or "<WE" remark-coded data). The specific parameters are labelled with an "R" in the tables found in Appendix E.

Specific problem parameters from Appendix E have been grouped in tables as follows:

- Table 2 lists by plant the parameters requiring discretion for use in the development of effluent limits.
- Table 3 lists by plant site all parameters where the laboratory LMDL was higher than the RMDL.
- Table 4 lists "Not found" parameters with labware/reagent contamination.
- Table 5 lists "Not found" parameters with under-recoveries of travelling spiked blanks.

CONCLUSIONS

The formal QA/QC data assessment process has confirmed that the virtually all of the effluent monitoring data for the MISA OCM Sector are acceptable for use in the development of effluent limits.

The assessment has also identified "found" parameters which will require further specific attention before being considered for limits. These parameters included those with non-QA/QC related problems such as categorization as "found" based on a laboratory failing to meet the RMDL or because of analytical difficulties as represented by "<WE" or "<" remark-coded data.

Table 1 - Types of QA/QC Samples

QA/QC Sample	Definition	Significance	Expected Results
Travelling Blank Sample	A sample of uncontaminated water that is exposed to air at the sampling point.	Identifies any potential contamination of the effluent from the air.	Most of the travelling blank results should be at or below the RMDL.
Travelling Spiked Blank Sample	A sample of uncontaminated water to which a known amount of a standard solution has been added. The sample is taken to the sampling point unopened and returned to the laboratory.	Identifies any degradation of the parameter when the sample is in transit from the sampling point to the laboratory.	The measured result should be within 60% to 140% of the expected value.
Duplicate Sample	One of two samples collected at a sampling point at the same time the monitoring sample is taken.	Determines if a laboratory can duplicate the analysis given two of the same samples.	Most of the differences between the duplicate and monitoring results should be within $\pm$ RMDL.
Split Sample	One sample removed from the monitoring sample.	Determines if a laboratory can duplicate the analysis given two of the same samples.	Most of the differences between the split and monitoring results should be within $\pm$ RMDL.
Uncorrected Sample	A sample that has not been corrected for laboratory contamination. Data are usually shown for monitoring and QA/QC samples.	Determines if labware/reagent contamination is possible.	The difference between the uncorrected and corrected results should be zero for most ATGs.

Table 2 - Parameters Requiring Discretion for Limits Use

Plant	Parameter	Classification
BASF (Sarnia)	Copper Phenolics (4AAP) Zinc	Equivocal ⁶ Equivocal Equivocal
Courtaulds Fibres	1,2-Dichloroethane Chloroform Phenolics (4AAP) Toluene	Unsuitable Equivocal Equivocal Equivocal
Dow Chemical	1,2-Dichloropropane Aluminum Bromodichloromethane Bromoform Dibromochloromethane Methylene chloride	Equivocal Equivocal Equivocal Equivocal Equivocal Equivocal
Du Pont (Corunna)	Copper Toluene	Equivocal Equivocal
Du Pont (Whitby)	Oil and Grease	Equivocal
Esso Chemical	Vinyl Chloride	Equivocal
Ethyl	Benzene Toluene	Equivocal Equivocal
Morbern Inc.	Benzene o-Xylene	Equivocal Equivocal
Polysar	Benzene Bis(2-ethylhexyl) phthalate Toluene	Equivocal Equivocal Equivocal
Stepan	Boron Carbon Tetrachloride	Unsuitable Equivocal
Uniroyal	Toluene	Equivocal

⁶ See Glossary for definition of "equivocal".

Table 3 - Parameters "Found" on Basis of LMDL Above RMDL

Plant	Control Point	Parameter
BF Goodrich	IN 0600	Total O8CDD
BASF (Sarnia)	OT 0100 IN 0500	Zinc Zinc
Celanese	All	1,2-Dichloroethane
Chinook	IN 0400, CO 0100 IN 0400, CO 0100	Bromodichloromethane Diphenyl ether
Cornwall Chemicals	IN 0300 IN 0300 IN 0300 IN 0300 IN 0300 IN 0300, PR 0100	Beryllium Cadmium Molybdenum Thallium Vanadium Hexachlorocyclopentadiene
Dow Chemical	IN 0100 OT 0300 CO 0500 CO 0500 CO 0600 CO 0700 CO 0700 CO 0700 CO 0700 CO 0900 OT 1000 PR 1600 PR 1900 PR 2000 PR 2100 All All All All All	Chloroform Chloroform Carbon Tetrachloride Chloroform Chloroform Carbon Tetrachloride Chloroform Total Kjeldahl Nitrogen Chloroform Chloroform Molybdenum Molybdenum Molybdenum Chloroform 2,3,4,5-Tetrachlorophenol 2,3,4-Trichlorophenol 2-Chloronaphthalene Biphenyl Naphthalene
Guardsman	OT 0100	Toluene
Morbern	OT 0100	1,2-Dichloroethane
Novacor	IN 0600	DOC
Uniroyal	CO 0900 CO 0900 CO 0900	Total H6CDF Total H7CDD Total O8CDD

Table 4 - "Not Found" Parameters with Laboratory Blank Problems

Plant	Parameter
Amoco	Methylene chloride
Chinook	PCBT
Courtaulds	Benzene, Methylene chloride
Dow	Benzene, Methylene chloride
GE Plastics	Benzene, Toluene
Novacor	Benzene, Toluene, m and p-Xylene
Rohm and Haas (M)	Benzene, Bromomethane, Methylene chloride
Rohm and Haas (S)	Benzene, Toluene
Niroyal	Benzene, Chloroform, Methylene chloride

Table 5 - "Not Found" Parameters With Under-Recoveries of Travelling Spiked Blanks

Plant	Parameter	Recoveries (%)
Amoco	2,4-Dimethylphenol	9 -14, (11)
	4-Nitrophenol	7 -26, (17)
	Phenol	33-39, (36)
Canadianoxy	4-Nitrophenol	12-22, (17)
	Phenol	11-12, (12)
Dow	Camphene	7-29, (16)
Esso	Benzylbutylphthalate	2-24, (12)
Polysar	Camphene	5-65, (29)

() = average value

VIII REFERENCES

- 1) Ontario Ministry of the Environment, Water Resources Branch, MISA, "MISA Issues Resolution Process -- Issue Resolution Committee Reports", draft, Final Report of the Issue Resolution Committee on Quality Assurance and Quality Control, June 1990, Queen's Printer.
- 2) Ontario Ministry of the Environment, Water Resources Branch, MISA, "Six Month Monitoring Data Report, Organic Chemical Manufacturing Sector (October 1, 1989 to March 31, 1990)", ISBN 0-7729-8922-2, February 1992, Queen's Printer
- 3) Ontario Ministry of the Environment, Water Resources Branch, MISA, "Twelve-Month Monitoring Data Report, Organic Chemical Manufacturing Sector (Period Covered: October 1, 1989 to July 31, 1991)", ISBN 0-7778-0032-2, September 1992, Queen's Printer.

IX GLOSSARY

Concentration Ratio:	Parameter long term average concentration divided by the Regulation Method Detection Limit.
Corrected data:	Data that have been corrected for laboratory method blank analyses.
Difference Ratio:	Absolute difference between regular effluent monitoring data and duplicate/split/uncorrected sample divided by the Regulation Method Detection Limit.
Duplicate sample:	One of two samples collected at a sampling point at the same time in a manner that minimizes differences between the samples.
Equivocal:	The data for the parameter should be used with caution.
LMDL:	Laboratory Method Detection Limit.
Method blank sample:	A sample that does not contain any parameters for which the sample is to be analyzed nor any substance that might interfere with the analysis.
Qualitative Data:	Presence and actual level of analyte are be uncertain.
Quantitative Data:	Presence and actual level of analyte are certain.
RMDL:	Regulation Method Detection Limit. The maximum allowable LMDL for a laboratory under the regulation.
Replicate sample:	One of at least two samples removed from a single sample container in a manner that minimizes differences between the samples.
Semi-quantitative:	Presence of analyte is probable but actual level of analyte may be uncertain.

- Split sample:** One sample removed from a single sample collected at a sampling point in a manner that minimizes differences between the samples.
- Travelling blank:** A sample of uncontaminated water that accompanies the sample container to the area where other samples are to be collected. The sample of water is opened and resealed in the sampling area and is returned to the laboratory together with the other effluent samples.
- Travelling spiked blank:** A sample of uncontaminated water to which a known amount of a standard solution has been added. The sample with this solution accompanies the sample container to the sampling area where other samples are to be collected. The sample spiked with solution is left unopened and is returned to the laboratory together with the other effluent samples.
- Uncorrected data:** Data that have not been corrected for laboratory method blank analyses.

APPENDIX A
MISA OCM SECTOR PLANTS

MISA OCM Sector Plants

COMPANY

Akzo Chemicals Ltd. - Sarnia
Amoco Canada Resources Ltd. - Sarnia

B.F. Goodrich Canada Inc. - Thorold
BASF Canada Inc. - Arnprior
BASF Canada Inc. - Sarnia

Canadianoxy Chemicals Ltd. - Fort Erie
Celanese Canada Inc. - Millhaven
Chinook Group Ltd. - Sombra
Cornwall Chemicals Ltd. - Cornwall
Courtaulds Fibres Canada - Cornwall

Dow Chemical Canada Inc. - Sarnia
Du Pont Canada Inc. - Corunna
Du Pont Canada Inc. - Kingston
Du Pont Canada Inc. - Maitland
Du Pont Canada Inc. - Whitby

Esso Chemical Canada - Sarnia
Ethyl Canada Inc. - Corunna

GE Plastics Canada Ltd. - Cobourg
Guardsman Products Ltd. - Cornwall

Morbern Inc. - Cornwall

Novacor Chemicals Ltd. - Mooretown

Polysar Ltd. - Sarnia

Rohm and Haas Canada Inc. - Morrisburg
Rohm and Haas Canada Inc. - Scarborough

Stepan Canada Inc. - Longford Mills

Uniroyal Chemical Ltd. - Elmira

APPENDIX B
REGULATION METHOD DETECTION LIMITS

REGULATION METHOD DETECTION LIMITS

ATG	PARAMETER	RMDL	UNIT
---	----	----	----
1	COD	10	mg/L
2	Cyanide Total	0.005	mg/L
4	Ammonia plus Ammonium	0.25	mg/L
	Nitrate+Nitrite	0.25	mg/L
	Total Kjeldahl Nitrogen	0.5	mg/L
5	DOC	0.5	mg/L
	TOC	5	mg/L
6	Total phosphorus	0.1	mg/L
7	Specific conductance	5	uS/cm
8	Total suspended solids	5	mg/L
	Volatile suspended solids	10	mg/L
9	Aluminum	30	µg/L
	Beryllium	10	µg/L
	Boron	50	µg/L
	Cadmium	2	µg/L
	Chromium	20	µg/L
	Cobalt	20	µg/L
	Copper	10	µg/L
	Lead	30	µg/L
	Lithium	50	µg/L
	Molybdenum	20	µg/L
	Nickel	20	µg/L
	Silver	30	µg/L
	Thallium	30	µg/L
	Vanadium	30	µg/L
	Zinc	10	µg/L
10	Antimony	5	µg/L
	Arsenic	5	µg/L
	Selenium	5	µg/L
11	Chromium (hexavalent)	10	µg/L
12	Mercury	0.1	µg/L
13	Tetra-alkyl lead (Total)	2	µg/L
	Tri-alkyl lead (Total)	2	µg/L
14	Phenolics (4AAP)	2	µg/L
15	Sulphide	20	µg/L

REGULATION METHOD DETECTION LIMITS (cont'd)

ATG	PARAMETER	RMDL	UNIT
---	-----	---	---
16	1,1,2,2-Tetrachloroethane	4.3	µg/L
	1,1,2-Trichloroethane	0.6	µg/L
	1,1-Dichloroethane	0.8	µg/L
	1,1-Dichloroethylene	2.8	µg/L
	1,2-Dichlorobenzene	1.4	µg/L
	1,2-Dichloroethane	0.8	µg/L
	1,2-Dichloropropane	0.9	µg/L
	1,3-Dichlorobenzene	1.1	µg/L
	1,4-Dichlorobenzene	1.7	µg/L
	Bromodichloromethane	0.8	µg/L
	Bromoform	3.7	µg/L
	Bromomethane	3.7	µg/L
	Carbon tetrachloride	1.3	µg/L
	Chlorobenzene	0.7	µg/L
	Chloroform	0.7	µg/L
	Chloromethane	3.7	µg/L
	Cis-1,3-Dichloropropylene	1.4	µg/L
	Dibromochloromethane	1.1	µg/L
	Ethylene dibromide	1	µg/L
	Methylene chloride	1.3	µg/L
	Tetrachloroethylene	1.1	µg/L
	Trans-1,2-Dichloroethylene	1.4	µg/L
	Trans-1,3-Dichloropropylene	1.4	µg/L
	Trichloroethylene	1.9	µg/L
	Trichlorofluoromethane	1	µg/L
	Vinyl chloride	4	µg/L
17	Benzene	0.5	µg/L
	Ethylbenzene	0.6	µg/L
	Styrene	0.5	µg/L
	Toluene	0.5	µg/L
	m-Xylene and p-Xylene	1.1	µg/L
	o-Xylene	0.5	µg/L
18	Acrolein	4	µg/L
	Acrylonitrile	4.2	µg/L

REGULATION METHOD DETECTION LIMITS (cont'd)

ATG	PARAMETER	RMDL	UNIT
---	-----	----	----
19	1-Chloronaphthalene	2.5	µg/L
	1-Methylnaphthalene	3.2	µg/L
	2,4-Dinitrotoluene	0.8	µg/L
	2,6-Dinitrotoluene	0.7	µg/L
	2-Chloronaphthalene	1.8	µg/L
	2-Methylnaphthalene	2.2	µg/L
	4-Bromophenyl phenyl ether	0.3	µg/L
	4-Chlorophenyl phenyl ether	0.9	µg/L
	5-nitro, Acenaphthene	4.3	µg/L
	Acenaphthene	1.3	µg/L
	Acenaphthylene	1.4	µg/L
	Anthracene	1.2	µg/L
	Benz (a) anthracene	0.5	µg/L
	Benzo (a) pyrene	0.6	µg/L
	Benzo (b) fluoranthene	0.7	µg/L
	Benzo (g,h,i) perylene	0.7	µg/L
	Benzo (k) fluoranthene	0.7	µg/L
	Benzylbutylphthalate	0.6	µg/L
	Biphenyl	0.6	µg/L
	Bis (2-chloroethoxy) methane	3.5	µg/L
	Bis (2-chloroethyl) ether	4.4	µg/L
	Bis (2-chloroisopropyl) ether	2.2	µg/L
	Bis (2-ethylhexyl) phthalate	2.2	µg/L
	Camphene	3.5	µg/L
	Chrysene	0.3	µg/L
	Di-n-butyl phthalate	3.8	µg/L
	Di-n-octyl phthalate	2	µg/L
	Dibenz (a,h) anthracene	1.3	µg/L
	Diphenyl ether	0.4	µg/L
	Diphenylamine	14	µg/L
	Fluoranthene	0.4	µg/L
	Fluorene	1.7	µg/L
	Indeno (1,2,3-cd) pyrene	1.3	µg/L
	Indole	1.9	µg/L
	N-Nitrosodi-n-propylamine	3.1	µg/L
	N-Nitrosodiphenylamine	14	µg/L
	Naphthalene	1.6	µg/L
	Perylene	1.5	µg/L
	Phenanthrene	0.4	µg/L
	Pyrene	0.4	µg/L

REGULATION METHOD DETECTION LIMITS (cont'd)

ATG	PARAMETER	RMDL	UNIT
20	2,3,4,5-Tetrachlorophenol	0.4	µg/L
	2,3,4,6-Tetrachlorophenol	2.8	µg/L
	2,3,4-Trichlorophenol	0.6	µg/L
	2,3,5,6-Tetrachlorophenol	1.6	µg/L
	2,3,5-Trichlorophenol	1.3	µg/L
	2,4,5-Trichlorophenol	1.3	µg/L
	2,4,6-Trichlorophenol	1.3	µg/L
	2,4-Dichlorophenol	1.7	µg/L
	2,4-Dimethylphenol	7.3	µg/L
	2,4-Dinitrophenol	42	µg/L
	2,6-Dichlorophenol	2	µg/L
	2-Chlorophenol	3.7	µg/L
	4,6-Dinitro-o-cresol	24	µg/L
	4-Chloro-3-methylphenol	1.5	µg/L
	4-Nitrophenol	1.4	µg/L
	Pentachlorophenol	1.3	µg/L
	Phenol	2.4	µg/L
	m-Cresol	3.4	µg/L
	o-Cresol	3.7	µg/L
	p-Cresol	3.5	µg/L
23	1,2,3,4-Tetrachlorobenzene	10	ng/L
	1,2,3,5-Tetrachlorobenzene	10	ng/L
	1,2,3-Trichlorobenzene	10	ng/L
	1,2,4,5-Tetrachlorobenzene	10	ng/L
	1,2,4-Trichlorobenzene	10	ng/L
	2,4,5-Trichlorotoluene	10	ng/L
	Hexachlorobenzene	10	ng/L
	Hexachlorobutadiene	10	ng/L
	Hexachlorocyclopentadiene	10	ng/L
	Hexachloroethane	10	ng/L
	Octachlorostyrene	10	ng/L
	Pentachlorobenzene	10	ng/L

REGULATION METHOD DETECTION LIMITS (cont'd)

ATG	PARAMETER	RMDL	UNIT
---	-----	---	----
24	2,3,7,8 TCDD	20	pg/L
	Total TCDD	20	pg/L
	Total TCDF	15	pg/L
	Total PCDD	20	pg/L
	Total PCDF	15	pg/L
	Total H6CDD	30	pg/L
	Total H6CDF	20	pg/L
	Total H7CDD	30	pg/L
	Total H7CDF	30	pg/L
	Octachlorodibenzo-p-dioxin	30	pg/L
	Octachlorodibenzofuran	30	pg/L
25	Oil and grease	1	mg/L
27	PCBT	0.1	µg/L
PF1	BOD, 5 day, Total Demand	0.5	mg/L

Note: ATG - Analytical Test Group
RMDL - Regulation Method Detection Limit

APPENDIX C

QA/QC WORKING TABLES

<u>PLANT</u>	<u>PAGE</u>
Akzo Chemicals Ltd. - Sarnia	C-2
Amoco Canada Resources Ltd. - Sarnia	C-4
B.F. Goodrich Canada Inc. - Thorold	C-9
BASF Canada Inc. - Arnprior	C-14
BASF Canada Inc. - Sarnia	C-15
Canadianoxy Chemicals Ltd. - Fort Erie	C-19
Celanese Canada Inc. - Millhaven	C-21
Chinook Group Ltd. - Sombra	C-24
Cornwall Chemicals Ltd. - Cornwall	C-27
Courtaulds Fibres Canada - Cornwall	C-32
Dow Chemical Canada Inc. - Sarnia	C-37
Du Pont Canada Inc. - Corunna	C-52
Du Pont Canada Inc. - Kingston	C-56
Du Pont Canada Inc. - Maitland	C-77
Du Pont Canada Inc. - Whitby	C-88
Esso Chemical Canada - Sarnia	C-90
Ethyl Canada Inc. - Corunna	C-100
GE Plastics Canada Ltd. - Cobourg	C-112
Guardsman Products Ltd. - Cornwall	C-116
Morbern Inc. - Cornwall	C-117
Novacor Chemicals Ltd. - Mooretown	C-121
Polysar Ltd. - Sarnia	C-123
Rohm and Haas Canada Inc. - Morrisburg	C-133
Rohm and Haas Canada Inc. - Scarborough	C-138
Stepan Canada Inc. - Longford Mills	C-139
Uniroyal Chemical Ltd. - Elmira	C-144

QA/QC Data for Akzo Chemicals Ltd. - Sarnia (Page 1 of 2)
OT 0100 - Reactor #4 Cooling Water to River

TABLE C1.1 Detection Frequencies and Concentration Ratios For Found Parameters Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	12	FM	100	100	25	2.40	7.80	4.30
Nitrate+Nitrite	12	FL	75	0	0	.80	1.24	1.07
Aluminum	12	FL	42	8	0	1.00	2.67	1.22
Zinc	12	IM	33	25	0	1.00	3.00	1.42
Phenolics (4AAP)	12	IM	33	25	0	.10	2.50	1.07
Total suspended solids	12	IM	8	8	0	.45	3.20	1.14
Ammonia plus Ammonium	12	NO	0	0	0	.20	.48	.39
Total Kjeldahl Nitrogen	12	NO	0	0	0	.24	.42	.34
TOC	5	NO	0	0	0	.32	.86	.49
Copper	12	NO	0	0	0	1.00	1.00	1.00
Oil and grease	12	NO	0	0	0	1.00	1.00	1.00

TABLE C1.2 Detection Frequencies and Concentration Ratios for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Aluminum	1	0	1.00	1.00	1.00
Copper	1	0	1.00	1.00	1.00
DOC	1	0	1.00	1.00	1.00
Oil and grease	1	0	1.00	1.00	1.00
Zinc	1	0	1.00	1.00	1.00
Phenolics (4AAP)	1	0	.50	.50	.50
Ammonia plus Ammonium	1	0	.40	.40	.40
Nitrate+Nitrite	1	0	.20	.20	.20
Total Kjeldahl Nitrogen	1	0	.20	.20	.20
TOC	1	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Data for Akzo Chemicals Ltd. - Sarnia (Page 2 of 2)
OT 0100 - Reactor #4 Cooling Water to River

TABLE C1.3 Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations -----	Difference Ratios (1) Minimum Maximum Average -----		
DOC	1	.60	.60	.60
Aluminum	1	.33	.33	.33
Nitrate+Nitrite	1	.04	.04	.04
Ammonia plus Ammonium	1	.00	.00	.00
Copper	1	.00	.00	.00
Oil and grease	1	.00	.00	.00
Phenolics (4AAP)	1	.00	.00	.00
Total Kjeldahl Nitrogen	1	.00	.00	.00
Zinc	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Data for Amoco Canada Resources Ltd. - Sarnia (Page 1 of 5)
CO 0100 - API Separator Effluent to River

TABLE C2.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	295	FH	100	100	100	4.80	280.00	41.44
Molybdenum	132	FH	100	99	97	1.00	49.00	24.79
Aluminum	132	FH	100	98	89	1.00	73.33	13.83
Total phosphorus	44	FH	100	98	80	1.80	20.00	8.55
TOC	93	FM	100	92	41	1.44	28.00	5.46
Total suspended solids	132	FM	100	92	23	1.20	36.00	4.51
Total Kjeldahl Nitrogen	131	FM	99	92	14	.80	6.80	3.50
Mercury	45	FM	98	91	47	1.00	18.00	4.93
Zinc	45	FM	96	82	38	.40	28.90	4.60
Phenolics (4AAP)	131	FM	95	75	29	.25	25.50	4.38
1,2-Dichlorobenzene	45	FH	93	93	93	.29	135.71	43.25
Chloroform	45	FH	93	87	73	.57	20.00	7.42
Chlorobenzene	45	FH	91	91	82	.86	44.29	13.80
Oil and grease	45	FM	91	71	24	.89	37.00	4.05
Boron	45	FL	80	0	0	.10	1.98	1.15
Sulphide	132	FM	80	54	15	.10	38.40	3.23

TABLE C2.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COD	4	FH	100	100	100	5.50	11.20	9.05
Benzene	4	FH	100	100	75	3.80	300.00	80.35
o-Xylene	4	FM	100	100	50	2.80	52.00	16.05
Arsenic	4	FL	100	50	0	1.00	2.60	1.95
Toluene	4	FH	75	75	75	.80	116.00	33.80
m-Xylene and p-Xylene	4	FL	75	50	25	.55	49.09	13.98
1,4-Dichlorobenzene	11	FL	55	18	9	.12	12.94	2.27
Copper	13	FL	46	38	23	.40	30.00	4.66
Bromodichloromethane	12	FL	42	0	0	.50	1.13	.78
Carbon tetrachloride	12	IH	33	33	25	.23	47.69	5.95
1,1-Dichloroethane	12	IL	33	17	0	.63	17.50	2.50
Ammonia plus Ammonium	12	IM	8	8	0	.10	2.16	.31
Nitrate+Nitrite	12	IL	8	0	0	.10	1.36	.28

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Data for Amoco Canada Resources Ltd. - Sarnia (Page 2 of 5)
CO 0100 - API Separator Effluent to River

**TABLE C2.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks**

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Oil and grease	4	25	.89	1.00	.95
Chlorobenzene	3	0	.86	.86	.86
Total suspended solids	2	0	.84	.84	.84
Sulphide	10	0	.50	.95	.82
COD	1	0	.80	.80	.80
Total phosphorus	5	20	.62	1.20	.78
Copper	4	25	.20	1.80	.75
Bromodichloromethane	3	33	.50	1.00	.67
1,1-Dichloroethane	3	0	.63	.63	.63
DOC	10	10	.20	1.00	.60
Chloroform	3	0	.57	.57	.57
Aluminum	10	20	.20	1.40	.47
Phenolics (4AAP)	10	0	.25	.50	.43
Total Kjeldahl Nitrogen	10	0	.22	.40	.35
Zinc	5	0	.20	.40	.35
Molybdenum	10	10	.15	1.00	.29
1,2-Dichlorobenzene	3	0	.29	.29	.29
Carbon tetrachloride	3	0	.23	.23	.23
Mercury	3	0	.19	.19	.19
Arsenic	1	0	.16	.16	.16
Boron	5	0	.10	.24	.16
1,4-Dichlorobenzene	3	0	.12	.12	.12
TOC	6	0	.10	.16	.11
Ammonia plus Ammonium	4	0	.10	.10	.10
Nitrate+Nitrite	4	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

**TABLE C2.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters**

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	3	.00	2.86	1.67
Bromodichloromethane	3	.00	.75	.25
1,4-Dichlorobenzene	3	.00	.35	.12
1,1-Dichloroethane	3	.00	.00	.00
1,2-Dichlorobenzene	3	.00	.00	.00
Carbon tetrachloride	3	.00	.00	.00
Chlorobenzene	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Data for Amoco Canada Resources Ltd. - Sarnia (Page 3 of 5)
 * CO 0100 - API Separator Effluent to River

TABLE C2.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	1,1-Dichloroethane	3	95	120	105	25.0
16	1,2-Dichlorobenzene	2	100	120	110	14.3
16	1,4-Dichlorobenzene	3	90	105	97	11.8
16	Bromodichloromethane	3	100	115	105	25.0
16	Carbon tetrachloride	3	90	120	102	15.4
16	Chlorobenzene	2	100	105	103	28.6
16	Chloroform	2	95	115	105	28.6

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value x 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C2.4B Absolute Value of the Difference Between Uncorrected Travelling Spiked Blank Sample Concentration and Corrected Travelling Spiked Blank Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	2	1.43	1.43	1.43
Chlorobenzene	2	.00	1.43	.71
1,4-Dichlorobenzene	3	.00	.59	.39
1,2-Dichlorobenzene	2	.00	.71	.36
Carbon tetrachloride	3	.00	.77	.26
1,1-Dichloroethane	3	.00	.00	.00
Bromodichloromethane	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Data for Amoco Canada Resources Ltd. - Sarnia (Page 4 of 5)
CO 0100 - API Separator Effluent to River

TABLE C2.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,2-Dichlorobenzene	3	.71	14.29	6.67
Mercury	1	5.00	5.00	5.00
Aluminum	4	.33	9.67	2.83
Oil and grease	4	.00	4.00	1.44
Chlorobenzene	3	.00	2.86	1.43
Molybdenum	4	.05	2.50	1.05
Total phosphorus	2	.80	1.20	1.00
Total suspended solids	4	.00	1.80	.86
Boron	3	.04	1.74	.61
Phenolics (4AAP)	4	.00	1.00	.55
Sulphide	10	.00	1.05	.45
DOC	4	.00	.80	.40
COD	1	.30	.30	.30
TOC	2	.00	.60	.30
Zinc	3	.10	.50	.27
Total Kjeldahl Nitrogen	4	.16	.32	.24
1,4-Dichlorobenzene	3	.06	.59	.24
Chloroform	3	.00	.29	.19
1,1-Dichloroethane	3	.00	.38	.13
Arsenic	1	.08	.08	.08
Carbon tetrachloride	3	.00	.15	.05
Ammonia plus Ammonium	2	.04	.04	.04
Bromodichloromethane	3	.00	.00	.00
Copper	2	.00	.00	.00
Nitrate+Nitrite	2	.00	.00	.00

TABLE C2.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	3	.71	1.00	.86
1,4-Dichlorobenzene	3	.24	.59	.37
1,1-Dichloroethane	3	.00	.00	.00
1,2-Dichlorobenzene	3	.00	.00	.00
Bromodichloromethane	3	.00	.00	.00
Carbon tetrachloride	3	.00	.00	.00
Chlorobenzene	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Data for Amoco Canada Resources Ltd. - Sarnia (Page 5 of 5)
CO 0100 - API Separator Effluent to River

TABLE C2.6 Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Aluminum	6	.33	15.33	4.68
DOC	6	.00	6.00	2.67
Copper	3	.10	3.60	2.27
Total phosphorus	3	.30	3.00	1.43
Molybdenum	6	.00	3.00	1.08
Mercury	3	.10	1.20	.50
TOC	4	.00	1.20	.42
Total suspended solids	6	.00	1.00	.37
Phenolics (4AAP)	6	.00	1.00	.33
Zinc	3	.00	.40	.20
Total Kjeldahl Nitrogen	6	.00	.60	.17
Boron	3	.00	.08	.05
Ammonia plus Ammonium	3	.00	.08	.04
Nitrate+Nitrite	3	.01	.08	.03

TABLE 2.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	.60	14.80	6.10
Benzene	4	.00	2.20	1.00
Chloroform	45	.00	8.00	.94
1,2-Dichlorobenzene	45	.00	7.14	.37
m-Xylene and p-Xylene	4	.00	.91	.36
Oil and grease	1	.11	.11	.11
1,4-Dichlorobenzene	11	.00	.29	.05
1,1-Dichloroethane	12	.00	.00	.00
Bromodichloromethane	12	.00	.00	.00
Carbon tetrachloride	12	.00	.00	.00
Chlorobenzene	45	.00	.00	.00
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for B.F. Goodrich Canada Inc. - Thorold (Page 1 of 5)
PR 0100 - Final Effluent to River

TABLE C3.1 Detection Frequencies and Concentration Ratios for Found Parameters Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Total Kjeldahl Nitrogen	153	FM	97	80	2	.20	6.40	2.68
DOC	363	FM	96	96	93	1.00	128.00	23.73
Total suspended solids	155	FM	95	84	33	.60	24.00	4.95
Cyanide Total	51	FM	94	94	92	1.00	50.40	19.40
TOC	156	FM	87	62	18	.10	14.20	3.22
Nitrate+Nitrite	151	FM	84	66	29	.32	17.04	3.73
Vinyl chloride	157	FM	79	73	67	.23	310.00	39.76
Ammonia plus Ammonium	154	FL	48	12	1	.10	5.56	1.17
Volatile suspended solids	363	FL	47	17	1	.10	6.40	1.17
Oil and grease	53	FL	47	9	0	.50	4.50	1.17
Total phosphorus	132	IL	26	11	3	.10	38.50	1.33

TABLE C3.2 Detection Frequencies and Concentration Ratios For Found Parameters Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Octachlorodibenzo-p-dioxin	4	FM	100	75	50	1.60	17.00	7.58
COD	4	FL	100	50	0	1.60	3.50	2.51
Aluminum	12	FM	92	92	83	.10	35.33	17.86
Chloroform	12	FM	92	92	75	1.00	48.71	12.57
Zinc	12	FL	83	50	17	.50	16.60	3.75
Phenolics (4AAP)	12	FM	75	58	17	1.00	19.50	3.83
Boron	12	FL	67	17	0	.44	2.34	1.31
Sulphide	12	FL	50	50	0	.10	4.00	1.72
Trichloroethylene	12	FL	50	42	8	.21	15.42	2.51
Toluene	4	FL	50	25	0	.80	3.20	1.60
Methylene chloride	12	FL	42	33	8	.62	5.85	1.77
Chromium (hexavalent)	11	IL	36	18	0	.50	3.00	1.15
Molybdenum	12	IM	33	25	8	.30	5.10	1.42

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for B.F. Goodrich Canada Inc. - Thorold (Page 2 of 5)
PR 0100 - Final Effluent to River

TABLE C3.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Total phosphorus	10	20	.10	1,640.00	164.42
Methylene chloride	4	50	.62	21.46	5.96
DOC	12	50	.80	10.00	3.17
Zinc	4	25	.30	10.30	3.00
Phenolics (4AAP)	4	50	1.00	6.50	2.38
Aluminum	4	50	.83	1.47	1.18
Chloroform	4	0	1.00	1.00	1.00
Cyanide Total	5	0	1.00	1.00	1.00
Sulphide	4	0	1.00	1.00	1.00
Oil and grease	4	0	.50	1.00	.83
Boron	4	25	.10	1.04	.59
Total Kjeldahl Nitrogen	12	17	.10	3.20	.59
Chromium (hexavalent)	4	0	.50	.50	.50
Molybdenum	4	0	.30	1.00	.48
Total suspended solids	6	17	.10	1.60	.38
Nitrate+Nitrite	11	0	.32	.40	.37
Ammonia plus Ammonium	12	0	.10	.56	.24
Vinyl chloride	11	0	.23	.23	.23
Trichloroethylene	4	0	.21	.21	.21
TOC	12	0	.10	.54	.19
Volatile suspended solids	7	0	.10	.30	.13

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C3.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	4	.00	.00	.00
Methylene chloride	4	.00	.00	.00
Trichloroethylene	4	.00	.00	.00
Vinyl chloride	11	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for B.F. Goodrich Canada Inc. - Thorold (Page 3 of 5)
PR 0100 - Final Effluent to River

TABLE C3.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	Chloroform	4	55	132	77	7.6
16	Methylene chloride	4	65	139	98	4.0
16	Trichloroethylene	4	52	122	82	2.8
16	Vinyl chloride	10	48	148	79	3.2

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C3.4B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Methylene chloride	4	.00	.85	.21
Chloroform	4	.00	.00	.00
Trichloroethylene	4	.00	.00	.00
Vinyl chloride	11	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for B.F. Goodrich Canada Inc. - Thorold (Page 4 of 5)
PR 0100 - Final Effluent to River

TABLE C3.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Vinyl chloride	11	.00	27.50	5.84
Cyanide Total	4	.20	20.80	5.60
DOC	12	1.00	20.00	4.93
Phenolics (4AAP)	4	.00	18.50	4.88
Zinc	4	.10	15.20	4.25
Aluminum	4	.77	5.93	2.38
Total suspended solids	10	.00	5.40	1.17
TOC	11	.02	5.00	.78
Volatile suspended solids	11	.00	2.00	.35
Oil and grease	5	.00	1.50	.34
Total Kjeldahl Nitrogen	10	.00	1.60	.32
Trichloroethylene	4	.00	.84	.29
Total phosphorus	7	.00	.90	.27
Nitrate+Nitrite	10	.00	.80	.25
Ammonia plus Ammonium	10	.00	.56	.19
Methylene chloride	4	.00	.69	.17
Chloroform	4	.00	.29	.16
Boron	4	.04	.28	.15
Molybdenum	4	.00	.20	.09
Chromium (hexavalent)	3	.00	.10	.03
Sulphide	4	.00	.00	.00

TABLE C3.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	4	.00	.00	.00
Methylene chloride	4	.00	.00	.00
Trichloroethylene	4	.00	.00	.00
Vinyl chloride	11	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for B.F. Goodrich Canada Inc. - Thorold (Page 5 of 5)
PR 0100 - Final Effluent to River

TABLE C3.6A Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
TOC	1	1.40	1.40	1.40
Total suspended solids	1	.40	.40	.40
Vinyl chloride	1	.24	.24	.24
Volatile suspended solids	1	.00	.00	.00

TABLE C3.6B Absolute Value of the Difference Between Uncorrected Split Sample Concentration and Corrected Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Vinyl chloride	1	.00	.00	.00

TABLE C3.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Methylene chloride	12	.00	.77	.06
Chloroform	12	.00	.00	.00
Toluene	4	.00	.00	.00
Trichloroethylene	12	.00	.00	.00
Vinyl chloride	151	.00	.01	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for BASF Canada Inc. - Arnprior (Page 1 of 1)
OT 0100 - Storm Discharge

TABLE C4.1 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	11	FH	100	100	100	7.00	19.30	11.28
Aluminum	12	FH	100	100	83	3.00	19.67	7.19
Zinc	12	FM	92	92	25	1.00	58.00	7.91
Total phosphorus	12	FL	67	33	17	.10	75.00	7.97
Total Kjeldahl Nitrogen	12	FL	67	17	8	.20	22.40	2.95
Copper	12	FL	42	8	8	.30	9.00	1.65
TOC	12	FL	42	8	0	.70	2.02	1.14
Phenolics (4AAP)	12	IH	33	25	17	.28	6.50	1.87
Vanadium	12	IM	33	25	0	.13	3.67	1.17

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for BASF Canada Inc. - Sarnia (Page 1 of 4)
OT 0200 - #1 Plant Storm Sewer to River

TABLE C5.1 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	12	FM	100	92	8	1.40	5.60	3.37
Oil and grease	12	FL	67	33	8	1.00	63.00	6.74
Zinc	12	FL	58	33	17	1.00	6.00	2.25
Phenolics (4AAP)	12	FL	50	17	8	1.00	6.50	2.00
Copper	12	FL	42	17	0	1.00	2.00	1.17
Aluminum	12	FL	42	0	0	.33	1.67	1.08
Lead	12	FL	42	0	0	1.00	1.67	1.17
Total Kjeldahl Nitrogen	12	IL	33	0	0	.66	1.34	.93
Total suspended solids	12	IM	17	17	8	.20	10.84	1.69
Acrylonitrile	12	IM	17	17	0	.17	2.67	.64
Styrene	12	IL	17	8	0	.60	2.20	.88
Ethylbenzene	12	IM	8	8	0	.28	3.17	.57
Toluene	12	IM	8	8	0	.32	4.00	.71

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for BASF Canada Inc. - Sarnia (Page 2 of 4)
OT 0200 - #1 Plant Storm Sewer to River

TABLE C5.2A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Phenolics (4AAP)	3	33	1.00	10.00	4.00
Copper	3	33	1.00	2.00	1.33
Zinc	3	33	1.00	2.00	1.33
Lead	3	0	1.00	1.00	1.00
Oil and grease	3	0	1.00	1.00	1.00
Aluminum	3	0	.33	1.00	.78
DOC	4	25	.10	1.20	.62
Styrene	4	0	.60	.60	.60
Total suspended solids	2	0	.60	.60	.60
Total Kjeldahl Nitrogen	3	0	.40	.72	.59
Toluene	4	0	.40	.40	.40
Ethylbenzene	4	0	.33	.33	.33
Acrylonitrile	4	0	.17	.17	.17

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C5.2B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Acrylonitrile	3	.00	.00	.00
Ethylbenzene	3	.00	.00	.00
Styrene	3	.00	.00	.00
Toluene	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for BASF Canada Inc. - Sarnia (Page 3 of 4)
OT 0200 - #1 Plant Storm Sewer to River

TABLE C5.3A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
4	Total Kjeldahl Nitrogen	1	126	126	126	2.0
5	DOC	1	106	106	106	10.0
9	Aluminum	1	107	107	107	66.7
9	Copper	1	98	98	98	200.0
9	Lead	1	82	82	82	66.7
9	Zinc	1	105	105	105	200.0
14	Phenolics (4AAP)	1	102	102	102	50.0
17	Ethylbenzene	3	84	96	92	85.0
17	Styrene	3	97	98	98	152.4
17	Toluene	3	95	99	98	94.5
18	Acrylonitrile	3	73	109	95	44.0
25	Oil and grease	1	102	102	102	20.0

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C5.3B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Acrylonitrile	3	.00	.00	.00
Ethylbenzene	3	.00	.00	.00
Styrene	3	.00	.00	.00
Toluene	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for BASF Canada Inc. - Sarnia (Page 4 of 4)
OT 0200 - #1 Plant Storm Sewer to River

TABLE C5.4A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations -----	Difference Ratios (1)		
		Minimum	Maximum	Average -----
Toluene	4	.00	5.20	1.30
Acrylonitrile	4	.00	1.83	.53
Styrene	4	.00	1.60	.40
Copper	3	.00	1.00	.33
Oil and grease	3	.00	1.00	.33
DOC	3	.00	.80	.27
Aluminum	3	.00	.67	.22
Lead	3	.00	.33	.22
Total Kjeldahl Nitrogen	3	.12	.28	.19
Total suspended solids	3	.00	.08	.03
Ethylbenzene	4	.00	.00	.00
Phenolics (4AAP)	3	.00	.00	.00
Zinc	3	.00	.00	.00

TABLE C5.4B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations -----	Difference Ratios (1)		
		Minimum	Maximum	Average -----
Acrylonitrile	4	.00	.00	.00
Ethylbenzene	4	.00	.00	.00
Styrene	4	.00	.00	.00
Toluene	4	.00	.00	.00

TABLE C5.5 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations -----	Difference Ratios (1)		
		Minimum	Maximum	Average -----
Acrylonitrile	10	.00	.00	.00
Ethylbenzene	10	.00	.00	.00
Oil and grease	2	.00	.00	.00
Styrene	10	.00	.00	.00
Toluene	10	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Canadianoxy Chemicals Ltd. - Fort Erie (Page 1 of 2)
OT 0100 - Final Effluent to River

TABLE C6.1 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	12	FM	100	100	33	2.60	8.00	4.75
Aluminum	12	FM	100	100	25	2.33	15.00	5.17
Zinc	12	FL	75	42	8	.20	8.50	2.66
Phenolics (4AAP)	11	FL	64	45	45	.10	82.00	16.78
Oil and grease	12	FL	42	25	8	1.00	7.00	1.75
Chromium	12	1H	33	17	17	.10	6.40	1.60

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C6.2 Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
DOC	2	50	.80	2.60	1.70
Oil and grease	2	0	1.00	1.00	1.00
Aluminum	2	50	.67	1.00	.83
Zinc	2	0	.50	.60	.55
Phenolics (4AAP)	2	0	.50	.50	.50
Chromium	2	0	.10	.20	.15

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C6.3 Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
DOC	2	.40	7.00	3.70
Chromium	2	.00	2.90	1.45
Phenolics (4AAP)	2	.50	2.00	1.25
Zinc	2	.70	1.50	1.10
Aluminum	2	.67	1.33	1.00
Oil and grease	2	.00	1.00	.50

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Canadianoxy Chemicals Ltd. - Fort Erie (Page 2 of 2)
IN 0400 - Intake Water to Site

TABLE C6.4 Detection Frequencies and Concentration Ratios For Found Parameters Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Aluminum	2	FM	100	100	50	2.00	6.33	4.17
DOC	2	FM	100	100	0	2.00	3.60	2.80
Zinc	2	FL	50	0	0	.70	1.00	.85
Chromium	2	NO	0	0	0	.30	.40	.35
Phenolics (4AAP)	2	NO	0	0	0	.50	.50	.50
Oil and grease	2	NO	0	0	0	1.00	1.00	1.00

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C6.5 Detection Frequencies and Concentration Ratios for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection			Concentration Ratios (1)		
		>RMDL (%)			Minimum	Maximum	Average
Phenolics (4AAP)	1			100	1.50	1.50	1.50
Aluminum	1			100	1.33	1.33	1.33
Oil and grease	1			0	1.00	1.00	1.00
DOC	1			0	.80	.80	.80
Zinc	1			0	.50	.50	.50
Chromium	1			0	.40	.40	.40

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C6.6 Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
DOC	1	1.20	1.20	1.20
Phenolics (4AAP)	1	.50	.50	.50
Zinc	1	.50	.50	.50
Aluminum	1	.00	.00	.00
Chromium	1	.00	.00	.00
Oil and grease	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Celanese Canada Inc. - Millhaven (Page 1 of 3)
PR 0400 - Treatment Plant Effluent

TABLE C7.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	150	FH	100	100	99	4.80	37.00	13.37
Total phosphorus	153	FH	98	93	75	.13	40.00	11.25
Total Kjeldahl Nitrogen	153	FL	97	42	17	.86	88.00	4.63
Nitrate+Nitrite	153	FH	80	74	58	.10	62.80	11.25
Zinc	52	FL	65	25	6	.10	10.00	1.74
Total suspended solids	151	FL	57	19	1	.20	31.60	1.49
Copper	52	IH	29	10	6	.30	6.80	1.09
Ammonia plus Ammonium	144	IH	23	19	17	.10	135.20	5.42
Volatile suspended solids	351	IL	17	3	1	.10	13.30	.73
Oil and grease	50	IM	16	10	4	1.00	11.00	1.36
Phenolics (4AAP)	153	IL	5	2	0	.30	3.00	.40

TABLE C7.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
TOC	18	FL	100	50	6	1.04	12.28	2.67
Antimony	12	FM	83	83	50	.21	52.00	14.27
Aluminum	12	FL	75	33	0	.32	4.67	1.77
COD	3	FM	67	67	0	.54	4.60	3.05
1,2-Dichloroethane	3	FL	67	0	0	.64	1.03	.90
Sulphide	3	IL	33	0	0	.50	1.20	.87
Methylene chloride	3	IL	33	0	0	.71	1.40	.94
Chromium (hexavalent)	10	IM	30	20	10	.31	7.50	1.28

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Celanese Canada Inc. - Millhaven (Page 2 of 3)
PR 0400 - Treatment Plant Effluent

TABLE C7.3 Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Oil and grease	3	33	1.00	3.00	1.67
DOC	9	33	.23	5.80	1.40
Zinc	5	0	.30	1.00	.58
Total suspended solids	5	0	.55	.55	.55
Copper	5	0	.30	.60	.42
Aluminum	5	0	.32	.53	.41
Volatile suspended solids	4	0	.39	.39	.39
Phenolics (4AAP)	11	0	.30	.50	.32
Chromium (hexavalent)	4	0	.31	.31	.31
Total phosphorus	11	9	.10	1.82	.26
Antimony	5	0	.21	.40	.25
Nitrate+Nitrite	11	0	.10	.96	.20
TOC	5	0	.10	.14	.11
Ammonia plus Ammonium	11	0	.10	.10	.10
Total Kjeldahl Nitrogen	11	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C7.4 Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Copper	5	.00	4.70	.96
Total phosphorus	10	.00	3.00	.85
Antimony	6	.00	2.00	.66
Chromium (hexavalent)	5	.00	3.00	.60
Zinc	5	.00	1.73	.49
Total Kjeldahl Nitrogen	10	.04	1.34	.45
DOC	6	.00	.80	.43
Total suspended solids	6	.00	.80	.43
Oil and grease	3	.00	1.00	.33
Ammonia plus Ammonium	10	.00	2.00	.30
Aluminum	6	.00	1.00	.29
Nitrate+Nitrite	10	.00	1.60	.27
Volatile suspended solids	7	.10	.40	.22
TOC	5	.00	.08	.04
Phenolics (4AAP)	10	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Celanese Canada Inc. - Millhaven (Page 3 of 3)
PR 0400 - Treatment Plant Effluent

TABLE C7.5 Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations -----	Difference Ratios (1)		
		Minimum -----	Maximum -----	Average -----
DOC	4	.20	2.20	.95
Ammonia plus Ammonium	1	.40	.40	.40
Total phosphorus	1	.30	.30	.30
Total Kjeldahl Nitrogen	1	.26	.26	.26
Total suspended solids	4	.00	.80	.25
Volatile suspended solids	4	.00	.40	.15
TDC	1	.02	.02	.02
Nitrate+Nitrite	1	.00	.00	.00
Phenolics (4AAP)	1	.00	.00	.00

TABLE C7.6 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations -----	Difference Ratios (1)		
		Minimum -----	Maximum -----	Average -----
1,2-Dichloroethane	2	.00	.00	.00
Methylene chloride	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Chinook Group Ltd. - Sombra (Page 1 of 3)
CO 0100 - Sump Effluent to River

TABLE C8.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	359	FH	100	100	100	3.46	1,346.00	153.93
Total phosphorus	51	FH	100	100	88	2.40	456.00	43.57
Nitrate+Nitrite	154	FM	97	90	19	.22	11.40	4.02
Total Kjeldahl Nitrogen	156	FH	95	88	79	.60	432.00	35.60
TOC	69	FH	94	87	80	.30	143.60	26.98
Zinc	51	FM	90	75	45	.20	170.00	13.75
Total suspended solids	156	FM	89	63	11	.40	14.60	2.97
Ammonia plus Ammonium	156	FM	85	67	42	.10	74.40	6.52
Chromium	51	FM	75	53	22	.23	52.70	4.68
Oil and grease	51	FL	51	27	2	.89	7.50	1.57

TABLE C8.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COD	2	FH	100	100	100	9.10	81.40	45.25
Aluminum	12	FH	100	100	75	2.09	23.63	9.41
Diphenyl ether	2	FM	100	100	0	2.75	2.75	2.75
Methylene chloride	2	FL	100	50	50	1.08	415.38	208.23
Bromodichloromethane	2	FL	100	0	0	1.13	1.13	1.13
Chromium (hexavalent)	9	FL	89	44	0	.32	3.70	2.12
Boron	12	1L	8	0	0	.22	1.10	.68
Copper	12	1L	8	0	0	.80	1.20	.85
Nickel	12	1L	8	0	0	.10	1.30	.35

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Chinook Group Ltd. - Sombra (Page 2 of 3)
CO 0100 - Sump Effluent to River

TABLE C8.3 Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Aluminum	4	50	.20	9.57	2.92
Oil and grease	11	9	.89	2.30	1.02
Copper	4	0	.80	.80	.80
Total phosphorus	12	0	.60	.60	.60
DOC	12	17	.20	2.30	.51
Boron	4	0	.24	.40	.32
Chromium (hexavalent)	4	0	.32	.32	.32
Total Kjeldahl Nitrogen	12	0	.22	.96	.28
Zinc	12	0	.20	.35	.21
Chromium	12	0	.10	.60	.17
Total suspended solids	4	0	.14	.14	.14
TOC	5	0	.14	.14	.14
Ammonia plus Ammonium	12	0	.10	.10	.10
Nickel	4	0	.10	.10	.10
Nitrate+Nitrite	12	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C8.4 Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
DOC	12	.22	74.00	8.56
Aluminum	4	.33	4.50	1.68
Total Kjeldahl Nitrogen	12	.00	5.00	1.20
Chromium (hexavalent)	2	.68	.80	.74
Zinc	12	.10	3.30	.69
Chromium	12	.00	4.40	.61
Total phosphorus	12	.00	.60	.26
Total suspended solids	12	.04	.84	.24
Oil and grease	11	.00	1.10	.14
Ammonia plus Ammonium	12	.00	.96	.14
Boron	4	.04	.20	.14
Nickel	4	.00	.31	.09
TOC	2	.00	.16	.08
Nitrate+Nitrite	12	.00	.40	.06
Copper	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Chinook Group Ltd. - Sombra (Page 3 of 3)
CO 0100 - Sump Effluent to River

TABLE C8.5 Absolute Value of the Difference Between
Uncorrected Monitoring Sample Concentration
and Corrected Monitoring Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Methylene chloride	2	.31	7.69	4.00
Bromodichloromethane	2	.00	.00	.00
Diphenyl ether	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Cornwall Chemicals Ltd. - Cornwall (Page 1 of 5)
PR 0100 - Manhole 26 Effluent to River

TABLE C9.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	345	FH	100	100	98	.34	88.40	11.80
Carbon tetrachloride	156	FH	99	99	99	.72	66,569.23	12,982.59
Chloroform	156	FH	99	99	99	.79	2,171.43	127.78
Mercury	154	FH	98	97	91	.80	280.00	30.63
Zinc	156	FH	96	88	51	.70	589.00	11.78
Sulphide	151	FH	95	93	90	.10	2,130.00	265.20
Oil and grease	52	FM	85	69	38	.90	26.10	4.74
TOC	67	FL	64	15	1	.50	6.84	1.42
Methylene chloride	142	FL	61	45	17	.15	65.31	4.53
Total suspended solids	156	FL	60	38	20	.80	52.40	3.77
Total phosphorus	52	FL	58	29	4	.20	8.70	1.66
Trichloroethylene	156	1L	40	17	3	.21	14.21	1.14
Tetrachloroethylene	156	1L	38	15	1	.19	6.45	1.05

TABLE C9.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Aluminum	12	FH	100	100	92	4.33	37.00	12.73
Total Kjeldahl Nitrogen	4	FL	100	25	0	1.26	3.00	1.94
Hexachloroethane	12	FH	92	92	92	.22	228.50	54.24
Bromodichloromethane	13	FM	77	54	23	.49	10.50	3.21
COD	4	FH	75	75	75	.54	19.00	9.78
Boron	12	FL	75	50	17	.10	5.40	2.12
Chloromethane	12	FM	67	67	33	.18	137.84	19.94
Hexachlorobutadiene	12	FL	67	33	25	.23	15.80	4.41
Copper	12	FL	67	25	8	.30	6.10	1.68
Hexachlorocyclopentadiene	12	FL	67	0	0	.38	1.70	1.26
Nickel	12	FL	50	42	17	.40	79.50	8.30
Hexachlorobenzene	12	FL	42	33	17	.30	34.10	4.16
Nitrate+Nitrite	3	1L	33	0	0	.48	1.00	.76
Molybdenum	12	1M	25	25	0	.24	3.50	.94
1,2,3-Trichlorobenzene	11	1M	18	18	9	.20	5.80	1.12
Vanadium	12	1L	17	8	0	.13	2.90	.59
Beryllium	12	NO	0	0	0	.16	.50	.33
Cadmium	12	NO	0	0	0	.10	.70	.44
Thallium	12	NO	0	0	0	.21	.90	.45
Phenolics (4AAP)	4	NO	0	0	0	.30	.85	.49

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Cornwall Chemicals Ltd. - Cornwall (Page 2 of 5)
PR 0100 - Manhole 26 Effluent to River

**TABLE C9.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks**

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Cadmium	6	33	.10	4.50	1.77
Hexachlorocyclopentadiene	7	100	1.70	1.70	1.70
1,2,3-Trichlorobenzene	7	43	.20	3.90	1.44
Hexachloroethane	7	29	.30	5.20	1.13
Oil and grease	5	0	.90	.90	.90
Zinc	11	0	.30	1.00	.87
Mercury	9	11	.80	1.00	.82
Total suspended solids	1	0	.80	.80	.80
DOC	7	29	.34	1.90	.79
Chloroform	12	33	.57	1.14	.76
Sulphide	12	25	.50	1.50	.75
Methylene chloride	9	22	.62	1.38	.74
Copper	6	33	.30	1.20	.70
Thallium	6	33	.37	1.10	.70
Molybdenum	6	33	.24	1.60	.70
Beryllium	6	33	.16	1.20	.62
Aluminum	6	0	.32	.90	.59
Hexachlorobutadiene	7	0	.50	1.00	.57
Bromodichloromethane	11	0	.50	.50	.50
Hexachlorobenzene	7	14	.30	1.10	.41
Tetrachloroethylene	12	0	.36	.36	.36
Nickel	6	0	.16	.60	.36
Carbon tetrachloride	12	0	.23	.54	.33
Chloromethane	11	0	.14	.41	.24
Trichloroethylene	12	0	.21	.21	.21
Total phosphorus	5	0	.20	.20	.20
Vanadium	4	0	.13	.17	.15
Boron	3	0	.10	.14	.11
TOC	1	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

**TABLE C9.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters**

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Methylene chloride	9	.00	.61	.07
Chloromethane	11	.00	.19	.02
Bromodichloromethane	11	.00	.00	.00
Carbon tetrachloride	12	.00	.00	.00
Chloroform	12	.00	.00	.00
Tetrachloroethylene	12	.00	.00	.00
Trichloroethylene	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Cornwall Chemicals Ltd. - Cornwall (Page 3 of 5)
PR 0100 - Manhole 26 Effluent to River

TABLE C9.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
6	Total phosphorus	1	100	100	100	3.0
15	Sulphide	2	88	118	103	32.5
16	Bromodichloromethane	12	81	107	98	28.6
16	Carbon tetrachloride	12	81	115	99	17.4
16	Chloroform	12	94	151	112	31.5
16	Chloromethane	12	63	132	93	6.6
16	Methylene chloride	12	86	110	101	17.6
16	Tetrachloroethylene	12	81	109	96	21.0
16	Trichloroethylene	12	91	123	102	12.1
23	1,2,3-Trichlorobenzene	6	79	174	107	14.3
23	Hexachlorobenzene	6	80	136	95	10.3
23	Hexachlorobutadiene	6	77	131	91	10.3
23	Hexachlorocyclopentadiene	5	10	47	27	9.8
23	Hexachloroethane	6	62	208	97	10.3

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C9.4B Absolute Value of the Difference Between Uncorrected Travelling Spiked Blank Sample Concentration and Corrected Travelling Spiked Blank Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Methylene chloride	12	.00	1.85	.70
Carbon tetrachloride	12	.00	1.61	.14
Chloromethane	12	.00	.70	.12
Bromodichloromethane	12	.00	.00	.00
Chloroform	12	.00	.00	.00
Tetrachloroethylene	12	.00	.00	.00
Trichloroethylene	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Cornwall Chemicals Ltd. - Cornwall (Page 4 of 5)
PR 0100 - Manhole 26 Effluent to River

TABLE C9.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Carbon tetrachloride	13	7.69	6,123.08	1,901.72
Chloroform	13	1.57	2,101.14	366.16
Sulphide	8	.00	289.50	71.75
Chloromethane	12	.00	135.38	17.13
Methylene chloride	12	.00	24.23	2.57
Bromodichloromethane	13	.00	5.88	1.61
Trichloroethylene	13	.00	13.58	1.47
Nickel	4	.00	4.50	1.26
Aluminum	4	.00	2.90	.98
Boron	4	.00	1.40	.48
Copper	4	.18	.60	.37
Oil and grease	2	.10	.60	.35
Zinc	4	.00	.90	.23
Tetrachloroethylene	13	.00	.55	.21
Thallium	4	.00	.69	.18
Molybdenum	4	.00	.31	.15
Cadmium	4	.00	.18	.06
Vanadium	4	.00	.10	.05
TOC	1	.02	.02	.02
Beryllium	4	.00	.00	.00
DOC	1	.00	.00	.00

TABLE C9.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Carbon tetrachloride	13	.00	3,414.85	262.68
Chloroform	13	.00	44.57	3.43
Methylene chloride	12	.00	1.36	.18
Chloromethane	12	.00	.49	.06
Bromodichloromethane	13	.00	.00	.00
Tetrachloroethylene	13	.00	.00	.00
Trichloroethylene	13	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Cornwall Chemicals Ltd. - Cornwall (Page 5 of 5)
PR 0100 - Manhole 26 Effluent to River

TABLE C9.6 Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Sulphide	18	.00	719.50	64.76
Hexachloroethane	5	.60	50.00	12.98
Cadmium	1	3.80	3.80	3.80
DOC	9	.00	15.46	2.47
Mercury	20	.00	11.00	2.25
Aluminum	1	2.00	2.00	2.00
Zinc	14	.00	7.80	1.77
Molybdenum	1	1.36	1.36	1.36
Beryllium	1	1.04	1.04	1.04
TOC	3	.04	1.62	.61
1,2,3-Trichlorobenzene	4	.00	1.18	.51
Total suspended solids	9	.00	1.20	.47
Hexachlorobenzene	5	.00	.74	.31
Hexachlorocyclopentadiene	5	.00	1.32	.26
Oil and grease	3	.10	.40	.23
Hexachlorobutadiene	5	.00	.50	.23
Thallium	1	.20	.20	.20
Total phosphorus	8	.00	.80	.12
Copper	1	.10	.10	.10
Nickel	1	.10	.10	.10

TABLE C9.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Carbon tetrachloride	156	.00	15,384.61	168.79
Chloroform	156	.00	1,778.57	11.49
Chloromethane	12	.00	62.46	5.49
Methylene chloride	142	.00	29.31	.58
Bromodichloromethane	12	.00	1.27	.13
Trichloroethylene	156	.00	13.89	.09
Tetrachloroethylene	156	.00	.62	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Courtaulds Fibres Canada - Cornwall (Page 1 of 5)
PR 0300 - Alkaline Sewer to River

TABLE C10.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	274	FH	100	100	100	8.20	700.00	160.42
Zinc	151	FH	100	100	100	18.40	7,000.00	245.99
Sulphide	154	FH	100	100	100	525.00	9,600.00	4,708.60
TOC	126	FH	100	100	98	3.62	56.00	19.54
Total suspended solids	151	FH	99	99	97	.84	94.40	22.27
Oil and grease	52	FH	98	98	94	1.00	360.00	62.05
Mercury	152	FH	97	97	95	.19	390.00	47.34
Aluminum	150	FM	93	86	43	.30	76.67	6.86
Volatile suspended solids	51	FM	90	84	45	.61	20.00	5.59
Phenolics (4AAP)	51	FM	80	69	37	.10	110.00	9.32
Copper	151	FL	75	44	7	.10	52.00	2.62
Chloroform	154	FH	72	68	53	.10	271.43	22.31
Total phosphorus	49	IL	22	8	4	.10	34.50	1.67
Toluene	50	IH	22	18	10	.48	30.00	2.34
Nitrate+Nitrite	126	IL	16	5	2	.10	88.00	1.49

TABLE C10.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COD	4	FH	100	100	100	51.00	140.00	74.25
Lead	11	FM	91	82	0	.37	4.33	3.06
Chromium	11	FL	73	36	18	.50	6.50	2.47
Total Kjeldahl Nitrogen	11	FL	73	18	9	.32	13.60	2.39
1,2-Dichloroethane	12	IH	33	17	17	.50	5.00	1.36
Cadmium	11	IL	18	9	0	.50	2.00	.75
Boron	11	IL	18	0	0	.60	1.48	.82
Nickel	11	IL	18	0	0	.45	1.20	.73
Phenol	11	IL	18	0	0	.27	1.25	.68

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Courtaulds Fibres Canada - Cornwall (Page 2 of 5)
PR 0300 - Alkaline Sewer to River

TABLE C10.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
DOC	9	33	.10	20.00	2.69
Sulphide	11	64	.50	2.50	1.15
Oil and grease	4	0	.96	1.00	.98
Total suspended solids	2	0	.76	.77	.76
Chloroform	11	0	.57	.79	.69
1,2-Dichloroethane	4	25	.50	1.02	.67
Volatile suspended solids	1	0	.66	.66	.66
Toluene	6	0	.48	.80	.64
Cadmium	4	0	.50	.70	.60
Zinc	10	10	.30	1.30	.50
Mercury	9	0	.19	.56	.43
Total phosphorus	4	0	.10	.69	.39
Aluminum	10	0	.30	.77	.36
Boron	4	0	.10	.60	.35
Phenolics (4AAP)	4	0	.15	.50	.31
Phenol	4	0	.16	.46	.31
Lead	4	0	.10	.37	.28
Copper	10	0	.20	.50	.27
Nickel	4	0	.10	.45	.22
Total Kjeldahl Nitrogen	4	0	.10	.32	.21
Nitrate+Nitrite	11	9	.10	1.20	.20
TOC	6	0	.10	.22	.12
Chromium	4	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C10.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	6	.00	4.52	1.37
Chloroform	10	.00	4.57	.46
1,2-Dichloroethane	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Courtaulds Fibres Canada - Cornwall (Page 3 of 5)
PR 0300 - Alkaline Sewer to River

TABLE C10.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
9	Aluminum	2	5	49	27	3.7
9	Boron	1	75	75	75	.8
9	Cadmium	1	6	6	6	12.5
9	Chromium	1	4	4	4	2.5
9	Copper	2	6	6	6	5.0
9	Lead	1	20	20	20	1.7
9	Nickel	1	13	13	13	1.3
9	Zinc	2	3	3	3	10.0
12	Mercury	2	1	1	1	100.0
16	1,2-Dichloroethane	3	5	85	57	14.0
16	Chloroform	11	5	125	93	17.6
17	Toluene	3	2	95	53	22.3
20	Phenol	5	17	66	46	9.1

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C10.4B Absolute Value of the Difference Between Uncorrected Travelling Spiked Blank Sample Concentration and Corrected Travelling Spiked Blank Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	3	.66	6.00	3.73
Chloroform	10	.00	2.86	.57
1,2-Dichloroethane	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Courtaulds Fibres Canada - Cornwall (Page 4 of 5)
PR 0300 - Alkaline Sewer to River

TABLE C10.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Sulphide	8	50.00	4,525.00	759.38
DOC	7	4.00	246.00	76.00
Total phosphorus	4	.00	119.20	30.03
Zinc	8	.00	44.50	17.81
Oil and grease	4	.00	50.00	15.25
Total suspended solids	6	1.00	40.00	9.70
Phenolics (4AAP)	4	.90	25.00	9.35
Copper	8	.30	50.90	8.95
Mercury	7	.00	13.60	5.61
TOC	8	.00	28.20	5.30
Chloroform	8	.00	19.76	4.56
Aluminum	8	.00	9.67	2.38
Toluene	4	.00	7.32	1.88
Volatile suspended solids	5	.20	3.20	1.78
1,2-Dichloroethane	4	.00	4.36	1.09
Lead	4	.00	1.97	1.08
Boron	4	.00	1.40	.46
Chromium	4	.05	.50	.33
Phenol	4	.00	.71	.19
Nickel	4	.00	.30	.16
Total Kjeldahl Nitrogen	4	.00	.24	.12
Nitrate+Nitrite	8	.00	.53	.12
Cadmium	4	.00	.00	.00

TABLE C10.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	.72	5.60	2.66
Chloroform	7	.00	1.43	.22
1,2-Dichloroethane	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Courtaulds Fibres Canada - Cornwall (Page 5 of 5)
PR 0300 - Alkaline Sewer to River

TABLE C10.6A Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Sulphide	2	.00	150.00	75.00
Zinc	2	20.00	20.00	20.00
Mercury	2	3.00	35.00	19.00
Chloroform	2	.00	12.86	6.43
DOC	2	2.00	10.00	6.00
TOC	2	.00	5.40	2.70
Total suspended solids	1	2.40	2.40	2.40
Aluminum	2	.00	2.73	1.37
Copper	2	.30	.60	.45
Nitrate+Nitrite	2	.20	.30	.25

TABLE C10.6B Absolute Value of the Difference Between Uncorrected Split Sample Concentration and Corrected Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	2	.00	46.57	23.29

TABLE C10.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	49	.00	195.20	13.00
Chloroform	151	.00	222.86	6.78
Total suspended solids	3	.00	.20	.07
1,2-Dichloroethane	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 1 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Nitrate+Nitrite	51	FH	100	100	84	3.04	113.91	15.57
DOC	152	FM	100	100	35	2.00	21.80	4.76
Chloroform	144	FM	86	62	16	.29	22.29	3.25
Phenolics (4AAP)	153	FM	71	54	10	1.00	25.00	2.79
Total suspended solids	153	FL	63	20	4	.60	29.80	1.70
Oil and grease	51	IL	16	6	0	1.00	2.80	1.13
Benzene	144	IM	4	4	1	.40	5.80	.56
TOC	152	IM	1	1	0	.20	3.92	.45

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE 11.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COD	4	FH	100	100	75	2.70	9.80	7.63
Sulphide	4	FM	100	100	25	2.00	5.00	3.25
Octachlorodibenzo-p-dioxin	12	FH	100	83	83	1.05	121.77	29.05
Biphenyl	12	FL	100	8	0	1.67	2.67	1.75
Octachlorodibenzofuran	12	FH	92	92	92	.93	1,346.40	441.69
Total H7CDF	12	FH	92	92	92	.51	1,110.20	317.24
Total H6CDF	12	FH	92	92	92	.36	1,129.15	281.28
Total PCDF	12	FH	92	92	92	.38	773.67	162.98
Total H7CDD	12	FH	92	92	83	.44	73.90	18.83
Total TCDF	12	FH	92	83	67	.62	329.27	63.74
Lead	12	FL	92	0	0	.80	1.20	1.17
2-Chloronaphthalene	12	FL	58	0	0	.11	1.56	.99
Naphthalene	12	FL	58	0	0	.13	1.63	.92
2,3,4,5-Tetrachlorophenol	12	FL	58	0	0	1.00	1.25	1.15
2,3,4-Trichlorophenol	12	FL	58	0	0	.33	1.17	.88
Bis(2-chloroisopropyl)ether	4	FL	50	50	50	.55	53.18	24.88
Total Kjeldahl Nitrogen	4	FL	50	25	0	.38	2.04	1.17
Total H6CDD	12	FL	42	42	42	.10	30.10	6.16
Total PCDD	12	FL	42	25	17	.50	14.60	2.70
1,2,4-Trichlorobenzene	10	IM	40	10	10	.90	18.40	2.81
Bromodichloromethane	12	IM	33	25	25	.38	39.00	5.56
Aluminum	12	IM	33	25	0	.70	2.43	1.16
Copper	12	IL	33	8	0	.30	4.90	1.22
Bromoform	12	IM	25	25	25	.10	8.86	1.87
Dibromochloromethane	12	IM	25	25	25	.27	72.45	10.31
Molybdenum	12	IM	25	17	8	.30	31.35	3.27
Zinc	12	IM	25	17	8	.40	7.40	1.35
Cyanide Total	4	IL	25	0	0	1.00	1.80	1.20
Hexachlorobenzene	10	IM	20	20	20	.30	12.00	2.16
1,2,4,5-Tetrachlorobenzene	10	IL	20	10	0	.70	2.00	.86
Carbon tetrachloride	11	IL	18	0	0	.46	1.31	.76
1,2-Dichloropropane	12	IM	17	17	8	.22	771.89	64.94
Total phosphorus	12	IL	17	8	0	.10	2.80	.67

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 2 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.2 (cont'd) Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Hexachlorocyclopentadiene	10	1L	10	0	0	.50	1.30	.59
Ethylbenzene	11	1L	9	0	0	.33	1.33	.85
Methylene chloride	12	1H	8	8	8	.23	36.15	3.27
Boron	12	1M	8	8	0	.10	2.18	.33
Mercury	12	1L	8	0	0	.90	1.03	.91
Ammonia plus Ammonium	4	NO	0	0	0	.10	.10	.10
Volatile suspended solids	4	NO	0	0	0	.30	.50	.38
Chromium	12	NO	0	0	0	.15	.30	.29
Nickel	12	NO	0	0	0	.30	.90	.85
Vanadium	12	NO	0	0	0	.10	.17	.14
1,1,2,2-Tetrachloroethane	11	NO	0	0	0	.16	.21	.18
1,1,2-Trichloroethane	11	NO	0	0	0	.33	.67	.43
1,1-Dichloroethane	11	NO	0	0	0	.25	.50	.32
1,1-Dichloroethylene	11	NO	0	0	0	.11	.21	.14
1,2-Dichloroethane	11	NO	0	0	0	.50	.75	.68
Chloromethane	11	NO	0	0	0	.19	.41	.35
Cis-1,3-Dichloropropylene	11	NO	0	0	0	.29	.93	.38
Tetrachloroethylene	11	NO	0	0	0	.55	1.00	.88
Trichloroethylene	11	NO	0	0	0	.21	.26	.22
Vinyl chloride	11	NO	0	0	0	.15	.25	.18
Styrene	11	NO	0	0	0	.60	1.00	.89
o-Xylene	11	NO	0	0	0	.60	1.00	.89
Bis(2-chloroethyl)ether	4	NO	0	0	0	.32	.32	.32
2,4,5-Trichlorotoluene	10	NO	0	0	0	.90	.90	.90
Hexachlorobutadiene	10	NO	0	0	0	.50	.50	.50
Hexachloroethane	10	NO	0	0	0	.50	.50	.50
Octachlorostyrene	10	NO	0	0	0	.90	.90	.90

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 3 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Aluminum	4	50	.70	23.47	6.56
Nickel	4	25	.30	13.00	3.78
DOC	9	67	.60	10.00	3.18
Biphenyl	4	100	1.67	1.67	1.67
1,2,4-Trichlorobenzene	3	33	.90	2.80	1.53
Phenolics (4AAP)	10	30	1.00	2.50	1.25
2,3,4,5-Tetrachlorophenol	4	50	1.00	1.25	1.13
Lead	4	75	.80	1.20	1.10
Oil and grease	3	0	1.00	1.00	1.00
Octachlorodibenzofuran	4	0	.93	.93	.93

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 3 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.3A (cont'd) Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
2,4,5-Trichlorotoluene	3	0	.90	.90	.90
Octachlorostyrene	3	0	.90	.90	.90
Mercury	4	0	.90	.90	.90
Carbon tetrachloride	4	0	.46	1.00	.87
2-Chloronaphthalene	4	50	.11	1.56	.83
2,3,4-Trichlorophenol	4	50	.33	1.17	.75
Naphthalene	4	50	.13	1.38	.75
Octachlorodibenzo-p-dioxin	4	0	.75	.75	.75
1,2,4,5-Tetrachlorobenzene	3	0	.70	.70	.70
Molybdenum	4	25	.30	1.50	.70
Styrene	4	0	.60	1.00	.70
o-Xylene	4	0	.60	1.00	.70
Tetrachloroethylene	4	0	.55	1.00	.66
Copper	4	0	.30	.70	.60
Total H6CDF	4	25	.36	1.28	.58
1,1,2-Trichloroethane	4	0	.33	.67	.58
1,2-Dichloroethane	4	0	.50	.75	.56
Chloroform	10	30	.29	1.14	.54
Ethylbenzene	4	0	.33	1.00	.50
Hexachlorobutadiene	3	0	.50	.50	.50
Hexachlorocyclopentadiene	3	0	.50	.50	.50
Hexachloroethane	3	0	.50	.50	.50
Methylene chloride	4	0	.38	.85	.50
Total PCDD	4	0	.50	.50	.50
Total H7CDD	4	0	.44	.44	.44
1,1-Dichloroethane	4	0	.25	.50	.44
Dibromochloromethane	4	0	.27	.45	.41
Benzene	10	0	.40	.40	.40
Total PCDF	4	0	.38	.38	.38
Zinc	4	0	.30	.40	.38
Bromodichloromethane	4	0	.37	.37	.37
Total H7CDF	4	0	.36	.36	.36
Cis-1,3-Dichloropropylene	4	0	.29	.36	.34
1,2-Dichloropropane	4	0	.22	.33	.31
Hexachlorobenzene	4	0	.30	.30	.30
Total phosphorus	3	0	.10	.40	.30
Chromium	4	0	.15	.30	.26
Trichloroethylene	4	0	.21	.26	.25
Chloromethane	4	0	.19	.41	.24
Total TCF	4	0	.23	.23	.23
Vinyl chloride	4	0	.15	.25	.23
1,1,2,2-Tetrachloroethane	4	0	.16	.21	.20
1,1-Dichloroethylene	4	0	.11	.21	.19
TOC	10	0	.10	.48	.18
Bromoform	4	0	.10	.19	.17
Boron	4	0	.10	.18	.16
Vanadium	4	0	.10	.13	.13
Nitrate+Nitrite	3	0	.10	.10	.10
Total H6CDD	4	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 4 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Ethylbenzene	4	.00	.67	.33
Carbon tetrachloride	4	.00	.54	.27
Tetrachloroethylene	4	.00	.45	.23
Styrene	4	.00	.40	.20
o-Xylene	4	.00	.40	.20
1,1,2-Trichloroethane	4	.00	.33	.17
1,1-Dichloroethane	4	.00	.25	.13
1,2-Dichloroethane	4	.00	.25	.13
Chloromethane	4	.00	.22	.11
Dibromochloromethane	4	.00	.18	.09
1,2-Dichloropropane	4	.00	.11	.06
1,1-Dichloroethylene	4	.00	.11	.05
Vinyl chloride	4	.00	.10	.05
Bromoform	4	.00	.09	.05
Methylene chloride	4	.00	.15	.04
Cis-1,3-Dichloropropylene	4	.00	.07	.04
Trichloroethylene	4	.00	.05	.03
1,1,2,2-Tetrachloroethane	4	.00	.05	.02
2,3,4,5-Tetrachlorophenol	1	.00	.00	.00
2,3,4-Trichlorophenol	1	.00	.00	.00
2-Chloronaphthalene	4	.00	.00	.00
Aluminum	1	.00	.00	.00
Benzene	10	.00	.00	.00
Biphenyl	4	.00	.00	.00
Boron	1	.00	.00	.00
Bromodichloromethane	4	.00	.00	.00
Chloroform	10	.00	.00	.00
Chromium	1	.00	.00	.00
Copper	1	.00	.00	.00
DOC	2	.00	.00	.00
Lead	1	.00	.00	.00
Mercury	1	.00	.00	.00
Molybdenum	1	.00	.00	.00
Naphthalene	4	.00	.00	.00
Nickel	1	.00	.00	.00
Phenolics (4AAP)	3	.00	.00	.00
TOC	3	.00	.00	.00
Vanadium	1	.00	.00	.00
Zinc	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 5 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	1,1,2,2-Tetrachloroethane	4	74	205	114	3.6
16	1,1,2-Trichloroethane	4	70	100	80	13.5
16	1,1-Dichloroethane	4	68	123	97	10.5
16	1,1-Dichloroethylene	4	69	115	83	3.1
16	1,2-Dichloroethane	4	68	101	81	11.9
16	1,2-Dichloropropane	4	66	100	83	9.6
16	Bromodichloromethane	4	64	101	79	10.4
16	Bromoform	4	61	112	82	3.2
16	Carbon tetrachloride	4	69	91	77	15.7
16	Chloroform	10	68	110	90	12.6
16	Chloromethane	4	77	157	101	2.3
16	Cis-1,3-Dichloropropylene	4	55	79	70	6.9
16	Dibromochloromethane	4	60	123	81	7.8
16	Methylene chloride	4	45	109	79	5.9
16	Tetrachloroethylene	4	62	136	87	8.4
16	Trichloroethylene	4	69	94	82	4.4
16	Vinyl chloride	4	77	96	86	2.0
17	Benzene	10	53	102	83	12.2
17	Ethylbenzene	4	65	114	87	8.2
17	Styrene	4	65	129	87	10.2
17	o-Xylene	4	51	114	73	20.1
19	2-Chloronaphthalene	4	21	94	55	3.5
19	Biphenyl	4	31	82	57	10.6
19	Naphthalene	4	26	75	49	4.1
20	2,3,4,5-Tetrachlorophenol	4	25	119	63	19.9
20	2,3,4-Trichlorophenol	4	26	104	61	11.0
23	1,2,4,5-Tetrachlorobenzene	3	93	109	99	19.6
23	1,2,4-Trichlorobenzene	3	88	130	105	18.5
23	2,4,5-Trichlorotoluene	3	99	127	108	12.8
23	Hexachlorobenzene	3	93	110	99	3.0
23	Hexachlorobutadiene	3	77	91	85	6.4
23	Hexachlorocyclopentadiene	3	109	276	165	5.4
23	Hexachloroethane	3	71	94	82	6.5
23	Octachlorostyrene	3	70	102	90	4.4

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 6 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.4B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	4	.00	.00	.00
1,1,2-Trichloroethane	4	.00	.00	.00
1,1-Dichloroethane	4	.00	.00	.00
1,1-Dichloroethylene	4	.00	.00	.00
1,2-Dichloroethane	4	.00	.00	.00
1,2-Dichloropropane	4	.00	.00	.00
2,3,4,5-Tetrachlorophenol	1	.00	.00	.00
2,3,4-Trichlorophenol	1	.00	.00	.00
2-Chloronaphthalene	4	.00	.00	.00
Benzene	10	.00	.00	.00
Biphenyl	4	.00	.00	.00
Bromodichloromethane	4	.00	.00	.00
Bromoform	4	.00	.00	.00
Carbon tetrachloride	4	.00	.00	.00
Chloroform	10	.00	.00	.00
Chloromethane	4	.00	.00	.00
Cis-1,3-Dichloropropylene	4	.00	.00	.00
Dibromochloromethane	4	.00	.00	.00
Ethylbenzene	4	.00	.00	.00
Methylene chloride	4	.00	.00	.00
Naphthalene	4	.00	.00	.00
Styrene	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00
Trichloroethylene	4	.00	.00	.00
Vinyl chloride	4	.00	.00	.00
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 7 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,2-Dichloropropane	5	.00	753.78	152.18
Total H7CDF	4	2.37	296.00	112.74
Total H6CDF	4	2.05	242.15	95.21
Octachlorodibenzofuran	4	5.60	135.33	63.05
Total PCDF	4	.20	161.73	53.58
Total TCDF	4	.47	140.40	40.08
Dibromochloromethane	5	.00	72.18	16.00
Bromodichloromethane	5	.00	38.63	9.75
Octachlorodibenzo-p-dioxin	4	.17	20.00	8.38
Methylene chloride	5	.00	35.92	8.32
Total H7CDD	4	.75	19.07	7.10
Carbon tetrachloride	4	.00	14.38	3.60
Chloroform	11	.00	17.14	3.44
1,1,2-Trichloroethane	4	.00	13.17	3.29
Molybdenum	4	.00	11.95	2.99
Total H6CDD	4	.00	8.70	2.66
1,1-Dichloroethane	4	.00	10.25	2.56
Styrene	4	.00	9.20	2.30
o-Xylene	4	.00	9.20	2.30
DOC	10	.00	10.00	2.22
Zinc	4	.00	7.10	1.95
Bromoform	5	.00	6.22	1.89
Tetrachloroethylene	4	.00	7.36	1.84
Ethylbenzene	4	.00	7.17	1.79
Cis-1,3-Dichloropropylene	4	.00	6.64	1.66
Phenolics (4AAP)	11	.00	5.00	1.55
Hexachlorocyclopentadiene	3	.00	3.40	1.13
1,1,2,2-Tetrachloroethane	4	.00	3.44	.86
1,1-Dichloroethylene	4	.00	3.00	.75
Trichloroethylene	4	.00	2.53	.63
Total PCDD	4	.00	2.20	.57
Vinyl chloride	4	.00	1.90	.48
Chloromethane	4	.00	1.86	.47
Oil and grease	4	.00	1.63	.41
1,2,4-Trichlorobenzene	3	.00	1.20	.40
Benzene	11	.00	3.80	.35
Total suspended solids	11	.00	1.20	.35
Copper	4	.00	1.10	.28
Aluminum	4	.00	.47	.23
TOC	10	.00	.66	.12
1,2,4,5-Tetrachlorobenzene	3	.00	.20	.10
Nitrate+Nitrite	4	.01	.20	.08
Boron	4	.00	.26	.07
Hexachlorobenzene	3	.00	.10	.03
Naphthalene	4	.00	.13	.03
Mercury	4	.00	.13	.03
Total phosphorus	4	.00	.10	.02
Vanadium	4	.00	.03	.01
1,2-Dichloroethane	3	.00	.00	.00
2,3,4,5-Tetrachlorophenol	4	.00	.00	.00
2,3,4-Trichlorophenol	4	.00	.00	.00
2,4,5-Trichlorotoluene	3	.00	.00	.00

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 8 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.5A (cont'd) Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
2-Chloronaphthalene	4	.00	.00	.00
Biphenyl	4	.00	.00	.00
Chromium	4	.00	.00	.00
Hexachlorobutadiene	3	.00	.00	.00
Hexachloroethane	3	.00	.00	.00
Lead	4	.00	.00	.00
Nickel	4	.00	.00	.00
Octachlorostyrene	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

TABLE C11.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Ethylbenzene	5	.00	.67	.13
Carbon tetrachloride	5	.00	.54	.11
Tetrachloroethylene	5	.00	.45	.09
Styrene	5	.00	.40	.08
o-Xylene	5	.00	.40	.08
1,1,2-Trichloroethane	5	.00	.33	.07
1,1-Dichloroethane	5	.00	.25	.05
1,2-Dichloroethane	5	.00	.25	.05
Chloromethane	5	.00	.22	.04
Dibromochloromethane	5	.00	.18	.04
Methylene chloride	5	.00	.15	.03
1,1-Dichloroethylene	5	.00	.11	.02
Vinyl chloride	5	.00	.10	.02
Bromoform	5	.00	.09	.02
Cis-1,3-Dichloropropylene	5	.00	.07	.01
Trichloroethylene	5	.00	.05	.01
1,1,2,2-Tetrachloroethane	5	.00	.05	.01
1,2-Dichloropropane	5	.00	.00	.00
2,3,4,5-Tetrachlorophenol	1	.00	.00	.00
2,3,4-Trichlorophenol	1	.00	.00	.00
2-Chloronaphthalene	4	.00	.00	.00
Aluminum	1	.00	.00	.00
Benzene	12	.00	.00	.00
Biphenyl	4	.00	.00	.00
Boron	1	.00	.00	.00
Bromodichloromethane	5	.00	.00	.00
Chloroform	12	.00	.00	.00
Chromium	1	.00	.00	.00
Copper	1	.00	.00	.00
DOC	3	.00	.00	.00
Lead	1	.00	.00	.00
Mercury	1	.00	.00	.00

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 9 of 15)
PR 1200 - Throx Stripper Effluent

TABLE C11.5B (cont'd) Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Molybdenum	1	.00	.00	.00
Naphthalene	4	.00	.00	.00
Nickel	1	.00	.00	.00
Nitrate+Nitrite	1	.00	.00	.00
Oil and grease	1	.00	.00	.00
Phenolics (4AAP)	4	.00	.00	.00
TOC	3	.00	.00	.00
Total phosphorus	1	.00	.00	.00
Total suspended solids	4	.00	.00	.00
Vanadium	1	.00	.00	.00
Zinc	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

TABLE C11.6 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Benzene	140	.00	1.32	.01
Chloroform	140	.00	1.29	.01
Bromoform	12	.00	.05	.00
1,1,2,2-Tetrachloroethane	11	.00	.00	.00
1,1,2-Trichloroethane	11	.00	.00	.00
1,1-Dichloroethane	11	.00	.00	.00
1,1-Dichloroethylene	11	.00	.00	.00
1,2-Dichloroethane	11	.00	.00	.00
1,2-Dichloropropane	12	.00	.00	.00
2-Chloronaphthalene	12	.00	.00	.00
Biphenyl	12	.00	.00	.00
Bis(2-chloroethyl)ether	4	.00	.00	.00
Bis(2-chloroisopropyl)ether	4	.00	.00	.00
Bromodichloromethane	12	.00	.00	.00
Carbon tetrachloride	11	.00	.00	.00
Chloromethane	11	.00	.00	.00
Cis-1,3-Dichloropropylene	11	.00	.00	.00
Dibromochloromethane	12	.00	.00	.00
Ethylbenzene	11	.00	.00	.00
Methylene chloride	12	.00	.00	.00
Naphthalene	12	.00	.00	.00
Styrene	11	.00	.00	.00
Tetrachloroethylene	11	.00	.00	.00
Trichloroethylene	11	.00	.00	.00
Vinyl chloride	11	.00	.00	.00
o-Xylene	11	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 10 of 15)
PR 1900 - Biox Plant Effluent

TABLE C11.7 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter -----	Number of Observations -----	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average -----
DOC	153	FH	100	100	86	2.00	72.40	9.87
Total suspended solids	156	FM	99	99	47	.10	42.80	6.82
Phenolics (4AAP)	156	FM	96	85	35	1.00	169.50	16.05
Aluminum	105	FH	93	90	68	.70	90.33	13.85
1,2-Dichloropropane	50	FM	92	84	46	.44	1,024.11	29.81
Oil and grease	52	FM	87	65	29	1.00	26.00	4.69
Volatile suspended solids	360	FL	85	15	1	.60	11.30	1.47
Total Kjeldahl Nitrogen	153	FL	77	48	20	.28	17.94	3.06
Total phosphorus	151	FL	62	38	13	.14	34.50	2.98
TOC	154	FL	50	8	1	.28	8.96	1.14
Zinc	105	IM	30	20	10	.30	102.00	3.16
Copper	155	IL	26	6	1	.30	6.00	.99
Styrene	105	IM	26	23	10	.60	16.40	1.89
o-Xylene	105	IM	26	23	10	.60	16.40	1.89
Ammonia plus Ammonium	153	IL	23	11	4	.10	1,604.00	11.54
Mercury	156	IL	8	1	1	.90	1,000.00	7.33
Cyanide Total	51	IL	2	0	0	1.00	1.40	1.00
Nitrate+Nitrite	155	IL	1	0	0	.10	1.28	.13
Chromium	155	IL	1	0	0	.15	1.35	.29

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 11 of 15)
PR 1900 - Biox Plant Effluent

TABLE C11.8 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COD	4	FH	100	100	100	49.00	260.00	172.25
Bis(2-chloroisopropyl)ether	4	FH	100	100	100	25.68	41.41	30.26
Sulphide	4	FM	100	100	25	2.50	13.50	5.63
Biphenyl	10	FL	100	10	0	1.67	2.67	1.77
Lead	12	FL	92	0	0	.80	1.20	1.17
1,2-Dichloroethane	11	FM	91	73	36	.75	12.63	4.65
Bis(2-chloroethyl)ether	4	FL	75	50	50	.32	6.84	3.58
Total TCDF	12	FL	75	50	42	.23	31.33	6.99
Octachlorodibenzo-p-dioxin	12	FL	75	42	8	.75	5.10	2.15
2,3,4,5-Tetrachlorophenol	12	FL	58	0	0	1.00	1.25	1.15
2,3,4-Trichlorophenol	12	FL	58	0	0	.33	1.17	.88
Octachlorodibenzofuran	12	FL	50	42	33	.93	12.60	4.69
1,2,4,5-Tetrachlorobenzene	6	FL	50	17	17	.70	24.60	4.97
2-Chloronaphthalene	10	FL	50	0	0	.11	1.56	.88
Naphthalene	10	FL	50	0	0	.13	1.38	.80
Total H7CDF	12	FL	42	33	17	.36	6.43	1.88
Total H6CDF	12	FL	42	33	8	.36	6.75	1.74
Molybdenum	12	FL	42	17	17	.30	8.70	1.80
Ethylbenzene	11	1L	36	18	0	.33	4.17	1.52
Benzene	12	1M	33	33	17	.40	15.60	2.80
Boron	12	1M	33	25	0	.10	3.60	.98
Total PCDF	12	1M	33	25	0	.38	2.85	1.01
1,2,4-Trichlorobenzene	6	1H	33	17	17	.90	5.50	1.70
Hexachlorobenzene	6	1L	33	0	0	.30	1.10	.62
Nickel	12	1H	25	8	8	.90	14.15	2.13
1,1-Dichloroethylene	11	1M	18	18	0	.11	2.93	.58
Carbon tetrachloride	11	1L	18	0	0	.46	1.31	.71
Chloroform	11	1L	18	0	0	.29	1.57	.55
2,4,5-Trichlorotoluene	6	1L	17	0	0	.90	1.20	.95
Tetrachloroethylene	11	1M	9	9	0	.55	2.64	1.07
Bromodichloromethane	11	1L	9	0	0	.38	1.13	.47
Cis-1,3-Dichloropropylene	11	1L	9	0	0	.29	1.00	.42
Methylene chloride	12	1H	8	8	8	.23	42.23	3.76
Vanadium	12	1L	8	0	0	.10	1.40	.25
1,1,2,2-Tetrachloroethane	11	NO	0	0	0	.16	.21	.17
1,1,2-Trichloroethane	11	NO	0	0	0	.33	.67	.39
1,1-Dichloroethane	11	NO	0	0	0	.25	.50	.30
Bromoform	11	NO	0	0	0	.10	.19	.12
Chloromethane	11	NO	0	0	0	.19	.41	.37
Dibromochloromethane	11	NO	0	0	0	.27	.64	.35
Trichloroethylene	11	NO	0	0	0	.21	.26	.22
Vinyl chloride	11	NO	0	0	0	.15	.25	.17
Hexachlorobutadiene	6	NO	0	0	0	.50	.50	.50
Hexachlorocyclopentadiene	6	NO	0	0	0	.50	.60	.52
Hexachloroethane	6	NO	0	0	0	.50	.50	.50
Octachlorostyrene	6	NO	0	0	0	.90	.90	.90
Total PCDD	12	NO	0	0	0	.50	.50	.50
Total H7CDD	12	NO	0	0	0	.44	.44	.44
Total H6CDD	12	NO	0	0	0	.10	.21	.11

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 12 of 15)
PR 1900 - Biox Plant Effluent

TABLE C11.9A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Phenolics (4AAP)	1	0	1.00	1.00	1.00
Styrene	1	0	1.00	1.00	1.00
o-Xylene	1	0	1.00	1.00	1.00
Mercury	1	0	.90	.90	.90
Aluminum	1	0	.70	.70	.70
Copper	1	0	.70	.70	.70
DOC	1	0	.60	.60	.60
Total phosphorus	1	0	.60	.60	.60
Total suspended solids	1	0	.60	.60	.60
Zinc	1	0	.40	.40	.40
Chromium	1	0	.30	.30	.30
Volatile suspended solids	1	0	.30	.30	.30
Total Kjeldahl Nitrogen	1	0	.28	.28	.28
Ammonia plus Ammonium	1	0	.10	.10	.10
Nitrate+Nitrite	1	0	.10	.10	.10
TOC	1	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C11.9B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Styrene	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 13 of 15)
PR 1900 - Biox Plant Effluent

TABLE C11.10A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
17	Styrene	1	71	71	71	10.2
17	o-Xylene	1	71	71	71	10.2

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C11.10B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Styrene	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 14 of 15)
PR 1900 - Biox Plant Effluent

TABLE C11.11A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Zinc	1	14.50	14.50	14.50
Styrene	1	2.00	2.00	2.00
o-Xylene	1	2.00	2.00	2.00
Total suspended solids	1	.80	.80	.80
DOC	1	.60	.60	.60
Total Kjeldahl Nitrogen	1	.40	.40	.40
Aluminum	1	.17	.17	.17
Total phosphorus	1	.10	.10	.10
Volatile suspended solids	1	.10	.10	.10
Ammonia plus Ammonium	1	.08	.08	.08
TOC	1	.02	.02	.02
Chromium	1	.00	.00	.00
Copper	1	.00	.00	.00
Mercury	1	.00	.00	.00
Nitrate+Nitrite	1	.00	.00	.00
Phenolics (4AAP)	1	.00	.00	.00

TABLE C11.11B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Styrene	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Dow Chemical Canada Inc. - Sarnia (Page 15 of 15)
PR 1900 - Biox Plant Effluent

TABLE C11.12 Absolute Value of the Difference Between
Uncorrected Monitoring Sample Concentration
and Corrected Monitoring Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Bis(2-chloroethyl)ether	4	.00	1.75	.44
1,2-Dichloroethane	11	.00	4.50	.41
Ethylbenzene	11	.00	1.17	.11
1,1,2,2-Tetrachloroethane	11	.00	.00	.00
1,1,2-Trichloroethane	11	.00	.00	.00
1,1-Dichloroethane	11	.00	.00	.00
1,1-Dichloroethylene	11	.00	.00	.00
1,2-Dichloropropane	46	.00	.00	.00
2-Chloronaphthalene	10	.00	.00	.00
Benzene	12	.00	.00	.00
Biphenyl	10	.00	.00	.00
Bis(2-chloroisopropyl)ether	4	.00	.00	.00
Bromodichloromethane	11	.00	.00	.00
Bromoform	11	.00	.00	.00
Carbon tetrachloride	11	.00	.00	.00
Chloroform	11	.00	.00	.00
Chloromethane	11	.00	.00	.00
Cis-1,3-Dichloropropylene	11	.00	.00	.00
Dibromochloromethane	11	.00	.00	.00
Methylene chloride	12	.00	.00	.00
Naphthalene	10	.00	.00	.00
Styrene	104	.00	.00	.00
Tetrachloroethylene	11	.00	.00	.00
Trichloroethylene	11	.00	.00	.00
Vinyl chloride	11	.00	.00	.00
o-Xylene	104	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Corunna (Page 1 of 4)
CO 0200 - Final Effluent to River

TABLE C12.1 Detection Frequencies and Concentration Ratios for Found Parameters Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	363	FM	99	94	43	.70	28.00	5.90
Phenolics (4AAP)	52	FL	69	17	2	.15	7.50	1.35
Total suspended solids	153	FL	46	14	2	.40	10.60	1.33
Total Kjeldahl Nitrogen	153	1L	35	9	1	.32	6.60	.99
Oil and grease	52	1H	17	4	4	.96	10.00	1.34

TABLE C12.2 Detection Frequencies and Concentration Ratios For Found Parameters Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Aluminum	12	FH	100	100	58	2.93	22.67	7.36
COD	2	FM	100	100	0	2.10	2.50	2.30
Nitrate+Nitrite	2	FL	100	0	0	1.40	1.48	1.44
Sulphide	2	FL	100	0	0	1.00	1.50	1.25
Copper	12	FL	50	50	8	.50	6.70	2.32
TOC	9	FL	44	11	0	.36	2.40	.99
Toluene	12	FL	42	42	33	.80	20.00	6.10
Zinc	12	FL	42	17	0	.40	3.20	1.14
1,1-Dichloroethane	2	NO	0	0	0	.63	.63	.63

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Corunna (Page 2 of 4)
CO 0200 - Final Effluent to River

TABLE C12.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
DOC	12	33	.70	200.00	17.68
Aluminum	4	75	.30	2.80	1.81
Copper	4	50	.20	3.10	1.27
Oil and grease	3	0	.96	.96	.96
Toluene	4	0	.80	.80	.80
Total Kjeldahl Nitrogen	12	17	.32	2.00	.64
Zinc	4	0	.40	.40	.40
Phenolics (4AAP)	4	0	.15	.50	.33
TOC	8	0	.10	.34	.15

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C12.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	1.20	7.60	5.85

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Corunna (Page 3 of 4)
CO 0200 - Final Effluent to River

TABLE C12.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
17	Toluene	4	85	95	90	40.0

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C12.4B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters.

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	2.00	10.00	6.50

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Corunna (Page 4 of 4)
CO 0200 - Final Effluent to River

TABLE C12.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	.00	61.20	15.30
DOC	6	.00	6.00	1.33
Aluminum	2	.67	2.00	1.33
Zinc	2	.00	1.40	.70
TOC	1	.54	.54	.54
Oil and grease	5	.00	2.30	.53
Total suspended solids	5	.00	.80	.27
Total Kjeldahl Nitrogen	5	.00	.60	.22
Copper	2	.00	.00	.00
Phenolics (4AAP)	2	.00	.00	.00

TABLE C12.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	2.60	9.80	6.35

TABLE C12.6 Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Copper	2	1.40	1.60	1.50
Aluminum	2	.33	1.33	.83
DOC	6	.00	.80	.37
Zinc	2	.00	.40	.20
Total Kjeldahl Nitrogen	6	.00	.80	.18
Total suspended solids	6	.00	.36	.12
Phenolics (4AAP)	2	.00	.00	.00

TABLE C12.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	12	.00	10.60	4.77
1,1-Dichloroethane	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 1 of 21)
PR 0600 - Flake Effluent

TABLE C13.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	138	FH	100	100	99	4.60	51.60	9.96
Total Kjeldahl Nitrogen	146	FL	99	18	6	.80	27.00	2.16
Aluminum	48	FL	44	21	4	1.00	6.33	1.49
Oil and grease	46	IL	35	9	2	1.00	5.70	1.41
Total suspended solids	139	IH	27	17	9	.28	37.22	2.11
Total phosphorus	48	IH	10	4	4	.22	37.00	2.18
Phenolics (4AAP)	146	IL	7	2	0	.10	3.00	.57

TABLE C13.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Diphenyl ether	4	FH	100	100	100	13.25	63.50	36.50
Biphenyl	4	FH	100	100	75	3.83	10.00	7.58
Chloroform	12	FH	100	100	58	3.00	9.57	5.68
Copper	12	FM	100	75	8	1.00	5.00	2.25
Bromodichloromethane	12	FM	100	75	0	1.25	4.50	2.64
CO ₂	4	FL	100	0	0	1.60	1.90	1.68
Mercury	12	FL	67	25	0	1.00	3.00	1.65
TOC	34	FL	53	15	3	.54	5.56	1.35
Zinc	12	IL	33	17	0	1.00	3.00	1.25
Dibromochloromethane	12	IL	33	0	0	.91	1.55	1.02
Nitrate+Nitrite	4	IL	25	0	0	.80	1.40	.99
Benzene	12	IH	17	17	0	.20	3.00	.63
Boron	12	IL	17	0	0	1.00	1.80	1.07
Volatile suspended solids	4	NO	0	0	0	.50	.50	.50
Sulphide	12	NO	0	0	0	.50	.50	.50
1,1,2,2-Tetrachloroethane	12	NO	0	0	0	.23	.23	.23
1,1,2-Trichloroethane	12	NO	0	0	0	.33	.50	.35
1,1-Dichloroethane	12	NO	0	0	0	.25	.25	.25
1,2-Dichloroethane	12	NO	0	0	0	.25	.25	.25
1,2-Dichloropropane	12	NO	0	0	0	.22	.22	.22
Bromoform	12	NO	0	0	0	.54	.54	.54
Bromomethane	12	NO	0	0	0	.54	.54	.54
Chlorobenzene	12	NO	0	0	0	.29	.29	.29
Chloromethane	12	NO	0	0	0	.54	.54	.54
Cis-1,3-Dichloropropylene	12	NO	0	0	0	.36	.36	.36
Ethylene dibromide	12	NO	0	0	0	1.00	1.00	1.00
Methylene chloride	12	NO	0	0	0	.38	.38	.38
Tetrachloroethylene	12	NO	0	0	0	.45	.45	.45
Trans-1,3-Dichloropropylene	12	NO	0	0	0	.36	.36	.36
Trichlorofluoromethane	12	NO	0	0	0	1.00	1.00	1.00
Vinyl chloride	12	NO	0	0	0	.50	.50	.50
Ethylbenzene	12	NO	0	0	0	.33	.33	.33
Styrene	12	NO	0	0	0	.40	.40	.40
Toluene	12	NO	0	0	0	.40	.40	.42
o-Xylene	12	NO	0	0	0	.40	.40	.40
Acrolein	12	NO	0	0	0	1.00	1.00	1.00

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 2 of 21)
PR 0600 - Flake Effluent

TABLE C13.2 (cont'd) Detection Frequencies and Concentration Ratios For Found Parameters Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Acrylonitrile	12	ND	0	0	0	.48	.48	1.00
Octachlorodibenzo-p-dioxin	4	ND	0	0	0	1.00	1.00	1.00
Total TCDD	4	ND	0	0	0	1.00	1.00	1.00

TABLE C13.3A Detection Frequencies and Concentration Ratios for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection	Concentration Ratios (1)		
		>RMDL (%)	Minimum	Maximum	Average
Mercury	3	33	1.00	2.00	1.33
Boron	3	33	1.00	1.20	1.07
Acrolein	3	0	1.00	1.00	1.00
Aluminum	3	33	1.00	1.00	1.00
Copper	3	0	1.00	1.00	1.00
Ethylene dibromide	3	0	1.00	1.00	1.00
Oil and grease	7	0	1.00	1.00	1.00
Total phosphorus	3	0	1.00	1.00	1.00
Total suspended solids	7	0	1.00	1.00	1.00
Trichlorofluoromethane	3	0	1.00	1.00	1.00
Zinc	3	0	1.00	1.00	1.00
Dibromochloromethane	3	0	.91	.91	.91
Bromoform	3	0	.54	.54	.54
Bromomethane	3	0	.54	.54	.54
Chloromethane	3	0	.54	.54	.54
Phenolics (4AAP)	8	0	.50	.50	.50
Sulphide	3	0	.50	.50	.50
Vinyl chloride	3	0	.50	.50	.50
Acrylonitrile	3	0	.48	.48	.48
Tetrachloroethylene	3	0	.45	.45	.45
Styrene	3	0	.40	.40	.40
Toluene	3	0	.40	.40	.40
o-Xylene	3	0	.40	.40	.40
Methylene chloride	3	0	.38	.38	.38
Cis-1,3-Dichloropropylene	3	0	.36	.36	.36
Trans-1,3-Dichloropropylene	3	0	.36	.36	.36
1,1,2-Trichloroethane	3	0	.33	.33	.33
Ethylbenzene	3	0	.33	.33	.33
DOC	7	0	.14	.40	.31
Chlorobenzene	3	0	.29	.29	.29
Chloroform	3	0	.29	.29	.29
1,1-Dichloroethane	3	0	.25	.25	.25
1,2-Dichloroethane	3	0	.25	.25	.25
Bromodichloromethane	3	0	.25	.25	.25
1,1,2,2-Tetrachloroethane	3	0	.23	.23	.23
1,2-Dichloropropane	3	0	.22	.22	.22
Benzene	3	0	.20	.20	.20
Nitrate+Nitrite	1	0	.20	.20	.20
Total Kjeldahl Nitrogen	8	0	.20	.20	.20
TOC	2	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 3 of 21)
PR 0600 - Flake Effluent

TABLE C13.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	3	.00	.00	.00
1,1,2-Trichloroethane	3	.00	.00	.00
1,1-Dichloroethane	3	.00	.00	.00
1,2-Dichloroethane	3	.00	.00	.00
1,2-Dichloropropane	3	.00	.00	.00
Acrolein	3	.00	.00	.00
Acrylonitrile	3	.00	.00	.00
Benzene	3	.00	.00	.00
Bromodichloromethane	3	.00	.00	.00
Bromoform	3	.00	.00	.00
Bromomethane	3	.00	.00	.00
Chlorobenzene	3	.00	.00	.00
Chloroform	3	.00	.00	.00
Chloromethane	3	.00	.00	.00
Cis-1,3-Dichloropropylene	3	.00	.00	.00
Dibromochloromethane	3	.00	.00	.00
Ethylbenzene	3	.00	.00	.00
Ethylene dibromide	3	.00	.00	.00
Methylene chloride	3	.00	.00	.00
Styrene	3	.00	.00	.00
Tetrachloroethylene	3	.00	.00	.00
Toluene	3	.00	.00	.00
Trans-1,3-Dichloropropylene	3	.00	.00	.00
Trichlorofluoromethane	3	.00	.00	.00
Vinyl chloride	3	.00	.00	.00
o-Xylene	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 4 of 21)
PR 0600 - Flake Effluent

TABLE C13.4A Range of Recoveries and Ratio of Spiked Quantity to the
Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	1,1,2,2-Tetrachloroethane	3	20	104	69	1.2
16	1,1,2-Trichloroethane	3	94	160	122	8.3
16	1,1-Dichloroethane	3	94	134	107	6.3
16	1,2-Dichloroethane	3	116	146	128	6.3
16	1,2-Dichloropropane	3	106	122	111	5.6
16	Bromodichloromethane	3	106	114	110	6.3
16	Bromoform	3	90	130	111	1.4
16	Bromomethane	3	90	104	97	2.7
16	Chlorobenzene	3	102	110	107	7.1
16	Chloroform	3	100	122	114	7.1
16	Chloromethane	3	71	117	98	2.7
16	Cis-1,3-Dichloropropylene	3	92	203	132	4.3
16	Dibromochloromethane	3	104	112	108	4.5
16	Ethylene dibromide	3	95	115	107	6.2
16	Methylene chloride	3	100	120	107	3.8
16	Tetrachloroethylene	3	104	132	116	4.5
16	Trans-1,3-Dichloropropylene	3	95	175	124	2.9
16	Trichlorofluoromethane	3	72	180	111	5.0
16	Vinyl chloride	3	84	99	93	2.5
17	Benzene	3	94	126	114	10.0
17	Ethylbenzene	3	94	110	101	8.3
17	Styrene	3	100	140	118	3.0
17	Toluene	3	106	158	126	10.0
17	o-Xylene	3	100	100	100	3.0
18	Acrolein	3	7	67	38	5.0
18	Acrylonitrile	3	85	124	110	2.4

NOTE: (1) - Only those parameters for which travelling spikes
were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by
Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 5 of 21)
PR 0600 - Flake Effluent

TABLE C13.4B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	3	.00	.00	.00
1,1,2-Trichloroethane	3	.00	.00	.00
1,1-Dichloroethane	3	.00	.00	.00
1,2-Dichloroethane	3	.00	.00	.00
1,2-Dichloropropane	3	.00	.00	.00
Acrolein	3	.00	.00	.00
Acrylonitrile	3	.00	.00	.00
Benzene	3	.00	.00	.00
Bromodichloromethane	3	.00	.00	.00
Bromoform	3	.00	.00	.00
Bromomethane	3	.00	.00	.00
Chlorobenzene	3	.00	.00	.00
Chloroform	3	.00	.00	.00
Chloromethane	3	.00	.00	.00
Cis-1,3-Dichloropropylene	3	.00	.00	.00
Dibromochloromethane	3	.00	.00	.00
Ethylbenzene	3	.00	.00	.00
Ethylene dibromide	3	.00	.00	.00
Methylene chloride	3	.00	.00	.00
Styrene	3	.00	.00	.00
Tetrachloroethylene	3	.00	.00	.00
Toluene	3	.00	.00	.00
Trans-1,3-Dichloropropylene	3	.00	.00	.00
Trichlorofluoromethane	3	.00	.00	.00
Vinyl chloride	3	.00	.00	.00
o-Xylene	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 6 of 21)
PR 0600 - Flake Effluent

TABLE C13.5A Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Benzene	1	1.20	1.20	1.20
Bromodichloromethane	1	.38	.38	.38
Dibromochloromethane	1	.36	.36	.36
Chloroform	1	.14	.14	.14
TOC	1	.00	.00	.00
1,1,2,2-Tetrachloroethane	1	.00	.00	.00
1,1,2-Trichloroethane	1	.00	.00	.00
1,1-Dichloroethane	1	.00	.00	.00
1,2-Dichloroethane	1	.00	.00	.00
1,2-Dichloropropane	1	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Bromoform	1	.00	.00	.00
Bromomethane	1	.00	.00	.00
Chlorobenzene	1	.00	.00	.00
Chloromethane	1	.00	.00	.00
Cis-1,3-Dichloropropylene	1	.00	.00	.00
DOC	1	.00	.00	.00
Ethylbenzene	1	.00	.00	.00
Ethylene dibromide	1	.00	.00	.00
Methylene chloride	1	.00	.00	.00
Styrene	1	.00	.00	.00
Tetrachloroethylene	1	.00	.00	.00
Toluene	1	.00	.00	.00
Total suspended solids	1	.00	.00	.00
Trans-1,3-Dichloropropylene	1	.00	.00	.00
Trichlorofluoromethane	1	.00	.00	.00
Vinyl chloride	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 7 of 21)
PR 0600 - Flake Effluent

TABLE C13.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	1	.00	.00	.00
1,1,2-Trichloroethane	1	.00	.00	.00
1,1-Dichloroethane	1	.00	.00	.00
1,2-Dichloroethane	1	.00	.00	.00
1,2-Dichloropropane	1	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Benzene	1	.00	.00	.00
Bromodichloromethane	1	.00	.00	.00
Bromoform	1	.00	.00	.00
Bromomethane	1	.00	.00	.00
Chlorobenzene	1	.00	.00	.00
Chloroform	1	.00	.00	.00
Chloromethane	1	.00	.00	.00
Cis-1,3-Dichloropropylene	1	.00	.00	.00
Dibromochloromethane	1	.00	.00	.00
Ethylbenzene	1	.00	.00	.00
Ethylene dibromide	1	.00	.00	.00
Methylene chloride	1	.00	.00	.00
Styrene	1	.00	.00	.00
Tetrachloroethylene	1	.00	.00	.00
Toluene	1	.00	.00	.00
Trans-1,3-Dichloropropylene	1	.00	.00	.00
Trichlorofluoromethane	1	.00	.00	.00
Vinyl chloride	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 8 of 21)
PR 0600 - Flake Effluent

TABLE C13.6A Absolute Value of the Difference Between Effluent Monitoring and
Split Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Boron	2	.00	4.20	2.10
Sulphide	2	.00	2.85	1.43
Chloroform	2	.29	1.14	.71
DOC	6	.00	.60	.33
Benzene	2	.00	.60	.30
Bromodichloromethane	2	.13	.38	.25
Mercury	2	.00	.50	.25
Aluminum	2	.00	.33	.17
Total Kjeldahl Nitrogen	8	.00	.40	.15
Total suspended solids	7	.00	.72	.10
1,1,2,2-Tetrachloroethane	2	.00	.00	.00
1,1,2-Trichloroethane	2	.00	.00	.00
1,1-Dichloroethane	2	.00	.00	.00
1,2-Dichloroethane	2	.00	.00	.00
1,2-Dichloropropane	2	.00	.00	.00
Acrolein	2	.00	.00	.00
Acrylonitrile	2	.00	.00	.00
Bromoform	2	.00	.00	.00
Bromomethane	2	.00	.00	.00
Chlorobenzene	2	.00	.00	.00
Chloromethane	2	.00	.00	.00
Cis-1,3-Dichloropropylene	2	.00	.00	.00
Copper	2	.00	.00	.00
Dibromochloromethane	2	.00	.00	.00
Ethylbenzene	2	.00	.00	.00
Ethylene dibromide	2	.00	.00	.00
Methylene chloride	2	.00	.00	.00
Oil and grease	7	.00	.00	.00
Phenolics (4AAP)	7	.00	.00	.00
Styrene	2	.00	.00	.00
Tetrachloroethylene	2	.00	.00	.00
Toluene	2	.00	.00	.00
Total phosphorus	2	.00	.00	.00
Trans-1,3-Dichloropropylene	2	.00	.00	.00
Trichlorofluoromethane	2	.00	.00	.00
Vinyl chloride	2	.00	.00	.00
Zinc	2	.00	.00	.00
o-Xylene	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 9 of 21)
PR 0600 - Flake Effluent

TABLE C13.6B Absolute Value of the Difference Between Uncorrected Split Sample Concentration and Corrected Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	2	.00	.00	.00
1,1,2-Trichloroethane	2	.00	.00	.00
1,1-Dichloroethane	2	.00	.00	.00
1,2-Dichloroethane	2	.00	.00	.00
1,2-Dichloropropane	2	.00	.00	.00
Acrolein	2	.00	.00	.00
Acrylonitrile	2	.00	.00	.00
Benzene	2	.00	.00	.00
Bromodichloromethane	2	.00	.00	.00
Bromoform	2	.00	.00	.00
Bromomethane	2	.00	.00	.00
Chlorobenzene	2	.00	.00	.00
Chloroform	2	.00	.00	.00
Chloromethane	2	.00	.00	.00
Cis-1,3-Dichloropropylene	2	.00	.00	.00
Dibromochloromethane	2	.00	.00	.00
Ethylbenzene	2	.00	.00	.00
Ethylene dibromide	2	.00	.00	.00
Methylene chloride	2	.00	.00	.00
Styrene	2	.00	.00	.00
Tetrachloroethylene	2	.00	.00	.00
Toluene	2	.00	.00	.00
Trans-1,3-Dichloropropylene	2	.00	.00	.00
Trichlorofluoromethane	2	.00	.00	.00
Vinyl chloride	2	.00	.00	.00
o-Xylene	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 10 of 21)
PR 0600 - Flake Effluent

TABLE C13.7 Absolute Value of the Difference Between
Uncorrected Monitoring Sample Concentration
and Corrected Monitoring Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	12	.00	.00	.00
1,1,2-Trichloroethane	12	.00	.00	.00
1,1-Dichloroethane	12	.00	.00	.00
1,2-Dichloroethane	12	.00	.00	.00
1,2-Dichloropropane	12	.00	.00	.00
Acrolein	12	.00	.00	.00
Acrylonitrile	12	.00	.00	.00
Benzene	12	.00	.00	.00
Biphenyl	4	.00	.00	.00
Bromodichloromethane	12	.00	.00	.00
Bromoform	12	.00	.00	.00
Bromomethane	12	.00	.00	.00
Chlorobenzene	12	.00	.00	.00
Chloroform	12	.00	.00	.00
Chloromethane	12	.00	.00	.00
Cis-1,3-Dichloropropylene	12	.00	.00	.00
Dibromochloromethane	12	.00	.00	.00
Diphenyl ether	4	.00	.00	.00
Ethylbenzene	12	.00	.00	.00
Ethylene dibromide	12	.00	.00	.00
Methylene chloride	12	.00	.00	.00
Styrene	12	.00	.00	.00
Tetrachloroethylene	12	.00	.00	.00
Toluene	12	.00	.00	.00
Trans-1,3-Dichloropropylene	12	.00	.00	.00
Trichlorofluoromethane	12	.00	.00	.00
Vinyl chloride	12	.00	.00	.00
o-Xylene	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 11 of 21)
PR 1000 - Staple Sewer

TABLE C13.8 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter -----	Number of Observations -----	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum -----	Maximum -----	Average -----
DOC	143	FH	100	100	100	37.40	1,727.60	318.63
TOC	142	FH	100	100	100	5.10	238.72	40.88
Oil and grease	46	FH	100	100	100	20.40	1,503.50	250.32
Total suspended solids	143	FH	100	100	87	2.12	102.24	13.57
Total Kjeldahl Nitrogen	149	FH	99	96	88	.68	47.40	11.07
Total phosphorus	50	FH	96	92	90	1.00	123.00	29.00
Phenolics (4AAP)	150	FH	85	77	71	.10	13,000.00	116.95
Aluminum	50	IL	36	16	0	1.00	4.67	1.31

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 12 of 21)
PR 1000 - Staple Sewer

TABLE C13.9 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COD	4	FH	100	100	100	76.00	180.00	118.00
Volatile suspended solids	4	FH	100	100	100	9.90	15.10	12.03
Diphenyl ether	4	FH	100	100	100	5.75	19.25	10.81
Chloroform	12	FH	100	100	75	2.86	11.43	6.10
Total TCDD	4	FM	100	75	50	1.50	19.50	7.70
Biphenyl	4	FM	100	75	25	1.33	8.33	3.79
Copper	12	FM	100	75	0	1.00	4.00	1.92
Octachlorodibenzo-p-dioxin	4	FM	100	75	0	1.37	3.03	2.31
Dibromochloromethane	12	FM	92	75	25	.91	18.18	5.60
Bromodichloromethane	12	FM	92	75	0	.50	3.50	2.26
Zinc	12	FM	83	75	42	.20	8.00	3.52
Toluene	12	FM	83	75	8	.40	8.00	2.52
Methylene chloride	12	FL	83	33	8	.38	15.38	3.13
Ethylene dibromide	12	FH	75	75	75	1.00	20.00	6.08
Trichlorofluoromethane	12	FH	75	75	75	1.00	20.00	6.08
Acrolein	12	FH	75	75	75	1.00	20.00	6.08
Bromoform	12	FM	75	75	25	.54	10.81	3.29
Bromomethane	12	FM	75	75	25	.54	10.81	3.29
Chloromethane	12	FM	75	75	25	.54	10.81	3.29
Vinyl chloride	12	FM	75	75	25	.50	10.00	3.04
Tetrachloroethylene	12	FM	75	75	8	.45	9.09	2.77
Styrene	12	FM	75	75	8	.40	8.00	2.43
o-Xylene	12	FM	75	75	8	.40	8.00	2.43
Acrylonitrile	12	FM	75	75	8	.48	9.52	2.90
Benzene	12	FL	75	50	42	.20	16.80	4.32
Boron	12	FL	75	33	8	1.00	5.00	1.87
1,1,2-Trichloroethane	12	FL	75	25	8	.33	16.67	2.86
1,1-Dichloroethane	12	FL	75	25	8	.25	5.00	1.52
1,2-Dichloroethane	12	FL	75	25	8	.25	5.00	1.52
Chlorobenzene	12	FL	75	25	8	.29	5.71	1.74
Cis-1,3-Dichloropropylene	12	FL	75	25	8	.36	7.14	2.17
Trans-1,3-Dichloropropylene	12	FL	75	25	8	.36	7.14	2.17
Ethylbenzene	12	FL	75	25	8	.33	6.67	2.03
1,1,2,2-Tetrachloroethane	12	FL	75	25	0	.23	4.65	1.41
1,2-Dichloropropane	12	FL	75	25	0	.22	4.44	1.35
Sulphide	12	FL	58	42	17	.50	10.50	2.87
Mercury	12	IL	25	0	0	1.00	1.50	1.08
Nitrate+Nitrite	4	NO	0	0	0	.16	.64	.36

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 13 of 21)
PR 1000 - Staple Sewer

TABLE C13.10A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Oil and grease	2	50	1.00	49.20	25.10
Methylene chloride	1	100	1.08	1.08	1.08
Acrolein	1	0	1.00	1.00	1.00
Aluminum	1	0	1.00	1.00	1.00
Boron	1	0	1.00	1.00	1.00
Copper	1	0	1.00	1.00	1.00
Ethylene dibromide	1	0	1.00	1.00	1.00
Mercury	1	0	1.00	1.00	1.00
Total phosphorus	1	0	1.00	1.00	1.00
Total suspended solids	2	0	1.00	1.00	1.00
Trichlorofluoromethane	1	0	1.00	1.00	1.00
Zinc	1	0	1.00	1.00	1.00
Dibromochloromethane	1	0	.91	.91	.91
DOC	2	0	.40	.80	.60
Bromoform	1	0	.54	.54	.54
Bromomethane	1	0	.54	.54	.54
Chloromethane	1	0	.54	.54	.54
Phenolics (4AAP)	3	0	.50	.50	.50
Sulphide	1	0	.50	.50	.50
Vinyl chloride	1	0	.50	.50	.50
Acrylonitrile	1	0	.48	.48	.48
Tetrachloroethylene	1	0	.45	.45	.45
Styrene	1	0	.40	.40	.40
Toluene	1	0	.40	.40	.40
o-Xylene	1	0	.40	.40	.40
Cis-1,3-Dichloropropylene	1	0	.36	.36	.36
Trans-1,3-Dichloropropylene	1	0	.36	.36	.36
1,1,2-Trichloroethane	1	0	.33	.33	.33
Ethylbenzene	1	0	.33	.33	.33
Chlorobenzene	1	0	.29	.29	.29
Chloroform	1	0	.29	.29	.29
1,1-Dichloroethane	1	0	.25	.25	.25
1,2-Dichloroethane	1	0	.25	.25	.25
Bromodichloromethane	1	0	.25	.25	.25
1,1,2,2-Tetrachloroethane	1	0	.23	.23	.23
1,2-Dichloropropane	1	0	.22	.22	.22
Benzene	1	0	.20	.20	.20
Total Kjeldahl Nitrogen	4	0	.14	.20	.18
TOC	2	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 14 of 21)
PR 1000 - Staple Sewer

TABLE C13.10B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Methylene chloride	1	.31	.31	.31
1,1,2,2-Tetrachloroethane	1	.00	.00	.00
1,1,2-Trichloroethane	1	.00	.00	.00
1,1-Dichloroethane	1	.00	.00	.00
1,2-Dichloroethane	1	.00	.00	.00
1,2-Dichloropropane	1	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Benzene	1	.00	.00	.00
Bromodichloromethane	1	.00	.00	.00
Bromoform	1	.00	.00	.00
Bromomethane	1	.00	.00	.00
Chlorobenzene	1	.00	.00	.00
Chloroform	1	.00	.00	.00
Chloromethane	1	.00	.00	.00
Cis-1,3-Dichloropropylene	1	.00	.00	.00
Dibromochloromethane	1	.00	.00	.00
Ethylbenzene	1	.00	.00	.00
Ethylene dibromide	1	.00	.00	.00
Styrene	1	.00	.00	.00
Tetrachloroethylene	1	.00	.00	.00
Toluene	1	.00	.00	.00
Trans-1,3-Dichloropropylene	1	.00	.00	.00
Trichlorofluoromethane	1	.00	.00	.00
Vinyl chloride	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 15 of 21)
PR 1000 - Staple Sewer

TABLE C13.11A Range of Recoveries and Ratio of Spiked Quantity to the
Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)		Average	SPIKE/RMDL (3)
			Minimum	Maximum		
16	1,1,2,2-Tetrachloroethane	1	98	98	98	1.2
16	1,1,2-Trichloroethane	1	90	90	90	8.3
16	1,1-Dichloroethane	1	92	92	92	6.3
16	1,2-Dichloroethane	1	92	92	92	6.3
16	1,2-Dichloropropane	1	86	86	86	5.6
16	Bromodichloromethane	1	86	86	86	6.3
16	Bromoform	1	92	92	92	1.4
16	Bromomethane	1	82	82	82	2.7
16	Chlorobenzene	1	76	76	76	7.1
16	Chloroform	1	90	90	90	7.1
16	Chloromethane	1	74	74	74	2.7
16	Cis-1,3-Dichloropropylene	1	83	83	83	4.3
16	Dibromochloromethane	1	92	92	92	4.5
16	Ethylene dibromide	1	88	88	88	6.0
16	Methylene chloride	1	84	84	84	3.8
16	Tetrachloroethylene	1	66	66	66	4.5
16	Trans-1,3-Dichloropropylene	1	75	75	75	2.9
16	Trichlorofluoromethane	1	94	94	94	5.0
16	Vinyl chloride	1	105	105	105	2.5
17	Benzene	1	88	88	88	10.0
17	Ethylbenzene	1	68	68	68	8.3
17	Styrene	1	75	75	75	4.0
17	Toluene	1	82	82	82	10.0
17	o-Xylene	1	75	75	75	4.0
18	Acrolein	1	63	63	63	5.0
18	Acrylonitrile	1	86	86	86	2.4

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 16 of 21)
PR 1000 - Staple Sewer

TABLE C13.11B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Methylene chloride	1	.31	.31	.31
1,1,2,2-Tetrachloroethane	1	.00	.00	.00
1,1,2-Trichloroethane	1	.00	.00	.00
1,1-Dichloroethane	1	.00	.00	.00
1,2-Dichloroethane	1	.00	.00	.00
1,2-Dichloropropane	1	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Benzene	1	.00	.00	.00
Bromodichloromethane	1	.00	.00	.00
Bromoform	1	.00	.00	.00
Bromomethane	1	.00	.00	.00
Chlorobenzene	1	.00	.00	.00
Chloroform	1	.00	.00	.00
Chloromethane	1	.00	.00	.00
Cis-1,3-Dichloropropylene	1	.00	.00	.00
Dibromochloromethane	1	.00	.00	.00
Ethylbenzene	1	.00	.00	.00
Ethylene dibromide	1	.00	.00	.00
Styrene	1	.00	.00	.00
Tetrachloroethylene	1	.00	.00	.00
Toluene	1	.00	.00	.00
Trans-1,3-Dichloropropylene	1	.00	.00	.00
Trichlorofluoromethane	1	.00	.00	.00
Vinyl chloride	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 17 of 21)
PR 1000 - Staple Sewer

TABLE C13.12A Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
DOC	4	3.40	16.60	8.95
Total suspended solids	4	.52	15.58	6.17
Oil and grease	2	4.70	5.70	5.20
Total phosphorus	1	2.00	2.00	2.00
TOC	4	.46	3.28	1.50
Phenolics (4AAP)	3	.00	2.50	1.33
Aluminum	1	1.00	1.00	1.00
Copper	1	1.00	1.00	1.00
Boron	1	.60	.60	.60
Total Kjeldahl Nitrogen	3	.00	.60	.27
Bromodichloromethane	1	.25	.25	.25
Benzene	1	.20	.20	.20
Toluene	1	.20	.20	.20
Chloroform	1	.14	.14	.14
1,1,2,2-Tetrachloroethane	1	.00	.00	.00
1,1,2-Trichloroethane	1	.00	.00	.00
1,1-Dichloroethane	1	.00	.00	.00
1,2-Dichloroethane	1	.00	.00	.00
1,2-Dichloropropane	1	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Bromoform	1	.00	.00	.00
Bromomethane	1	.00	.00	.00
Chlorobenzene	1	.00	.00	.00
Chloromethane	1	.00	.00	.00
Cis-1,3-Dichloropropylene	1	.00	.00	.00
Dibromochloromethane	1	.00	.00	.00
Ethylbenzene	1	.00	.00	.00
Ethylene dibromide	1	.00	.00	.00
Mercury	1	.00	.00	.00
Methylene chloride	1	.00	.00	.00
Styrene	1	.00	.00	.00
Sulphide	1	.00	.00	.00
Tetrachloroethylene	1	.00	.00	.00
Trans-1,3-Dichloropropylene	1	.00	.00	.00
Trichlorofluoromethane	1	.00	.00	.00
Vinyl chloride	1	.00	.00	.00
Zinc	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 18 of 21)
PR 1000 - Staple Sewer

TABLE C13.12B Absolute Value of the Difference Between Uncorrected Duplicate
Concentration and Corrected Duplicate Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	1	.00	.00	.00
1,1,2-Trichloroethane	1	.00	.00	.00
1,1-Dichloroethane	1	.00	.00	.00
1,2-Dichloroethane	1	.00	.00	.00
1,2-Dichloropropane	1	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Benzene	1	.00	.00	.00
Bromodichloromethane	1	.00	.00	.00
Bromoform	1	.00	.00	.00
Bromomethane	1	.00	.00	.00
Chlorobenzene	1	.00	.00	.00
Chloroform	1	.00	.00	.00
Chloromethane	1	.00	.00	.00
Cis-1,3-Dichloropropylene	1	.00	.00	.00
Dibromochloromethane	1	.00	.00	.00
Ethylbenzene	1	.00	.00	.00
Ethylene dibromide	1	.00	.00	.00
Methylene chloride	1	.00	.00	.00
Styrene	1	.00	.00	.00
Tetrachloroethylene	1	.00	.00	.00
Toluene	1	.00	.00	.00
Trans-1,3-Dichloropropylene	1	.00	.00	.00
Trichlorofluoromethane	1	.00	.00	.00
Vinyl chloride	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 19 of 21)
PR 1000 - Staple Sewer

TABLE C13.13A Absolute Value of the Difference Between Effluent Monitoring and
Split Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
DOC	4	3.40	16.60	8.95
Total suspended solids	4	.52	15.58	6.17
Oil and grease	2	4.70	5.70	5.20
Total phosphorus	1	2.00	2.00	2.00
TOC	4	.46	3.28	1.50
Phenolics (4AAP)	3	.00	2.50	1.33
Aluminum	1	1.00	1.00	1.00
Copper	1	1.00	1.00	1.00
Boron	1	.60	.60	.60
Total Kjeldahl Nitrogen	3	.00	.60	.27
Bromodichloromethane	1	.25	.25	.25
Benzene	1	.20	.20	.20
Toluene	1	.20	.20	.20
Chloroform	1	.14	.14	.14
1,1,2,2-Tetrachloroethane	1	.00	.00	.00
1,1,2-Trichloroethane	1	.00	.00	.00
1,1-Dichloroethane	1	.00	.00	.00
1,2-Dichloroethane	1	.00	.00	.00
1,2-Dichloropropane	1	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Bromoform	1	.00	.00	.00
Bromomethane	1	.00	.00	.00
Chlorobenzene	1	.00	.00	.00
Chloromethane	1	.00	.00	.00
Cis-1,3-Dichloropropylene	1	.00	.00	.00
Dibromochloromethane	1	.00	.00	.00
Ethylbenzene	1	.00	.00	.00
Ethylene dibromide	1	.00	.00	.00
Mercury	1	.00	.00	.00
Methylene chloride	1	.00	.00	.00
Styrene	1	.00	.00	.00
Sulphide	1	.00	.00	.00
Tetrachloroethylene	1	.00	.00	.00
Trans-1,3-Dichloropropylene	1	.00	.00	.00
Trichlorofluoromethane	1	.00	.00	.00
Vinyl chloride	1	.00	.00	.00
Zinc	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 20 of 21)
PR 1000 - Staple Sewer

TABLE C13.13B Absolute Value of the Difference Between Uncorrected Split Sample Concentration and Corrected Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	1	.00	.00	.00
1,1,2-Trichloroethane	1	.00	.00	.00
1,1-Dichloroethane	1	.00	.00	.00
1,2-Dichloroethane	1	.00	.00	.00
1,2-Dichloropropane	1	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Benzene	1	.00	.00	.00
Bromodichloromethane	1	.00	.00	.00
Bromoform	1	.00	.00	.00
Bromomethane	1	.00	.00	.00
Chlorobenzene	1	.00	.00	.00
Chloroform	1	.00	.00	.00
Chloromethane	1	.00	.00	.00
Cis-1,3-Dichloropropylene	1	.00	.00	.00
Dibromochloromethane	1	.00	.00	.00
Ethylbenzene	1	.00	.00	.00
Ethylene dibromide	1	.00	.00	.00
Methylene chloride	1	.00	.00	.00
Styrene	1	.00	.00	.00
Tetrachloroethylene	1	.00	.00	.00
Toluene	1	.00	.00	.00
Trans-1,3-Dichloropropylene	1	.00	.00	.00
Trichlorofluoromethane	1	.00	.00	.00
Vinyl chloride	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Kingston (Page 21 of 21)
PR 1000 - Staple Sewer

TABLE C13.14 Absolute Value of the Difference Between
Uncorrected Monitoring Sample Concentration
and Corrected Monitoring Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2-Trichloroethane	12	.00	10.00	.83
Methylene chloride	12	.00	7.69	.64
Bromodichloromethane	12	.00	1.50	.13
Toluene	12	.00	.40	.03
1,1,2,2-Tetrachloroethane	12	.00	.00	.00
1,1-Dichloroethane	12	.00	.00	.00
1,2-Dichloroethane	12	.00	.00	.00
1,2-Dichloropropane	12	.00	.00	.00
Acrolein	12	.00	.00	.00
Acrylonitrile	12	.00	.00	.00
Benzene	12	.00	.00	.00
Biphenyl	4	.00	.00	.00
Bromoform	12	.00	.00	.00
Bromomethane	12	.00	.00	.00
Chlorobenzene	12	.00	.00	.00
Chloroform	12	.00	.00	.00
Chloromethane	12	.00	.00	.00
Cis-1,3-Dichloropropylene	12	.00	.00	.00
Dibromochloromethane	12	.00	.00	.00
Diphenyl ether	4	.00	.00	.00
Ethylbenzene	12	.00	.00	.00
Ethylene dibromide	12	.00	.00	.00
Styrene	12	.00	.00	.00
Tetrachloroethylene	12	.00	.00	.00
Trans-1,3-Dichloropropylene	12	.00	.00	.00
Trichlorofluoromethane	12	.00	.00	.00
Vinyl chloride	12	.00	.00	.00
o-Xylene	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 1 of 11)
PR 0300 - WTP Effluent

TABLE C14.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Cyanide Total	48	FH	100	100	100	8.40	160.00	41.40
DOC	151	FH	100	100	100	10.00	700.00	101.39
Total suspended solids	154	FH	100	100	100	10.00	607.80	58.64
Copper	150	FH	100	100	100	5.00	98.00	16.34
Volatile suspended solids	351	FH	100	100	99	4.70	276.60	29.97
TOC	151	FH	100	100	77	3.00	83.00	13.19
Total phosphorus	151	FH	100	99	97	1.00	235.00	42.33
Cobalt	150	FH	100	89	55	1.00	85.00	9.23
Total Kjeldahl Nitrogen	151	FH	99	99	99	.28	680.00	96.68
Oil and grease	48	FM	92	90	50	1.00	51.00	6.44
Nitrate+Nitrite	151	FH	89	80	68	.20	464.00	57.58
Chloroform	50	FL	86	36	6	.29	28.57	2.51
Phenolics (4AAP)	49	FM	82	51	33	.10	175.00	9.36
Ammonia plus Ammonium	151	FH	70	60	56	.40	408.00	95.16
Arsenic	49	NO	0	0	0	.20	.80	.40

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 2 of 11)
PR 0300 - WTP Effluent

TABLE C14.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COD	4	FH	100	100	100	6.50	54.00	20.38
Vanadium	12	FM	100	75	17	1.13	8.00	3.48
Aluminum	12	FL	100	50	25	1.33	44.67	6.44
Octachlorodibenzo-p-dioxin	2	FL	100	50	0	1.67	4.00	2.83
Zinc	12	FM	92	75	17	1.00	32.00	6.17
Benzene	12	FL	92	25	8	.20	20.00	2.92
Methylene chloride	11	FL	91	0	0	.38	1.92	1.71
Ethylene dibromide	12	FH	83	83	83	1.00	100.00	12.25
Trichlorofluoromethane	12	FH	83	83	83	1.00	100.00	12.25
Bromoform	12	FM	83	83	8	.54	54.05	6.62
Bromomethane	12	FM	83	83	8	.54	54.05	6.62
Chloromethane	12	FM	83	83	8	.54	54.05	6.62
Dibromochloromethane	12	FM	83	83	8	.91	90.91	11.14
Tetrachloroethylene	12	FM	83	83	8	.45	45.45	5.57
Vinyl chloride	12	FM	83	83	8	.50	50.00	6.13
Styrene	12	FM	83	83	8	.40	40.00	4.90
Toluene	12	FM	83	83	8	.40	40.00	4.90
o-Xylene	12	FM	83	83	8	.40	40.00	4.90
1,1,2,2-Tetrachloroethane	12	FL	83	8	8	.23	23.26	2.85
1,1,2-Trichloroethane	12	FL	83	8	8	.33	33.33	4.13
1,1-Dichloroethane	12	FL	83	8	8	.25	25.00	3.06
1,2-Dichloroethane	12	FL	83	8	8	.25	25.00	3.06
1,2-Dichloropropane	12	FL	83	8	8	.22	22.22	2.72
Bromodichloromethane	12	FL	83	8	8	.25	25.00	3.07
Chlorobenzene	12	FL	83	8	8	.29	28.57	3.50
Cis-1,3-Dichloropropylene	12	FL	83	8	8	.36	35.71	4.38
Trans-1,3-Dichloropropylene	12	FL	83	8	8	.36	35.71	4.38
Ethylbenzene	12	FL	83	8	8	.33	33.33	4.08
Acrolein	4	FH	75	75	75	1.00	100.00	27.75
Acrylonitrile	4	FM	75	75	25	.48	47.62	13.21
Chromium	12	IH	33	8	8	1.00	13.00	2.08
Boron	12	IL	33	8	0	1.00	3.00	1.18
Nickel	12	IL	33	8	0	.50	3.50	.92
m-Xylene and p-Xylene	12	IH	25	25	17	.18	18.18	2.69
1,1-Dichloroethylene	12	IH	8	8	8	.18	17.86	2.19
1,2-Dichlorobenzene	12	IH	8	8	8	.14	14.29	1.76
1,3-Dichlorobenzene	12	IH	8	8	8	.18	18.18	2.23
1,4-Dichlorobenzene	12	IH	8	8	8	.12	11.76	1.44
Carbon tetrachloride	12	IH	8	8	8	.15	15.38	1.88
Trans-1,2-Dichloroethylene	12	IH	8	8	8	.14	14.29	1.75
Trichloroethylene	12	IH	8	8	8	.11	10.53	1.29
Hexachlorobenzene	12	IM	8	8	0	.50	2.50	.67
Hexachloroethane	12	IM	8	8	0	.50	2.50	.67
Antimony	12	NO	0	0	0	.40	.60	.42
Octachlorodibenzofuran	2	NO	0	0	0	1.00	1.00	1.00

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 3 of 11)
PR 0300 - WTP Effluent

TABLE C14.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Total phosphorus	12	17	1.00	78.00	7.42
Boron	4	25	1.00	1.40	1.10
Acrolein	2	0	1.00	1.00	1.00
Aluminum	4	0	1.00	1.00	1.00
Chromium	4	0	1.00	1.00	1.00
Cobalt	12	0	1.00	1.00	1.00
Copper	12	0	1.00	1.00	1.00
Cyanide Total	3	0	1.00	1.00	1.00
Ethylene dibromide	4	0	1.00	1.00	1.00
Oil and grease	5	0	1.00	1.00	1.00
Trichlorofluoromethane	4	0	1.00	1.00	1.00
Zinc	4	0	1.00	1.00	1.00
DOC	12	0	.60	1.00	.92
Dibromochloromethane	4	0	.91	.91	.91
Vanadium	4	0	.67	.67	.67
Bromoform	4	0	.54	.54	.54
Bromomethane	4	0	.54	.54	.54
Chloromethane	4	0	.54	.54	.54
COD	1	0	.50	.50	.50
Hexachlorobenzene	4	0	.50	.50	.50
Hexachloroethane	4	0	.50	.50	.50
Nickel	4	0	.50	.50	.50
Phenolics (4AAP)	4	0	.50	.50	.50
Vinyl chloride	4	0	.50	.50	.50
Acrylonitrile	2	0	.48	.48	.48
Tetrachloroethylene	4	0	.45	.45	.45
Ammonia plus Ammonium	12	0	.40	.40	.40
Antimony	4	0	.40	.40	.40
Arsenic	4	0	.40	.40	.40
Styrene	4	0	.40	.40	.40
Toluene	4	0	.40	.40	.40
o-Xylene	4	0	.40	.40	.40
Methylene chloride	4	0	.38	.38	.38
Cis-1,3-Dichloropropylene	4	0	.36	.36	.36
Trans-1,3-Dichloropropylene	4	0	.36	.36	.36
1,1,2-Trichloroethane	4	0	.33	.33	.33
Ethylbenzene	4	0	.33	.33	.33
Chlorobenzene	4	0	.29	.29	.29
Chloroform	4	0	.29	.29	.29
1,1-Dichloroethane	4	0	.25	.25	.25
1,2-Dichloroethane	4	0	.25	.25	.25
Bromodichloromethane	4	0	.25	.25	.25
1,1,2,2-Tetrachloroethane	4	0	.23	.23	.23
1,2-Dichloropropane	4	0	.22	.22	.22
Nitrate+Nitrite	12	0	.20	.32	.21
Benzene	4	0	.20	.20	.20
Total Kjeldahl Nitrogen	12	0	.20	.20	.20
1,3-Dichlorobenzene	4	0	.18	.18	.18
m-Xylene and p-Xylene	4	0	.18	.18	.18
1,1-Dichloroethylene	4	0	.18	.18	.18
Carbon tetrachloride	4	0	.15	.15	.15
1,2-Dichlorobenzene	4	0	.14	.14	.14

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 4 of 11)
PR 0300 - WTP Effluent

TABLE C14.3A (cont'd) Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Trans-1,2-Dichloroethylene	4	0	.14	.14	.14
1,4-Dichlorobenzene	4	0	.12	.12	.12
Trichloroethylene	4	0	.11	.11	.11
TOC	2	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C14.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Methylene chloride	4	.00	.31	.08
1,1,2,2-Tetrachloroethane	4	.00	.00	.00
1,1,2-Trichloroethane	4	.00	.00	.00
1,1-Dichloroethane	4	.00	.00	.00
1,1-Dichloroethylene	4	.00	.00	.00
1,2-Dichlorobenzene	4	.00	.00	.00
1,2-Dichloroethane	4	.00	.00	.00
1,2-Dichloropropane	4	.00	.00	.00
1,3-Dichlorobenzene	4	.00	.00	.00
1,4-Dichlorobenzene	4	.00	.00	.00
Acrolein	2	.00	.00	.00
Acrylonitrile	2	.00	.00	.00
Benzene	4	.00	.00	.00
Bromodichloromethane	4	.00	.00	.00
Bromoform	4	.00	.00	.00
Bromomethane	4	.00	.00	.00
Carbon tetrachloride	4	.00	.00	.00
Chlorobenzene	4	.00	.00	.00
Chloroform	4	.00	.00	.00
Chloromethane	4	.00	.00	.00
Cis-1,3-Dichloropropylene	4	.00	.00	.00
Dibromochloromethane	4	.00	.00	.00
Ethylbenzene	4	.00	.00	.00
Ethylene dibromide	4	.00	.00	.00
Styrene	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00
Toluene	4	.00	.00	.00
Trans-1,2-Dichloroethylene	4	.00	.00	.00
Trans-1,3-Dichloropropylene	4	.00	.00	.00
Trichloroethylene	4	.00	.00	.00
Trichlorofluoromethane	4	.00	.00	.00
Vinyl chloride	4	.00	.00	.00
m-Xylene and p-Xylene	4	.00	.00	.00
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 5 of 11)
PR 0300 - WTP Effluent

TABLE C14.4A Range of Recoveries and Ratio of Spiked Quantity to the
Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	1,1,2,2-Tetrachloroethane	4	64	128	92	1.2
16	1,1,2-Trichloroethane	4	88	126	109	8.3
16	1,1-Dichloroethane	4	98	112	106	6.3
16	1,1-Dichloroethylene	4	98	112	107	1.8
16	1,2-Dichlorobenzene	4	63	130	103	2.1
16	1,2-Dichloroethane	4	94	120	105	6.3
16	1,2-Dichloropropane	4	90	114	106	5.6
16	1,3-Dichlorobenzene	4	60	123	101	2.8
16	1,4-Dichlorobenzene	4	60	124	102	1.7
16	Bromodichloromethane	4	90	146	114	6.3
16	Bromoform	4	90	118	106	1.4
16	Bromomethane	4	79	113	101	2.7
16	Carbon tetrachloride	4	90	112	104	3.8
16	Chlorobenzene	4	78	122	104	7.1
16	Chloroform	4	104	114	109	7.1
16	Chloromethane	4	77	114	89	2.7
16	Cis-1,3-Dichloropropylene	4	92	110	103	4.3
16	Dibromochloromethane	4	84	124	106	4.5
16	Ethylene dibromide	4	83	126	108	6.1
16	Methylene chloride	4	64	110	94	3.8
16	Tetrachloroethylene	4	62	128	102	4.5
16	Trans-1,2-Dichloroethylene	4	108	110	109	3.8
16	Trans-1,3-Dichloropropylene	4	57	113	91	2.9
16	Trichloroethylene	4	84	118	104	2.6
16	Trichlorofluoromethane	4	88	112	100	5.0
16	Vinyl chloride	4	79	113	99	2.5
17	Benzene	4	104	108	106	10.0
17	Ethylbenzene	4	66	124	101	8.3
17	Styrene	4	70	120	101	3.3
17	Toluene	4	82	118	104	10.0
17	m-Xylene and p-Xylene	4	65	120	98	1.5
17	o-Xylene	4	70	120	101	3.3
18	Acrolein	2	5	59	32	5.0
18	Acrylonitrile	2	102	103	103	2.4
23	Hexachlorobenzene	4	54	105	90	3.2
23	Hexachloroethane	4	51	100	83	3.2

NOTE: (1) - Only those parameters for which travelling spikes
were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by
Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 6 of 11)
PR 0300 - WTP Effluent

TABLE C14.4B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Bromoform	4	.00	1.73	.43
Bromomethane	4	.00	1.73	.43
1,1,2,2-Tetrachloroethane	4	.00	.00	.00
1,1,2-Trichloroethane	4	.00	.00	.00
1,1-Dichloroethane	4	.00	.00	.00
1,1-Dichloroethylene	4	.00	.00	.00
1,2-Dichlorobenzene	4	.00	.00	.00
1,2-Dichloroethane	4	.00	.00	.00
1,2-Dichloropropane	4	.00	.00	.00
1,3-Dichlorobenzene	4	.00	.00	.00
1,4-Dichlorobenzene	4	.00	.00	.00
Acrolein	2	.00	.00	.00
Acrylonitrile	2	.00	.00	.00
Benzene	4	.00	.00	.00
Bromodichloromethane	4	.00	.00	.00
Carbon tetrachloride	4	.00	.00	.00
Chlorobenzene	4	.00	.00	.00
Chloroform	4	.00	.00	.00
Chloromethane	4	.00	.00	.00
Cis-1,3-Dichloropropylene	4	.00	.00	.00
Dibromochloromethane	4	.00	.00	.00
Ethylbenzene	4	.00	.00	.00
Ethylene dibromide	4	.00	.00	.00
Methylene chloride	4	.00	.00	.00
Styrene	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00
Toluene	4	.00	.00	.00
Trans-1,2-Dichloroethylene	4	.00	.00	.00
Trans-1,3-Dichloropropylene	4	.00	.00	.00
Trichloroethylene	4	.00	.00	.00
Trichlorofluoromethane	4	.00	.00	.00
Vinyl chloride	4	.00	.00	.00
m-Xylene and p-Xylene	4	.00	.00	.00
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 7 of 11)
PR 0300 - WTP Effluent

TABLE C14.5A Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Ammonia plus Ammonium	1	12.00	12.00	12.00
Total Kjeldahl Nitrogen	1	8.00	8.00	8.00
DOC	1	4.00	4.00	4.00
Cobalt	1	.50	.50	.50
Total phosphorus	1	.50	.50	.50
Chloroform	2	.29	.57	.43
Nitrate+Nitrite	1	.40	.40	.40
Total suspended solids	1	.34	.34	.34
TOC	1	.20	.20	.20
Volatile suspended solids	1	.08	.08	.08
1,1,2,2-Tetrachloroethane	2	.00	.00	.00
1,1,2-Trichloroethane	2	.00	.00	.00
1,1-Dichloroethane	2	.00	.00	.00
1,1-Dichloroethylene	2	.00	.00	.00
1,2-Dichlorobenzene	2	.00	.00	.00
1,2-Dichloroethane	2	.00	.00	.00
1,2-Dichloropropane	2	.00	.00	.00
1,3-Dichlorobenzene	2	.00	.00	.00
1,4-Dichlorobenzene	2	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Benzene	2	.00	.00	.00
Bromodichloromethane	2	.00	.00	.00
Bromoform	2	.00	.00	.00
Bromomethane	2	.00	.00	.00
Carbon tetrachloride	2	.00	.00	.00
Chlorobenzene	2	.00	.00	.00
Chloromethane	2	.00	.00	.00
Cis-1,3-Dichloropropylene	2	.00	.00	.00
Copper	1	.00	.00	.00
Dibromochloromethane	2	.00	.00	.00
Ethylbenzene	2	.00	.00	.00
Ethylene dibromide	2	.00	.00	.00
Methylene chloride	2	.00	.00	.00
Oil and grease	1	.00	.00	.00
Styrene	2	.00	.00	.00
Tetrachloroethylene	2	.00	.00	.00
Toluene	2	.00	.00	.00
Trans-1,2-Dichloroethylene	2	.00	.00	.00
Trans-1,3-Dichloropropylene	2	.00	.00	.00
Trichloroethylene	2	.00	.00	.00
Trichlorofluoromethane	2	.00	.00	.00
Vinyl chloride	2	.00	.00	.00
m-Xylene and p-Xylene	2	.00	.00	.00
o-Xylene	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 8 of 11)
PR 0300 - WTP Effluent

TABLE C14.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	2	.00	.00	.00
1,1,2-Trichloroethane	2	.00	.00	.00
1,1-Dichloroethane	2	.00	.00	.00
1,1-Dichloroethylene	2	.00	.00	.00
1,2-Dichlorobenzene	2	.00	.00	.00
1,2-Dichloroethane	2	.00	.00	.00
1,2-Dichloropropane	2	.00	.00	.00
1,3-Dichlorobenzene	2	.00	.00	.00
1,4-Dichlorobenzene	2	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Benzene	2	.00	.00	.00
Bromodichloromethane	2	.00	.00	.00
Bromoform	2	.00	.00	.00
Bromomethane	2	.00	.00	.00
Carbon tetrachloride	2	.00	.00	.00
Chlorobenzene	2	.00	.00	.00
Chloroform	2	.00	.00	.00
Chloromethane	2	.00	.00	.00
Cis-1,3-Dichloropropylene	2	.00	.00	.00
Dibromochloromethane	2	.00	.00	.00
Ethylbenzene	2	.00	.00	.00
Ethylene dibromide	2	.00	.00	.00
Methylene chloride	2	.00	.00	.00
Styrene	2	.00	.00	.00
Tetrachloroethylene	2	.00	.00	.00
Toluene	2	.00	.00	.00
Trans-1,2-Dichloroethylene	2	.00	.00	.00
Trans-1,3-Dichloropropylene	2	.00	.00	.00
Trichloroethylene	2	.00	.00	.00
Trichlorofluoromethane	2	.00	.00	.00
Vinyl chloride	2	.00	.00	.00
m-Xylene and p-Xylene	2	.00	.00	.00
o-Xylene	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 9 of 11)
PR 0300 - WTP Effluent

TABLE C14.6A Absolute Value of the Difference Between Effluent Monitoring and
Split Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Cyanide Total	3	1.60	53.00	19.80
DOC	11	.00	108.00	17.27
Total phosphorus	11	.00	77.00	10.05
Total suspended solids	11	.00	80.40	9.76
Nitrate+Nitrite	11	.08	24.00	6.04
Volatile suspended solids	11	.00	39.10	4.92
Total Kjeldahl Nitrogen	11	.00	10.00	2.69
Copper	11	.00	11.00	2.09
COD	2	1.50	2.00	1.75
Oil and grease	3	.00	3.00	1.33
Ammonia plus Ammonium	11	.00	4.00	1.16
Aluminum	4	.00	1.67	1.00
TOC	11	.00	6.00	1.00
Cobalt	11	.00	2.50	.68
Phenolics (4AAP)	4	.00	1.75	.64
Nickel	4	.00	1.00	.38
Chromium	4	.00	.50	.25
Zinc	4	.00	1.00	.25
Benzene	2	.00	.40	.20
Boron	4	.00	.60	.20
Vanadium	4	.00	.33	.10
m-Xylene and p-Xylene	2	.00	.09	.05
1,2-Dichlorobenzene	2	.00	.07	.04
1,1,2,2-Tetrachloroethane	2	.00	.00	.00
1,1,2-Trichloroethane	2	.00	.00	.00
1,1-Dichloroethane	2	.00	.00	.00
1,1-Dichloroethylene	2	.00	.00	.00
1,2-Dichloroethane	2	.00	.00	.00
1,2-Dichloropropane	2	.00	.00	.00
1,3-Dichlorobenzene	2	.00	.00	.00
1,4-Dichlorobenzene	2	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Antimony	4	.00	.00	.00
Arsenic	4	.00	.00	.00
Bromodichloromethane	2	.00	.00	.00
Bromoform	2	.00	.00	.00
Bromomethane	2	.00	.00	.00
Carbon tetrachloride	2	.00	.00	.00
Chlorobenzene	2	.00	.00	.00
Chloroform	1	.00	.00	.00
Chloromethane	2	.00	.00	.00
Cis-1,3-Dichloropropylene	2	.00	.00	.00
Dibromochloromethane	2	.00	.00	.00
Ethylbenzene	2	.00	.00	.00
Ethylene dibromide	2	.00	.00	.00
Hexachlorobenzene	4	.00	.00	.00
Hexachloroethane	4	.00	.00	.00
Methylene chloride	1	.00	.00	.00
Styrene	2	.00	.00	.00
Tetrachloroethylene	2	.00	.00	.00
Toluene	2	.00	.00	.00

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 10 of 11)
PR 0300 - WTP Effluent

TABLE C14.6A (cont'd) Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Trans-1,2-Dichloroethylene	2	.00	.00	.00
Trans-1,3-Dichloropropylene	2	.00	.00	.00
Trichloroethylene	2	.00	.00	.00
Trichlorofluoromethane	2	.00	.00	.00
Vinyl chloride	2	.00	.00	.00
o-Xylene	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

TABLE C14.6B Absolute Value of the Difference Between Uncorrected Split Sample Concentration and Corrected Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1,2,2-Tetrachloroethane	2	.00	.00	.00
1,1,2-Trichloroethane	2	.00	.00	.00
1,1-Dichloroethane	2	.00	.00	.00
1,1-Dichloroethylene	2	.00	.00	.00
1,2-Dichlorobenzene	2	.00	.00	.00
1,2-Dichloroethane	2	.00	.00	.00
1,2-Dichloropropane	2	.00	.00	.00
1,3-Dichlorobenzene	2	.00	.00	.00
1,4-Dichlorobenzene	2	.00	.00	.00
Acrolein	1	.00	.00	.00
Acrylonitrile	1	.00	.00	.00
Benzene	2	.00	.00	.00
Bromodichloromethane	2	.00	.00	.00
Bromoform	2	.00	.00	.00
Bromomethane	2	.00	.00	.00
Carbon tetrachloride	2	.00	.00	.00
Chlorobenzene	2	.00	.00	.00
Chloroform	1	.00	.00	.00
Chloromethane	2	.00	.00	.00
Cis-1,3-Dichloropropylene	2	.00	.00	.00
Dibromochloromethane	2	.00	.00	.00
Ethylbenzene	2	.00	.00	.00
Ethylene dibromide	2	.00	.00	.00
Methylene chloride	2	.00	.00	.00
Styrene	2	.00	.00	.00
Tetrachloroethylene	2	.00	.00	.00
Toluene	2	.00	.00	.00
Trans-1,2-Dichloroethylene	2	.00	.00	.00
Trans-1,3-Dichloropropylene	2	.00	.00	.00
Trichloroethylene	2	.00	.00	.00

QA/QC Tables for Du Pont Canada Inc. - Maitland (Page 11 of 11)
PR 0300 - WTP Effluent

TABLE C14.6B (cont'd) Absolute Value of the Difference Between Uncorrected Split Sample Concentration and Corrected Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Trichlorofluoromethane	2	.00	.00	.00
Vinyl chloride	2	.00	.00	.00
m-Xylene and p-Xylene	2	.00	.00	.00
o-Xylene	2	.00	.00	.00

TABLE C14.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chlorobenzene	12	.00	.57	.05
1,1,2-Trichloroethane	12	.00	.50	.04
Methylene chloride	11	.00	.39	.04
1,1,2,2-Tetrachloroethane	12	.00	.00	.00
1,1-Dichloroethane	12	.00	.00	.00
1,1-Dichloroethylene	12	.00	.00	.00
1,2-Dichlorobenzene	12	.00	.00	.00
1,2-Dichloroethane	12	.00	.00	.00
1,2-Dichloropropane	12	.00	.00	.00
1,3-Dichlorobenzene	12	.00	.00	.00
1,4-Dichlorobenzene	12	.00	.00	.00
Acrolein	4	.00	.00	.00
Acrylonitrile	4	.00	.00	.00
Benzene	12	.00	.00	.00
Bromodichloromethane	12	.00	.00	.00
Bromoform	12	.00	.00	.00
Bromomethane	12	.00	.00	.00
Carbon tetrachloride	12	.00	.00	.00
Chloroform	49	.00	.00	.00
Chloromethane	12	.00	.00	.00
Cis-1,3-Dichloropropylene	12	.00	.00	.00
Dibromochloromethane	12	.00	.00	.00
Ethylbenzene	12	.00	.00	.00
Ethylene dibromide	12	.00	.00	.00
Styrene	12	.00	.00	.00
Tetrachloroethylene	12	.00	.00	.00
Toluene	12	.00	.00	.00
Trans-1,2-Dichloroethylene	12	.00	.00	.00
Trans-1,3-Dichloropropylene	12	.00	.00	.00
Trichloroethylene	12	.00	.00	.00
Trichlorofluoromethane	12	.00	.00	.00
Vinyl chloride	12	.00	.00	.00
m-Xylene and p-Xylene	12	.00	.00	.00
o-Xylene	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Whitby (Page 1 of 2)
CO 0200 - Nylon Line Combined Effluent

TABLE C15.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	350	FH	100	100	77	2.00	52.00	6.94
Aluminum	156	FM	97	88	15	1.00	9.33	3.33
Phenolics (4AAP)	53	FL	62	38	9	.25	16.75	2.29
Oil and grease	53	1M	19	13	4	1.00	5.00	1.30
TOC	154	1L	16	3	0	.36	3.48	.77
Total suspended solids	156	1L	10	2	1	.10	13.28	.60

TABLE C15.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Bromodichloromethane	2	FM	100	100	0	2.25	4.00	3.13
Chloroform	2	FM	100	100	0	2.86	3.57	3.21
Dibromochloromethane	2	FL	100	50	0	1.00	2.00	1.50
COD	2	FL	100	0	0	1.10	1.50	1.30
Nitrate+Nitrite	2	FL	100	0	0	1.55	1.66	1.60
Copper	12	1L	8	0	0	1.00	1.00	1.00
Zinc	12	1L	8	0	0	1.00	1.00	1.00

TABLE C15.3 Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)			Concentration Ratios (1)		
					Minimum	Maximum	Average
Oil and grease	3			33	1.00	2.00	1.33
Aluminum	12			0	1.00	1.00	1.00
Copper	12			0	1.00	1.00	1.00
Zinc	12			0	1.00	1.00	1.00
DOC	12			0	.40	1.00	.80
Phenolics (4AAP)	4			0	.25	.50	.44
TOC	10			0	.10	.16	.11

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Du Pont Canada Inc. - Whitby (Page 2 of 2)
CO 0200 - Nylon Line Combined Effluent

TABLE C15.4 Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Aluminum	12	.00	2.00	.56
DOC	10	.20	1.60	.52
Oil and grease	3	.00	1.00	.33
Phenolics (4AAP)	4	.00	1.25	.31
Total suspended solids	12	.00	.42	.10
TOC	10	.00	.08	.03
Copper	12	.00	.00	.00
Zinc	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 1 of 10)
IN 0100 - Intake Water to Site

TABLE C16.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	362	FM	99	96	38	1.00	19.80	4.75
Copper	51	FL	57	22	0	1.00	3.60	1.48
Total suspended solids	364	FL	42	19	5	.20	51.78	1.69
Zinc	52	IL	19	4	0	.40	3.90	.73
Oil and grease	51	IL	16	4	2	1.00	5.00	1.15
Benzene	126	IM	7	6	1	.20	6.20	.42
Phenolics (4AAP)	51	IH	6	2	2	1.00	8.75	1.17
Toluene	126	IM	6	4	1	.40	6.30	.54
TOC	362	IL	5	1	0	.18	2.14	.55
o-Xylene	126	IM	2	2	0	.40	2.40	.43
Vinyl chloride	122	IL	1	0	0	.33	1.23	.33
m-Xylene and p-Xylene	126	IL	1	0	0	.18	1.41	.21

TABLE C16.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Nitrate+Nitrite	4	FL	100	0	0	1.01	1.28	1.21
Aluminum	12	FM	83	67	33	1.00	10.33	4.25
COD	4	IL	25	0	0	.50	1.10	.78
Cyanide Total	4	IL	25	0	0	1.00	1.00	1.00
Bromodichloromethane	12	NO	0	0	0	.25	.25	.25
Chloroform	12	NO	0	0	0	.29	.29	.29
Tetrachloroethylene	12	NO	0	0	0	.45	.45	.45
Hexachlorobutadiene	4	NO	0	0	0	.50	.50	.50
Hexachloroethane	4	NO	0	0	0	.50	.50	.50

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 2 of 10)
IN 0100 - Intake Water to Site

TABLE C16.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
DOC	11	73	1.00	2.60	1.49
Copper	3	0	1.00	1.00	1.00
Oil and grease	4	25	1.00	1.00	1.00
Phenolics (4AAP)	4	0	1.00	1.00	1.00
Toluene	10	10	.40	5.40	.90
Benzene	10	10	.20	4.36	.66
Zinc	3	0	.40	.40	.40
o-Xylene	10	0	.40	.40	.40
Vinyl chloride	3	0	.33	.33	.33
TOC	11	0	.10	.32	.20
m-Xylene and p-Xylene	10	0	.18	.18	.18

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C16.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
o-Xylene	10	.00	2.00	.29
Toluene	10	.00	.50	.20
Benzene	10	.00	.88	.19
Vinyl chloride	3	.00	.00	.00
m-Xylene and p-Xylene	10	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 3 of 10)
IN 0100 - Intake Water to Site

TABLE C16.4A Range of Recoveries and Ratio of Spiked Quantity to the
Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	Vinyl chloride	2	13	19	16	2.5
17	Benzene	10	67	134	105	20.7
17	Toluene	10	69	122	102	21.6
17	m-Xylene and p-Xylene	10	80	155	110	10.2
17	o-Xylene	10	77	153	107	26.7

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C16.4B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
o-Xylene	10	.00	2.20	.55
Toluene	10	.10	.90	.54
Benzene	10	.08	.64	.28
m-Xylene and p-Xylene	10	.00	.14	.09
Vinyl chloride	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 4 of 10)
IN 0100 - Intake Water to Site

TABLE C16.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Aluminum	4	.00	2.67	.92
DOC	11	.00	1.40	.56
Toluene	10	.00	2.80	.48
Benzene	10	.00	2.32	.39
o-Xylene	10	.00	2.00	.33
Vinyl chloride	3	.00	.50	.17
TOC	11	.00	.60	.16
Total suspended solids	11	.00	.38	.15
Nitrate+Nitrite	3	.00	.28	.11
m-Xylene and p-Xylene	10	.00	.36	.08
Bromodichloromethane	4	.00	.00	.00
Chloroform	4	.00	.00	.00
Oil and grease	3	.00	.00	.00
Phenolics (4AAP)	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00

TABLE C16.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Benzene	10	.00	.88	.18
Toluene	10	.00	.70	.13
o-Xylene	10	.00	1.20	.13
m-Xylene and p-Xylene	10	.00	.55	.07
Bromodichloromethane	4	.00	.00	.00
Chloroform	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00
Vinyl chloride	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 5 of 10)
IN 0100 - Intake Water to Site

TABLE C16.6 Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
DOC	1	.60	.60	.60
Copper	3	.00	.80	.27
Zinc	3	.00	.30	.13
Total suspended solids	1	.10	.10	.10
TOC	1	.04	.04	.04

TABLE C16.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	126	.00	1.10	.10
Benzene	126	.00	.96	.09
o-Xylene	126	.00	2.40	.06
Vinyl chloride	122	.00	.75	.06
m-Xylene and p-Xylene	126	.00	.23	.02
Bromodichloromethane	12	.00	.00	.00
Chloroform	12	.00	.00	.00
Tetrachloroethylene	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 6 of 10)
PR 0200 - Carbon Contactor Effluent

TABLE C16.8 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	152	FH	99	96	82	1.00	25.40	8.80
Zinc	52	FL	73	38	4	.40	6.80	1.93
Copper	52	FL	71	42	0	1.00	4.60	1.97
TOC	152	FL	41	3	0	.20	2.94	.95
Oil and grease	52	1L	33	12	0	1.00	3.80	1.26
Total suspended solids	154	1M	27	15	3	.20	15.68	1.11
Phenolics (4AAP)	52	1L	25	12	2	1.00	5.50	1.27
Benzene	127	1H	22	15	11	.20	452.84	6.73
o-Xylene	126	1M	13	11	6	.40	254.60	5.18
Toluene	127	1H	12	9	8	.40	628.00	10.73
m-Xylene and p-Xylene	126	1H	9	9	6	.18	269.68	4.56
Vinyl chloride	41	1H	5	2	2	.33	11.97	.65

TABLE C16.9 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Hexachlorobutadiene	4	FH	100	100	100	10.70	39.80	21.73
Hexachloroethane	4	FM	100	100	50	3.40	11.70	7.28
COD	4	FM	100	75	25	1.20	5.50	3.10
Aluminum	12	FL	92	42	8	1.00	10.00	2.47
Chloroform	12	FL	75	25	0	.29	4.57	1.73
Nitrate+Nitrite	4	FL	75	0	0	.72	1.92	1.38
Tetrachloroethylene	12	FL	42	33	17	.45	6.09	1.87
Cyanide Total	4	1H	25	25	25	1.00	8.00	2.80
Bromodichloromethane	12	1L	8	0	0	.25	1.13	.49

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 7 of 10)
PR 0200 - Carbon Contactor Effluent

TABLE C16.10A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
DOC	11	73	1.00	7.80	2.42
Aluminum	4	25	1.00	3.67	1.67
Copper	3	33	1.00	1.00	1.00
Oil and grease	3	33	1.00	1.00	1.00
Phenolics (4AAP)	4	0	1.00	1.00	1.00
Toluene	11	18	.40	5.10	.93
Benzene	11	18	.20	4.88	.76
o-Xylene	11	9	.40	2.00	.55
Tetrachloroethylene	4	0	.45	.45	.45
Vinyl chloride	3	0	.33	.68	.44
Zinc	3	0	.40	.40	.40
Chloroform	4	0	.29	.29	.29
TOC	11	9	.18	1.00	.28
Bromodichloromethane	4	0	.25	.25	.25
m-Xylene and p-Xylene	11	0	.18	.45	.21

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C16.10B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
o-Xylene	11	.00	1.50	.25
Toluene	11	.00	.60	.21
Benzene	11	.00	.52	.18
Vinyl chloride	3	.00	.30	.10
m-Xylene and p-Xylene	11	.00	.23	.02
Bromodichloromethane	4	.00	.00	.00
Chloroform	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 8 of 10)
PR 0200 - Carbon Contactor Effluent

TABLE C16.11A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	Bromodichloromethane	4	86	108	95	6.3
16	Chloroform	4	92	108	99	7.1
16	Tetrachloroethylene	4	78	112	96	4.5
16	Vinyl chloride	2	13	35	24	2.5
17	Benzene	11	70	140	105	21.3
17	Toluene	11	77	125	104	22.2
17	m-Xylene and p-Xylene	11	71	150	109	10.1
17	o-Xylene	11	73	126	104	27.5

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C16.11B Absolute Value of the Difference Between Uncorrected Travelling Spiked Blank Sample Concentration and Corrected Travelling Spiked Blank Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
o-Xylene	11	.00	3.00	.62
Toluene	11	.00	.90	.59
Benzene	11	.00	.64	.32
m-Xylene and p-Xylene	11	.00	.23	.12
Vinyl chloride	3	.00	.25	.08
Bromodichloromethane	4	.00	.00	.00
Chloroform	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 9 of 10)
PR 0200 - Carbon Contactor Effluent

TABLE C16.12A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
DOC	11	.00	10.20	2.13
Benzene	10	.00	15.36	2.10
Toluene	10	.00	4.60	.83
Tetrachloroethylene	4	.00	1.82	.57
Chloroform	4	.00	.71	.21
Copper	2	.20	.20	.20
TOC	11	.00	.42	.17
Aluminum	4	.00	.33	.17
Total suspended solids	11	.00	1.16	.16
Zinc	2	.10	.20	.15
o-Xylene	10	.00	1.00	.15
Vinyl chloride	3	.00	.40	.13
Bromodichloromethane	4	.00	.25	.13
Nitrate+Nitrite	3	.00	.00	.00
Oil and grease	3	.00	.00	.00
Phenolics (4AAP)	4	.00	.00	.00
m-Xylene and p-Xylene	10	.00	.00	.00

TABLE C16.12B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
o-Xylene	11	.00	2.20	.23
Toluene	11	.00	.60	.21
Benzene	11	.00	.44	.12
Vinyl chloride	3	.00	.25	.08
m-Xylene and p-Xylene	12	.00	.05	.01
Bromodichloromethane	4	.00	.00	.00
Chloroform	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Esso Chemical Canada - Sarnia (Page 10 of 10)
PR 0200 - Carbon Contactor Effluent

TABLE C16.13 Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
DOC	1	2.00	2.00	2.00
Copper	2	.40	1.40	.90
Zinc	2	.00	1.00	.50
TOC	1	.12	.12	.12
Total suspended solids	1	.04	.04	.04

TABLE C16.14 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Benzene	127	.00	1.84	.21
o-Xylene	126	.00	2.80	.17
Toluene	127	.00	1.80	.15
Vinyl chloride	41	.00	.90	.11
m-Xylene and p-Xylene	126	.00	.36	.03
Bromodichloromethane	12	.00	.00	.00
Chloroform	12	.00	.00	.00
Tetrachloroethylene	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 1 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Lead	278	FH	100	100	100	20.33	6,086.67	557.01
Phenolics (4AAP)	147	FH	100	99	98	1.00	2,375.00	88.32
Dil and grease	48	FM	100	90	46	1.30	22.00	5.88
Tri-alkyl lead (Total)	279	FH	100	100	98	.50	2,550.00	202.72
DOC	149	FH	99	99	99	.70	440.00	40.28
1,2-Dichloroethane	91	FH	99	99	99	.50	7,125.00	3,094.64
Methylene chloride	91	FH	99	99	86	.23	8,538.46	426.28
TOC	108	FM	98	90	23	.78	30.00	4.45
Chloromethane	80	FH	98	98	98	.62	378.38	64.80
Total suspended solids	152	FH	97	92	70	.60	98.00	10.11
Ethylene dibromide	91	FH	97	97	97	.60	3,600.00	79.91
Acenaphthene	81	FH	96	96	79	.54	13.08	7.34
Aluminum	182	FH	96	92	91	.34	5,220.00	670.96
Tetra-alkyl lead (Total)	280	FH	95	94	89	.10	2,250.00	131.32
Naphthalene	81	FM	94	78	17	.19	16.88	3.60
Fluorene	81	FM	81	81	14	.18	6.47	3.28

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 2 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COO	4	FH	100	100	100	140.00	340.00	220.00
Boron	12	FH	100	100	100	30.00	108.00	53.00
Sulphide	4	FH	100	100	75	3.00	12.50	6.88
1-Methylnaphthalene	12	FM	100	83	17	1.13	16.25	5.47
Phenol	4	FH	100	75	75	1.58	26.67	14.98
Ammonia plus Ammonium	4	FM	100	75	0	1.12	4.80	2.75
Phenanthrene	30	FH	93	93	93	.75	21.00	10.14
Indole	12	FH	92	92	92	.63	578.95	230.01
2-Methylnaphthalene	12	FM	92	83	42	.86	10.00	5.19
Toluene	12	FH	83	83	83	.80	1,040.00	650.13
Biphenyl	12	FH	75	75	75	.67	18.33	8.58
m-Cresol	4	FL	75	50	0	.88	2.29	1.60
p-Cresol	4	FL	75	50	0	1.00	2.23	1.59
Total Kjeldahl Nitrogen	4	FL	75	25	25	.32	5.60	2.18
Mercury	12	FL	58	50	17	.19	23.00	3.57
Zinc	12	FL	58	25	25	.40	28.00	5.28
1,1-Dichloroethane	12	FL	50	50	50	.63	25.00	11.67
1,2-Dichloropropane	12	FL	50	50	50	.56	24.44	10.80
Bromodichloromethane	12	FL	50	50	50	.50	87.50	20.67
Chloroform	12	FL	50	50	50	.57	142.86	35.52
Vinyl chloride	12	FL	50	50	50	.72	100.00	21.20
Benzene	12	FL	50	50	42	.40	90.00	20.02
o-Xylene	12	FL	50	50	42	.80	34.00	14.52
1,1,2-Trichloroethane	12	FL	42	42	42	1.00	40.00	16.83
1,1-Dichloroethylene	12	FL	42	42	42	.14	21.79	4.49
1,2-Dichlorobenzene	12	FL	42	42	42	.29	11.43	4.93
1,3-Dichlorobenzene	12	FL	42	42	42	.27	11.82	4.93
Bromomethane	12	FL	42	42	42	.65	43.24	12.63
Carbon tetrachloride	12	FL	42	42	42	.23	9.23	3.98
Chlorobenzene	12	FL	42	42	42	.86	34.29	14.79
Cis-1,3-Dichloropropylene	12	FL	42	42	42	.50	20.00	8.63
Dibromochloromethane	12	FL	42	42	42	.36	15.45	6.50
Tetrachloroethylene	12	FL	42	42	42	.18	14.55	3.29
Trans-1,2-Dichloroethylene	12	FL	42	42	42	.29	12.14	5.11
Trans-1,3-Dichloropropylene	12	FL	42	42	42	.79	31.43	13.55
Trichloroethylene	12	FL	42	42	42	.16	6.32	2.72
Trichlorofluoromethane	12	FL	42	42	42	.30	12.00	5.17
Ethylbenzene	12	FL	42	42	42	.67	26.67	10.67
Styrene	12	FL	42	42	42	.80	32.00	12.80
m-Xylene and p-Xylene	12	FL	42	42	42	.45	18.18	7.61
1,4-Dichlorobenzene	12	FL	42	42	25	.12	5.65	2.26
1,1,2,2-Tetrachloroethane	12	FL	42	42	0	.10	3.26	1.34
Bromoform	12	FL	42	42	0	.10	3.51	1.48
Total phosphorus	12	FL	42	17	8	.69	11.00	1.82
Nitrate+Nitrite	4	IM	25	25	0	.44	2.64	1.17
Volatile suspended solids	4	IL	25	0	0	.35	1.90	.74
Copper	12	IL	25	0	0	.20	1.30	.53
Thallium	12	IL	17	0	0	.33	1.73	.62
Chromium	12	NO	0	0	0	.10	.85	.28
Nickel	12	NO	0	0	0	.45	.60	.47

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 3 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter -----	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1) -----		
			Minimum	Maximum	Average
DOC	5	20	.70	5.80	1.74
1,1,2-Trichloroethane	4	0	1.00	1.00	1.00
Tetra-alkyl lead (Total)	5	100	1.00	1.00	1.00
Tri-alkyl lead (Total)	5	100	1.00	1.00	1.00
Oil and grease	1	0	.96	.96	.96
Chlorobenzene	4	0	.86	.86	.86
Total suspended solids	1	0	.84	.84	.84
Total phosphorus	4	25	.69	1.30	.84
Styrene	4	0	.80	.80	.80
Toluene	4	0	.80	.80	.80
o-Xylene	4	0	.80	.80	.80
Trans-1,3-Dichloropropylene	4	0	.79	.79	.79
Phenanthrene	5	0	.75	.75	.75
Vinyl chloride	4	0	.72	.72	.72
1-Methylnaphthalene	4	0	.69	.69	.69
2-Methylnaphthalene	4	0	.68	.68	.68
Biphenyl	4	0	.67	.67	.67
Ethylbenzene	4	0	.67	.67	.67
Bromomethane	4	0	.65	.65	.65
Indole	4	0	.63	.63	.63
1,1-Dichloroethane	4	0	.63	.63	.63
Chloromethane	7	0	.62	.62	.62
Ethylene dibromide	7	0	.60	.60	.60
Chloroform	4	0	.57	.57	.57
1,2-Dichloropropane	4	0	.56	.56	.56
Acenaphthene	7	0	.54	.54	.54
1,2-Dichloroethane	7	0	.50	.50	.50
Bromodichloromethane	4	0	.50	.50	.50
Cis-1,3-Dichloropropylene	4	0	.50	.50	.50
m-Xylene and p-Xylene	4	0	.45	.45	.45
Nickel	4	0	.45	.45	.45
Aluminum	5	0	.30	.87	.41
Benzene	4	0	.40	.40	.40
Zinc	4	0	.40	.40	.40
Dibromochloromethane	4	0	.36	.36	.36
Phenolics (4AAP)	5	0	.15	.50	.36
Lead	5	0	.33	.33	.33
Thallium	4	0	.33	.33	.33
Trichlorofluoromethane	4	0	.30	.30	.30
1,2-Dichlorobenzene	4	0	.29	.29	.29
Trans-1,2-Dichloroethylene	4	0	.29	.29	.29
1,3-Dichlorobenzene	4	0	.27	.27	.27
Mercury	4	0	.19	.40	.24
Carbon tetrachloride	4	0	.23	.23	.23
Methylene chloride	7	0	.23	.23	.23
TOC	5	0	.10	.60	.20
Copper	4	0	.20	.20	.20
Boron	4	0	.10	.48	.20
Naphthalene	7	0	.19	.19	.19
Tetrachloroethylene	4	0	.18	.18	.18
Fluorene	7	0	.18	.18	.18
Trichloroethylene	4	0	.16	.16	.16

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 4 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.3A (cont'd) Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
1,1-Dichloroethylene	4	0	.14	.14	.14
1,4-Dichlorobenzene	4	0	.12	.12	.12
1,1,2,2-Tetrachloroethane	4	0	.10	.10	.10
Chromium	4	0	.10	.10	.10
Bromoform	4	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C17.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	1.60	10.00	5.70
Methylene chloride	7	.00	12.08	3.74
Benzene	4	.80	2.20	1.65
Chloroform	4	.00	5.57	1.39
Bromodichloromethane	4	.00	2.63	.66
Dibromochloromethane	4	.00	.64	.16
m-Xylene and p-Xylene	4	.00	.45	.11
Chloromethane	7	.00	.24	.04
1,1,2,2-Tetrachloroethane	4	.00	.00	.00
1,1,2-Trichloroethane	4	.00	.00	.00
1,1-Dichloroethane	4	.00	.00	.00
1,1-Dichloroethylene	4	.00	.00	.00
1,2-Dichlorobenzene	4	.00	.00	.00
1,2-Dichloroethane	7	.00	.00	.00
1,2-Dichloropropane	4	.00	.00	.00
1,3-Dichlorobenzene	4	.00	.00	.00
1,4-Dichlorobenzene	4	.00	.00	.00
1-Methylnaphthalene	4	.00	.00	.00
2-Methylnaphthalene	4	.00	.00	.00
Acenaphthene	7	.00	.00	.00
Biphenyl	4	.00	.00	.00
Bromoform	4	.00	.00	.00
Bromomethane	4	.00	.00	.00
Carbon tetrachloride	4	.00	.00	.00
Chlorobenzene	4	.00	.00	.00
Cis-1,3-Dichloropropylene	4	.00	.00	.00
Ethylbenzene	4	.00	.00	.00
Ethylene dibromide	7	.00	.00	.00
Fluorene	7	.00	.00	.00
Indole	4	.00	.00	.00
Naphthalene	7	.00	.00	.00
Phenanthrene	5	.00	.00	.00
Styrene	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00
Trans-1,2-Dichloroethylene	4	.00	.00	.00

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 5 of 12)
PR 0300 - TEL Process Effluent

TABLE 17.3B (cont'd) Absolute Value of the Difference Between Uncorrected Travelling Blank Concentration and Corrected Travelling Blank Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Trans-1,3-Dichloropropylene	4	.00	.00	.00
Trichloroethylene	4	.00	.00	.00
Trichlorofluoromethane	4	.00	.00	.00
Vinyl chloride	4	.00	.00	.00
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

TABLE C17.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	1,1,2,2-Tetrachloroethane	4	60	135	98	4.7
16	1,1,2-Trichloroethane	4	3	100	76	33.3
16	1,1-Dichloroethane	4	95	105	100	25.0
16	1,1-Dichloroethylene	4	85	115	99	7.1
16	1,2-Dichlorobenzene	4	85	135	108	14.3
16	1,2-Dichloroethane	5	95	110	103	25.0
16	1,2-Dichloropropane	4	100	115	110	22.2
16	1,3-Dichlorobenzene	4	95	125	105	18.2
16	1,4-Dichlorobenzene	4	100	125	106	11.8
16	Bromodichloromethane	4	100	120	105	25.0
16	Bromoform	4	90	100	96	5.4
16	Bromomethane	4	70	130	96	5.4
16	Carbon tetrachloride	4	95	110	104	15.4
16	Chlorobenzene	4	100	120	106	28.6
16	Chloroform	4	85	115	98	28.6
16	Chloromethane	5	75	110	91	5.4
16	Cis-1,3-Dichloropropylene	4	85	120	101	14.3
16	Dibromochloromethane	4	95	110	101	18.2
16	Ethylene dibromide	5	90	110	100	20.0
16	Methylene chloride	5	45	110	80	15.4
16	Tetrachloroethylene	4	90	105	98	18.2
16	Trans-1,2-Dichloroethylene	4	100	105	103	14.3
16	Trans-1,3-Dichloropropylene	4	65	90	81	14.3
16	Trichloroethylene	4	85	125	108	10.5
16	Trichlorofluoromethane	4	90	115	104	20.0
16	Vinyl chloride	4	85	150	109	5.0
17	Benzene	4	85	105	99	40.0
17	Ethylbenzene	4	95	115	101	33.3
17	Styrene	4	100	105	101	40.0
17	Toluene	4	80	110	94	40.0
17	m-Xylene and p-Xylene	4	98	110	103	36.4
17	o-Xylene	4	100	115	105	40.0
19	1-Methylnaphthalene	4	11	120	64	6.3
19	2-Methylnaphthalene	4	8	95	60	9.1

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 6 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.4A (cont'd) Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
19	Acenaphthene	5	65	95	77	15.4
19	Biphenyl	4	8	100	61	33.3
19	Fluorene	5	70	100	84	11.8
19	Indole	4	6	90	39	10.5
19	Naphthalene	5	50	90	72	12.5
19	Phenanthrene	2	75	95	85	50.0

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C17.4B Absolute Value of the Difference Between Uncorrected Travelling Spiked Blank Sample Concentration and Corrected Travelling Spiked Blank Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	.00	8.00	4.50
Methylene chloride	7	.00	12.31	3.84
Benzene	4	.00	8.00	2.50
Chloroform	4	.00	4.29	1.79
m-Xylene and p-Xylene	4	.00	2.73	.68
Bromomethane	4	.00	1.35	.61
Chloromethane	7	.00	1.35	.35
1,1-Dichloroethylene	4	.00	.71	.27
1,3-Dichlorobenzene	4	.00	.91	.23
Dibromochloromethane	4	.00	.91	.23
Acenaphthene	7	.00	.77	.11
1,1,2,2-Tetrachloroethane	4	.00	.00	.00
1,1,2-Trichloroethane	4	.00	.00	.00
1,1-Dichloroethane	4	.00	.00	.00
1,2-Dichlorobenzene	4	.00	.00	.00
1,2-Dichloroethane	7	.00	.00	.00
1,2-Dichloropropane	4	.00	.00	.00
1,4-Dichlorobenzene	4	.00	.00	.00
1-Methylnaphthalene	4	.00	.00	.00
2-Methylnaphthalene	4	.00	.00	.00
Biphenyl	4	.00	.00	.00
Bromodichloromethane	4	.00	.00	.00
Bromoform	4	.00	.00	.00
Carbon tetrachloride	4	.00	.00	.00
Chlorobenzene	4	.00	.00	.00
Cis-1,3-Dichloropropylene	4	.00	.00	.00
Ethylbenzene	4	.00	.00	.00

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 7 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.4B (cont'd) Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Ethylene dibromide	7	.00	.00	.00
Fluorene	7	.00	.00	.00
Indole	4	.00	.00	.00
Naphthalene	7	.00	.00	.00
Phenanthrene	4	.00	.00	.00
Styrene	4	.00	.00	.00
Tetrachloroethylene	4	.00	.00	.00
Trans-1,2-Dichloroethylene	4	.00	.00	.00
Trans-1,3-Dichloropropylene	4	.00	.00	.00
Trichloroethylene	4	.00	.00	.00
Trichlorofluoromethane	4	.00	.00	.00
Vinyl chloride	4	.00	.00	.00
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

TABLE C17.5A Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,2-Dichloroethane	4	125.00	3,874.50	1,656.13
1,1-Dichloroethane	3	.00	2,874.38	958.13
Lead	2	73.33	220.00	146.67
Aluminum	2	.00	233.33	116.67
Toluene	3	20.00	160.00	100.00
Tetra-alkyl lead (Total)	2	18.00	95.00	56.50
Methylene chloride	4	.00	92.31	42.31
Tri-alkyl lead (Total)	2	15.00	20.00	17.50
Chloromethane	4	.00	45.95	16.22
Bromomethane	3	.00	34.49	14.20
Chloroform	3	.00	14.29	4.76
Biphenyl	1	4.17	4.17	4.17
DOC	2	2.00	4.00	3.00
2-Methylnaphthalene	1	2.27	2.27	2.27
Phenolics (4AAP)	2	1.00	3.50	2.25
1-Methylnaphthalene	1	2.19	2.19	2.19
Mercury	1	2.00	2.00	2.00
Naphthalene	2	.13	3.13	1.63
Total suspended solids	2	.20	2.20	1.20
Phenanthrene	2	.75	1.00	.88
Acenaphthene	2	.00	1.46	.73
Benzene	3	.00	2.00	.67
Oil and grease	1	.60	.60	.60

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 8 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.5A (cont'd) Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Bromodichloromethane	3	.00	1.25	.42
Zinc	1	.40	.40	.40
Fluorene	2	.00	.71	.35
Total phosphorus	1	.20	.20	.20
TOC	2	.00	.20	.10
1,1,2,2-Tetrachloroethane	3	.00	.00	.00
1,1,2-Trichloroethane	3	.00	.00	.00
1,1-Dichloroethylene	3	.00	.00	.00
1,2-Dichlorobenzene	3	.00	.00	.00
1,2-Dichloropropane	3	.00	.00	.00
1,3-Dichlorobenzene	3	.00	.00	.00
1,4-Dichlorobenzene	3	.00	.00	.00
Boron	1	.00	.00	.00
Bromoform	3	.00	.00	.00
Carbon tetrachloride	3	.00	.00	.00
Chlorobenzene	3	.00	.00	.00
Chromium	1	.00	.00	.00
Cis-1,3-Dichloropropylene	3	.00	.00	.00
Copper	1	.00	.00	.00
Dibromochloromethane	3	.00	.00	.00
Ethylbenzene	3	.00	.00	.00
Ethylene dibromide	4	.00	.00	.00
Indole	1	.00	.00	.00
Nickel	1	.00	.00	.00
Styrene	3	.00	.00	.00
Tetrachloroethylene	3	.00	.00	.00
Thallium	1	.00	.00	.00
Trans-1,2-Dichloroethylene	3	.00	.00	.00
Trans-1,3-Dichloropropylene	3	.00	.00	.00
Trichloroethylene	3	.00	.00	.00
Trichlorofluoromethane	3	.00	.00	.00
Vinyl chloride	3	.00	.00	.00
m-Xylene and p-Xylene	3	.00	.00	.00
o-Xylene	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 9 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,1-Dichloroethane	3	.00	2,874.38	958.13
Toluene	3	.00	200.00	100.00
Methylene chloride	4	.00	107.69	26.92
Benzene	3	.00	41.60	14.33
Bromodichloromethane	3	.00	1.25	.42
Chloroform	3	.00	.14	.05
1,1,2,2-Tetrachloroethane	3	.00	.00	.00
1,1,2-Trichloroethane	3	.00	.00	.00
1,1-Dichloroethylene	3	.00	.00	.00
1,2-Dichlorobenzene	3	.00	.00	.00
1,2-Dichloroethane	4	.00	.00	.00
1,2-Dichloropropane	3	.00	.00	.00
1,3-Dichlorobenzene	3	.00	.00	.00
1,4-Dichlorobenzene	3	.00	.00	.00
1-Methylnaphthalene	1	.00	.00	.00
2-Methylnaphthalene	1	.00	.00	.00
Acenaphthene	2	.00	.00	.00
Biphenyl	1	.00	.00	.00
Bromoform	3	.00	.00	.00
Bromomethane	3	.00	.00	.00
Carbon tetrachloride	3	.00	.00	.00
Chlorobenzene	3	.00	.00	.00
Chloromethane	4	.00	.00	.00
Cis-1,3-Dichloropropylene	3	.00	.00	.00
Dibromochloromethane	3	.00	.00	.00
Ethylbenzene	3	.00	.00	.00
Ethylene dibromide	4	.00	.00	.00
Fluorene	2	.00	.00	.00
Indole	1	.00	.00	.00
Naphthalene	2	.00	.00	.00
Phenanthrene	2	.00	.00	.00
Styrene	3	.00	.00	.00
Tetrachloroethylene	3	.00	.00	.00
Trans-1,2-Dichloroethylene	3	.00	.00	.00
Trans-1,3-Dichloropropylene	3	.00	.00	.00
Trichloroethylene	3	.00	.00	.00
Trichlorofluoromethane	3	.00	.00	.00
Vinyl chloride	3	.00	.00	.00
m-Xylene and p-Xylene	3	.00	.00	.00
o-Xylene	3	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 10 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.6A Absolute Value of the Difference Between Effluent Monitoring and
Split Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
1,2-Dichloroethane	2	125.00	1,250.00	687.50
Indole	2	94.74	210.53	152.63
Methylene chloride	2	6.92	230.77	118.85
Lead	3	43.33	66.67	51.11
Aluminum	3	10.00	100.00	47.78
Chloromethane	2	.00	70.27	35.13
Tri-alkyl lead (Total)	3	3.50	90.00	34.00
Tetra-alkyl lead (Total)	3	2.00	65.00	32.67
Boron	2	8.00	8.00	8.00
Zinc	2	.80	14.00	7.40
Phenolics (4AAP)	3	2.50	8.50	5.83
Total suspended solids	3	.60	7.00	4.07
Biphenyl	2	1.00	4.83	2.92
Acenaphthene	4	.00	5.77	2.71
1-Methylnaphthalene	2	1.22	2.50	1.86
2-Methylnaphthalene	2	.73	2.50	1.61
Phenanthrene	2	.50	1.00	.75
DOC	3	.00	2.00	.67
Naphthalene	4	.00	1.69	.53
Fluorene	4	.12	.94	.53
Thallium	2	.00	.57	.28
Copper	2	.00	.30	.15
Chromium	2	.00	.25	.13
Mercury	2	.00	.20	.10
Nickel	2	.00	.20	.10
TOC	2	.00	.20	.10
Ethylene dibromide	2	.00	.00	.00
Total phosphorus	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 11 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.6B Absolute Value of the Difference Between Uncorrected Split Sample
Concentration and Corrected Split Sample Concentration Divided
by the Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations -----	Difference Ratios (1) -----		
		Minimum	Maximum	Average
Methylene chloride	2	110.00	153.85	131.93
1,2-Dichloroethane	2	.00	.00	.00
1-Methylnaphthalene	2	.00	.00	.00
2-Methylnaphthalene	2	.00	.00	.00
Acenaphthene	4	.00	.00	.00
Biphenyl	2	.00	.00	.00
Chloromethane	2	.00	.00	.00
Ethylene dibromide	2	.00	.00	.00
Fluorene	4	.00	.00	.00
Indole	2	.00	.00	.00
Naphthalene	4	.00	.00	.00
Phenanthrene	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Ethyl Canada Inc. - Corunna (Page 12 of 12)
PR 0300 - TEL Process Effluent

TABLE C17.7 Absolute Value of the Difference Between
Uncorrected Monitoring Sample Concentration
and Corrected Monitoring Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	12	.00	820.00	142.62
Methylene chloride	80	.00	2,692.31	63.96
Chloroform	12	.00	199.43	28.12
Benzene	12	.00	119.60	23.20
Indole	12	.00	142.10	11.84
Bromodichloromethane	11	.00	86.38	7.85
1,2-Dichloroethane	80	.00	250.00	6.25
m-Xylene and p-Xylene	12	.00	54.09	5.48
Chloromethane	80	.00	37.84	2.47
1,1-Dichloroethylene	12	.00	21.79	1.81
1,1-Dichloroethane	12	.00	3.75	.31
Phenanthrene	30	.00	7.75	.26
Ethylene dibromide	80	.00	6.00	.14
Biphenyl	12	.00	.33	.03
1,1,2,2-Tetrachloroethane	12	.00	.00	.00
1,1,2-Trichloroethane	12	.00	.00	.00
1,2-Dichlorobenzene	12	.00	.00	.00
1,2-Dichloropropane	12	.00	.00	.00
1,3-Dichlorobenzene	12	.00	.00	.00
1,4-Dichlorobenzene	12	.00	.00	.00
1-Methylnaphthalene	12	.00	.00	.00
2-Methylnaphthalene	12	.00	.00	.00
Acenaphthene	81	.00	.00	.00
Bromoform	12	.00	.00	.00
Bromomethane	12	.00	.00	.00
Carbon tetrachloride	12	.00	.00	.00
Chlorobenzene	12	.00	.00	.00
Cis-1,3-Dichloropropylene	12	.00	.00	.00
Dibromochloromethane	12	.00	.00	.00
Ethylbenzene	12	.00	.00	.00
Fluorene	81	.00	.00	.00
Naphthalene	81	.00	.00	.00
Styrene	12	.00	.00	.00
Tetrachloroethylene	12	.00	.00	.00
Trans-1,2-Dichloroethylene	12	.00	.00	.00
Trans-1,3-Dichloropropylene	12	.00	.00	.00
Trichloroethylene	12	.00	.00	.00
Trichlorofluoromethane	12	.00	.00	.00
Vinyl chloride	12	.00	.00	.00
o-Xylene	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for GE Plastics Canada Ltd. - Cobourg (Page 1 of 4)
CO 0100 - Clarifier Effluent to Lake

TABLE C18.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Cyanide Total	155	FH	100	100	92	2.60	220.00	17.60
DOC	354	FH	99	95	92	.20	292.80	33.01
Nitrate+Nitrite	150	FH	99	97	70	.72	292.80	97.63
TOC	83	FM	96	89	35	.78	44.00	5.72
Antimony	155	FH	95	93	85	.40	38.00	12.50
Total suspended solids	153	FM	94	71	31	.76	52.00	5.17
Phenolics (4AAP)	51	FM	94	71	22	.50	850.00	21.67
Aluminum	156	FM	88	73	31	.30	153.33	7.86
Total Kjeldahl nitrogen	153	FH	83	73	64	.20	194.68	48.88
Oil and grease	52	FL	73	46	8	.96	15.00	2.50
Total phosphorus	155	FM	72	50	28	.13	64.00	5.12
Ammonia plus Ammonium	150	FH	68	65	62	.40	267.68	80.71
Volatile suspended solids	361	FL	59	34	9	.10	45.30	2.33
Zinc	156	IL	38	12	1	.20	12.00	1.03
Mercury	154	IM	10	6	1	.19	6.60	.49
Acrylonitrile	50	IH	4	2	2	.45	28.57	1.05

TABLE C18.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Sulphide	2	FH	100	100	100	5.50	6.50	6.00
COD	2	FL	100	50	50	1.20	10.00	5.60
o-Xylene	12	IL	33	0	0	.80	1.60	.97
Cadmium	12	IL	17	8	0	.50	2.00	.71

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for GE Plastics Canada Ltd. - Cobourg (Page 2 of 4)
CO 0100 - Clarifier Effluent to Lake

TABLE C18.3 Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
DOC	12	92	.20	6.00	2.17
Total suspended solids	12	8	.76	4.80	1.10
Phenolics (4AAP)	4	0	1.00	1.00	1.00
Oil and grease	4	0	.96	.96	.96
o-Xylene	4	0	.80	.80	.80
Nitrate+Nitrite	12	0	.72	.72	.72
Total phosphorus	12	8	.13	5.60	.71
Antimony	12	0	.60	.60	.60
Cadmium	4	0	.50	.50	.50
Ammonia plus Ammonium	12	0	.16	.56	.49
Volatile suspended solids	12	0	.47	.47	.47
Acrylonitrile	4	0	.45	.45	.45
Aluminum	12	17	.30	1.33	.44
Cyanide Total	12	0	.40	.40	.40
Zinc	12	0	.40	.40	.40
Total Kjeldahl Nitrogen	12	0	.10	.40	.21
Mercury	11	0	.19	.40	.21
TOC	8	0	.13	.13	.13

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C18.4 Range of Recoveries and Ratio of Spiked Quantity to the
Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
17	o-Xylene	4	70	110	96	40.0
18	Acrylonitrile	4	21	102	81	23.8

NOTE: (1) - Only those parameters for which travelling spikes
were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by
Regulation Method Detection Limit

QA/QC Tables for GE Plastics Canada Ltd. - Cobourg (Page 3 of 4)
CO 0100 - Clarifier Effluent to Lake

TABLE C18.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Total Kjeldahl Nitrogen	11	.00	60.48	9.76
Nitrate+Nitrite	11	.00	40.80	9.49
Ammonia plus Ammonium	11	.00	44.00	5.62
Antimony	11	.00	19.80	2.49
Cyanide Total	12	.00	12.40	1.80
DOC	10	.00	4.72	1.46
Aluminum	12	.00	6.00	1.37
Total phosphorus	11	.00	12.00	1.36
Total suspended solids	11	.00	3.80	.62
TOC	7	.00	2.00	.40
Oil and grease	5	.00	1.10	.38
Volatile suspended solids	11	.00	1.10	.27
Zinc	12	.00	.70	.18
Mercury	10	.00	1.01	.16
Phenolics (4AAP)	4	.00	.50	.13
o-Xylene	4	.00	.20	.05
Acrylonitrile	4	.00	.00	.00
Cadmium	4	.00	.00	.00

TABLE C18.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Acrylonitrile	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for GE Plastics Canada Ltd. - Cobourg (Page 4 of 4)
CO 0100 - Clarifier Effluent to Lake

TABLE C18.6 Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average -----
Ammonia plus Ammonium	2	.00	44.00	22.00
Nitrate+Nitrite	2	.00	14.80	7.40
Cyanide Total	2	2.00	12.40	7.20
Total Kjeldahl Nitrogen	2	4.08	4.08	4.08
Aluminum	2	2.67	2.67	2.67
Total phosphorus	2	.30	.80	.55
Volatile suspended solids	2	.40	.70	.55
Antimony	2	.40	.60	.50
DOC	2	.00	.92	.46
Mercury	2	.00	.40	.20
Total suspended solids	2	.00	.40	.20
Zinc	2	.10	.20	.15
Acrylonitrile	1	.00	.00	.00
Cadmium	1	.00	.00	.00
Oil and grease	1	.00	.00	.00
Phenolics (4AAP)	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

TABLE C18.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average -----
Acrylonitrile	42	.00	.07	.00
o-Xylene	11	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Guardsman Products Ltd. - Cornwall (Page 1 of 1)
OT 0100 - Southeast Drain to River

TABLE C19.1 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	13	FH	100	100	85	4.22	22.76	8.97
Toluene	11	FL	100	9	9	1.00	104.00	10.45
Zinc	13	FL	62	46	8	.80	6.00	2.04
TOC	13	FL	62	8	0	.50	2.28	1.01
Aluminum	13	FL	54	31	8	.10	5.00	1.99
Total phosphorus	13	FL	46	15	0	.90	2.30	1.19
Cadmium	13	1H	38	8	8	.90	8.50	1.56
Molybdenum	13	1L	38	8	0	.10	2.00	.96
Beryllium	13	1L	31	0	0	.30	1.00	.62
Copper	13	1L	31	0	0	.20	1.00	.88

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C19.2 Absolute Value of the Difference Between
Uncorrected Monitoring Sample Concentration
and Corrected Monitoring Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	8	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Morbern Inc. - Cornwall (Page 1 of 4)
OT 0100 - East Cooling Water to River

TABLE C20.1 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	13	FM	100	100	46	4.00	7.00	5.23
Aluminum	13	FM	100	92	15	1.33	7.00	4.04
Zinc	13	FM	100	85	31	1.20	11.90	4.28
Phenolics (4AAP)	13	FM	92	92	69	.70	176.50	28.63
Dibromochloromethane	13	FM	92	92	23	.22	7.36	4.00
Chloroform	13	FM	85	85	85	.79	35.71	12.99
Bromodichloromethane	13	FM	77	77	77	.49	15.38	8.54
Boron	12	FL	58	8	0	.20	3.40	1.23
Toluene	13	IM	38	31	23	.48	5.60	1.93
Benzene	13	IM	38	23	8	.38	5.80	1.40
o-Xylene	13	IL	38	15	8	.38	7.00	1.30
1,2-Dichloroethane	13	IL	38	0	0	.64	1.03	.79
Copper	13	IL	31	15	8	.30	10.00	1.41
Bromomethane	13	IL	31	8	0	.22	4.00	.85

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Morbern Inc. - Cornwall (Page 2 of 4)
OT 0100 - East Cooling Water to River

TABLE C20.2A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Benzene	4	50	.38	1.48	.86
Chloroform	4	0	.79	.79	.79
1,2-Dichloroethane	4	25	.64	1.02	.73
Boron	3	0	.60	.60	.60
Bromodichloromethane	4	0	.49	.49	.49
Toluene	4	0	.48	.48	.48
Bromomethane	4	0	.22	.78	.45
o-Xylene	4	0	.38	.38	.38
DOC	4	0	.23	.60	.37
Aluminum	4	0	.32	.32	.32
Copper	4	0	.30	.30	.30
Phenolics (4AAP)	4	0	.30	.30	.30
Zinc	4	0	.30	.30	.30
Dibromochloromethane	4	0	.22	.22	.22

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C20.2B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Benzene	4	.00	3.00	1.94
Toluene	4	.00	1.26	.35
Bromomethane	4	.00	.31	.11
o-Xylene	4	.00	.10	.02
1,2-Dichloroethane	4	.00	.00	.00
Bromodichloromethane	4	.00	.00	.00
Chloroform	4	.00	.00	.00
Dibromochloromethane	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Morbern Inc. - Cornwall (Page 3 of 4)
OT 0100 - East Cooling Water to River

TABLE C20.3A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	1,2-Dichloroethane	4	52	95	76	6.8
16	Bromodichloromethane	4	70	130	107	6.8
16	Bromomethane	4	6	179	105	2.2
16	Chloroform	4	21	317	132	7.8
16	Dibromochloromethane	4	57	127	101	5.0
17	Benzene	4	48	116	71	10.9
17	Toluene	4	26	163	91	10.9
17	o-Xylene	4	57	310	138	10.9

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C20.3B Absolute Value of the Difference Between Uncorrected Travelling Spiked Blank Sample Concentration and Corrected Travelling Spiked Blank Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Benzene	4	1.80	4.00	2.72
Toluene	4	.20	2.64	1.26
Bromomethane	4	.00	.68	.20
o-Xylene	4	.00	.40	.10
1,2-Dichloroethane	4	.00	.00	.00
Bromodichloromethane	4	.00	.00	.00
Chloroform	4	.00	.00	.00
Dibromochloromethane	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Morbern Inc. - Cornwall (Page 4 of 4)
OT 0100 - East Cooling Water to River

TABLE C20.4A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		Average
		Minimum	Maximum	
Chloroform	4	1.14	16.36	7.93
Zinc	4	.00	10.50	2.95
Benzene	4	.28	6.22	2.87
Bromodichloromethane	4	.63	2.63	1.66
Toluene	4	.00	3.22	1.15
Phenolics (4AAP)	4	.05	4.00	1.14
Boron	3	.00	1.24	.70
Aluminum	4	.00	1.33	.50
Dibromochloromethane	4	.09	.73	.48
Copper	4	.20	.80	.45
o-Xylene	4	.00	1.40	.38
DOC	4	.00	.20	.15
Bromomethane	4	.00	.30	.10
1,2-Dichloroethane	4	.00	.00	.00

TABLE C20.4B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		Average
		Minimum	Maximum	
Chloroform	4	.00	12.64	3.16
Benzene	4	1.90	4.00	2.48
Toluene	4	.00	1.36	.66
Bromomethane	4	.00	.29	.11
o-Xylene	4	.00	.24	.06
1,2-Dichloroethane	4	.00	.00	.00
Bromodichloromethane	4	.00	.00	.00
Dibromochloromethane	4	.00	.00	.00

TABLE C20.5 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		Average
		Minimum	Maximum	
Benzene	13	.00	4.06	1.58
Toluene	13	.00	1.34	.48
Chloroform	13	.00	3.94	.30
Bromomethane	13	.00	2.22	.26
o-Xylene	13	.00	.74	.08
1,2-Dichloroethane	13	.00	.00	.00
Bromodichloromethane	13	.00	.00	.00
Dibromochloromethane	13	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Novacor Chemicals Ltd. - Mooretown (Page 1 of 2)
CO 0100 - Final Effluent to River

TABLE C21.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DQC	345	FH	100	98	94	1.63	22.20	10.13
Total suspended solids	148	FM	89	66	16	.40	9.40	3.00
Total phosphorus	50	FM	88	86	32	.69	17.00	4.12
TOC	148	FL	82	6	0	.10	2.44	1.33
Zinc	50	FM	76	62	18	.40	20.00	3.43
Oil and grease	50	FL	54	10	0	.33	3.10	1.30

TABLE C21.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Aluminum	12	FH	100	100	100	6.00	30.00	18.06
Total Kjeldahl Nitrogen	2	FM	100	100	0	2.00	3.60	2.80
Nitrate+Nitrite	2	FM	100	100	0	2.28	3.00	2.64
COD	2	FL	100	50	0	1.20	3.90	2.55
Ammonia plus Ammonium	2	FL	100	0	0	1.68	1.68	1.68
Phenolics (4AAP)	12	FL	42	17	0	.15	3.00	.85
Chloroform	2	NO	0	0	0	.57	.57	.57
Dibromochloromethane	2	NO	0	0	0	.36	.36	.36

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Novacor Chemicals Ltd. - Mooretown (Page 2 of 2)
CO 0100 - Final Effluent to River

TABLE C21.3 Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
DOC	12	100	1.00	3.00	1.86
Total phosphorus	3	67	.69	3.60	1.83
Oil and grease	3	0	.96	.96	.96
Total suspended solids	11	0	.20	.93	.67
Zinc	3	0	.20	.60	.40
Aluminum	3	0	.20	.30	.27
TOC	12	0	.10	.34	.18
Phenolics (4AAP)	3	0	.15	.15	.15

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C21.4 Absolute Value of the Difference Between Effluent Monitoring and
Split Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Aluminum	3	1.07	5.33	3.69
Total phosphorus	3	.00	3.30	1.13
DOC	12	.00	1.80	.80
Total suspended solids	12	.20	1.20	.55
Zinc	3	.10	.60	.37
Phenolics (4AAP)	3	.00	.50	.17
Oil and grease	3	.00	.24	.13
TOC	12	.00	.24	.06

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

TABLE C21.5 Absolute Value of the Difference Between
Uncorrected Monitoring Sample Concentration
and Corrected Monitoring Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	2	.00	2.43	1.21
Dibromochloromethane	2	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Polysar Ltd. - Sarnia (Page 1 of 10)
PR 1800 - Biox Effluent to River

TABLE C22.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	356	FH	100	100	99	3.40	280.00	33.33
Aluminum	154	FH	100	100	96	3.00	213.33	48.46
TOC	55	FM	98	55	15	.10	9.00	3.04
Phenolics (4AAP)	154	FM	96	77	13	.15	125.00	5.06
Oil and grease	50	FM	94	82	18	.96	9.40	3.76
Total Kjeldahl Nitrogen	154	FM	92	71	23	.32	44.00	4.65
Total phosphorus	154	FM	86	80	45	.69	96.00	7.11
Total suspended solids	154	FM	79	51	19	.80	12.40	2.97
Nitrate+Nitrite	153	FM	73	65	48	.10	196.00	8.61
Zinc	154	FL	68	31	3	.64	32.00	2.00
Bis(2-ethylhexyl) phthalate	50	FL	62	46	24	.64	17.27	3.27
Chloroform	75	FM	61	57	39	.57	171.43	10.77
Ammonia plus Ammonium	154	FL	56	37	23	.10	152.00	6.26
Nickel	75	FL	48	9	1	.45	8.00	1.16
Bromoform	155	FL	43	35	19	.10	20.27	2.65
Antimony	50	FL	42	8	2	.60	5.60	1.09
Volatile suspended solids	359	IL	24	6	0	.30	4.10	.77
Molybdenum	75	IL	23	5	0	.15	4.20	.75
Benzene	155	IM	19	14	7	.40	228.00	3.24
1,2,4-Trichlorobenzene	50	IH	18	10	6	.60	20.00	1.50
Toluene	75	IH	17	12	9	.80	48.00	2.75
Methylene chloride	155	IH	12	9	8	.23	49.08	1.59
Chloromethane	155	IM	10	10	5	.62	20.27	1.09
Hexachloroethane	50	IH	10	10	6	.17	7.00	.67
2,4,5-Trichlorotoluene	50	IL	10	2	0	.27	3.50	.48
Ethylbenzene	75	IH	9	7	5	.67	11.00	1.18
Dibromochloromethane	75	IH	8	7	5	.36	12.73	.81
1,2-Dichloroethane	75	IH	8	7	4	.50	5.50	.78
Hexachlorobutadiene	50	IL	8	4	0	.25	2.80	.45
Copper	75	IL	8	1	0	.20	2.00	.63
Bromodichloromethane	71	IH	7	7	4	.50	8.25	.92
m-Xylene and p-Xylene	75	IH	7	5	5	.45	12.00	1.01
1,2-Dichloropropane	75	IH	7	5	4	.56	7.33	.88
1,1-Dichloroethane	76	IH	7	5	4	.63	5.50	.86
1,3-Dichlorobenzene	75	IH	5	5	4	.27	6.00	.54
Acrolein	75	IH	5	5	4	.75	7.15	1.04
Carbon tetrachloride	75	IH	5	5	4	.23	5.08	.46
Chlorobenzene	75	IH	5	5	4	.86	6.29	1.10
Ethylene dibromide	75	IH	5	5	4	.60	6.60	.88
Styrene	75	IH	5	5	4	.80	8.80	1.17
o-Xylene	75	IH	5	5	4	.80	8.80	1.17
Acrylonitrile	75	IM	5	5	3	.45	5.24	.66
Cis-1,3-Dichloropropylene	75	IM	5	5	0	.50	4.71	.69
1,4-Dichlorobenzene	75	IM	5	4	0	.12	3.88	.29
Trichloroethylene	75	IM	5	4	0	.16	3.47	.31
Bromomethane	75	IH	5	1	1	.65	7.30	.79
Boron	75	IL	5	0	0	.38	1.76	.63
1,1,2-Trichloroethane	76	IH	5	5	5	1.00	11.00	1.45
Trichlorofluoromethane	76	IH	5	5	5	.30	17.60	1.10
Tetrachloroethylene	76	IH	5	5	4	.18	8.00	.55
1,2-Dichlorobenzene	76	IM	5	5	0	.29	4.71	.49
Trans-1,3-Dichloropropylene	76	IM	5	5	0	.79	4.71	.96

QA/QC Tables for Polysar Ltd. - Sarnia (Page 2 of 10)
PR 1800 - Biox Effluent to River

TABLE C22.1 (cont'd) Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Vinyl chloride	76	IM	5	5	0	.72	4.95	.91
1,1,2,2-Tetrachloroethane	76	IM	5	4	0	.10	2.05	.19
1,1-Dichloroethylene	76	IM	5	4	0	.14	2.36	.24
Trans-1,2-Dichloroethylene	76	IM	5	4	0	.29	3.14	.42
Pentachlorobenzene	50	IL	4	2	0	.20	2.00	.30
Hexachlorobenzene	50	IL	2	0	0	.30	1.30	.35
Lead	75	IM	1	1	0	.33	3.67	.38
Arsenic	50	NO	0	0	0	.60	.80	.60
Cobalt	75	NO	0	0	0	.10	.20	.11
Octachlorostyrene	50	NO	0	0	0	.26	.30	.27

TABLE C22.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COD	4	FH	100	75	75	1.60	11.00	6.90
Sulphide	4	FM	100	75	50	1.00	15.50	6.25

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Polysar Ltd. - Sarnia (Page 3 of 10)
PR 1800 - Biox Effluent to River

TABLE C22.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Bis(2-ethylhexyl) phthalate	4	50	.64	63.64	22.25
Methylene chloride	12	17	.23	50.00	4.50
Hexachloroethane	4	25	.17	5.00	1.39
DOC	11	45	.70	4.20	1.33
Sulphide	1	0	1.00	1.00	1.00
Oil and grease	4	0	.96	.96	.96
1,1,2-Trichloroethane	7	0	.50	1.00	.93
COD	1	0	.90	.90	.90
Total suspended solids	1	0	.80	.80	.80
Total phosphorus	11	9	.69	1.40	.78
Chlorobenzene	7	0	.29	.86	.78
Toluene	7	0	.60	.80	.77
Styrene	7	0	.40	.80	.74
o-Xylene	7	0	.40	.80	.74
Trans-1,3-Dichloropropylene	7	0	.21	.79	.70
Acrolein	7	0	.33	.75	.69
Vinyl chloride	7	0	.23	.72	.65
Ethylbenzene	7	0	.50	.67	.64
1,2,4-Trichlorobenzene	4	0	.60	.61	.61
Antimony	4	0	.60	.60	.60
Arsenic	4	0	.60	.60	.60
Chloromethane	12	0	.24	.62	.59
m-Xylene and p-Xylene	7	14	.45	1.27	.58
1,1-Dichloroethane	7	0	.25	.63	.57
Bromomethane	7	0	.10	.65	.57
Ethylene dibromide	7	0	.30	.60	.56
Zinc	12	8	.40	1.60	.53
Chloroform	7	0	.29	.57	.53
1,2-Dichloropropane	7	0	.33	.56	.52
Total Kjeldahl Nitrogen	11	9	.32	1.40	.50
Bromodichloromethane	7	0	.37	.50	.48
1,2-Dichloroethane	7	0	.25	.50	.46
Cis-1,3-Dichloropropylene	7	0	.21	.50	.46
Nickel	3	0	.45	.45	.45
Acrylonitrile	7	0	.24	.45	.42
Benzene	12	0	.40	.40	.40
Volatile suspended solids	1	0	.40	.40	.40
Trichlorofluoromethane	7	0	.30	.80	.37
Dibromochloromethane	7	0	.27	.36	.35
Aluminum	12	0	.30	.80	.34
Phenolics (4AAP)	11	0	.15	.50	.34
Lead	3	0	.33	.33	.33
Copper	3	0	.20	.60	.33
Hexachlorobenzene	4	0	.30	.30	.30
2,4,5-Trichlorotoluene	4	0	.27	.30	.28
1,2-Dichlorobenzene	7	0	.21	.29	.28
1,3-Dichlorobenzene	7	0	.27	.27	.27
Octachlorostyrene	4	0	.26	.30	.27
Trans-1,2-Dichloroethylene	7	0	.14	.29	.26
Hexachlorobutadiene	4	0	.25	.30	.26
Carbon tetrachloride	7	0	.23	.23	.23
TOC	7	0	.10	.52	.21

QA/QC Tables for Polysar Ltd. - Sarnia (Page 4 of 10)
PR 1800 - Biox Effluent to River

TABLE 22.3A (cont'd) Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Tetrachloroethylene	7	0	.18	.36	.21
Pentachlorobenzene	4	0	.20	.21	.21
Trichloroethylene	7	0	.16	.16	.16
Nitrate+Nitrite	10	0	.10	.44	.16
Molybdenum	3	0	.15	.15	.15
Ammonia plus Ammonium	11	0	.10	.52	.15
1,1-Dichloroethylene	7	0	.11	.14	.14
1,4-Dichlorobenzene	7	0	.12	.18	.13
Boron	3	0	.10	.16	.12
1,1,2,2-Tetrachloroethane	7	0	.10	.10	.10
Cobalt	3	0	.10	.10	.10
Bromoform	12	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C22.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	7	.00	8.20	3.86
Methylene chloride	12	.00	6.15	2.10
Benzene	12	.00	1.60	.75
Bis(2-ethylhexyl) phthalate	4	.00	1.36	.34
m-Xylene and p-Xylene	7	.00	1.64	.23
Chloroform	7	.00	.57	.08
Chloromethane	12	.00	.57	.05
1,1-Dichloroethylene	7	.00	.25	.04
Bromodichloromethane	7	.00	.13	.02
1,1,2,2-Tetrachloroethane	7	.00	.00	.00
1,1,2-Trichloroethane	7	.00	.00	.00
1,1-Dichloroethane	7	.00	.00	.00
1,2-Dichlorobenzene	7	.00	.00	.00
1,2-Dichloroethane	7	.00	.00	.00
1,2-Dichloropropane	7	.00	.00	.00
1,3-Dichlorobenzene	7	.00	.00	.00
1,4-Dichlorobenzene	7	.00	.00	.00
Acrolein	7	.00	.00	.00
Acrylonitrile	7	.00	.00	.00
Bromoform	12	.00	.00	.00
Bromomethane	7	.00	.00	.00
Carbon tetrachloride	7	.00	.00	.00
Chlorobenzene	7	.00	.00	.00
Cis-1,3-Dichloropropylene	7	.00	.00	.00
Dibromochloromethane	7	.00	.00	.00
Ethylbenzene	7	.00	.00	.00
Ethylene dibromide	7	.00	.00	.00
Styrene	7	.00	.00	.00
Tetrachloroethylene	7	.00	.00	.00

QA/QC Tables for Polysar Ltd. - Sarnia (Page 5 of 10)
PR 1800 - Biox Effluent to River.

TABLE C22.3B (cont'd) Absolute Value of the Difference Between Uncorrected Travelling Blank Concentration and Corrected Travelling Blank Concentration -
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter -----	Number of Observations -----	Difference Ratios (1) -----		
		Minimum	Maximum	Average -----
Trans-1,2-Dichloroethylene	7	.00	.00	.00
Trans-1,3-Dichloropropylene	7	.00	.00	.00
Trichloroethylene	7	.00	.00	.00
Trichlorofluoromethane	7	.00	.00	.00
Vinyl chloride	7	.00	.00	.00
o-Xylene	7	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Polysar Ltd. - Sarnia (Page 6 of 10)
PR 1800. - Biox Effluent to River

TABLE C22.4A Range of Recoveries and Ratio of Spiked Quantity to the
Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	1,1,2,2-Tetrachloroethane	6	75	196	111	4.0
16	1,1,2-Trichloroethane	7	70	226	112	29.1
16	1,1-Dichloroethane	7	100	230	126	21.8
16	1,1-Dichloroethylene	7	95	257	128	6.2
16	1,2-Dichlorobenzene	7	85	226	118	12.5
16	1,2-Dichloroethane	7	100	209	127	21.8
16	1,2-Dichloropropane	7	95	204	116	19.4
16	1,3-Dichlorobenzene	7	80	239	121	15.9
16	1,4-Dichlorobenzene	7	80	213	116	10.3
16	Bromodichloromethane	7	74	110	97	21.8
16	Bromoform	10	85	110	100	5.4
16	Bromomethane	7	39	130	100	4.7
16	Carbon tetrachloride	7	13	110	91	13.4
16	Chlorobenzene	7	95	191	117	25.0
16	Chloroform	7	70	125	100	25.0
16	Chloromethane	10	31	220	94	5.4
16	Cis-1,3-Dichloropropylene	7	90	165	109	12.5
16	Dibromochloromethane	7	61	115	97	15.9
16	Ethylene dibromide	7	90	157	107	17.5
16	Methylene chloride	10	20	100	68	15.4
16	Tetrachloroethylene	7	85	243	120	15.9
16	Trans-1,2-Dichloroethylene	7	95	222	122	12.5
16	Trans-1,3-Dichloropropylene	7	60	130	88	12.5
16	Trichloroethylene	7	100	239	128	9.2
16	Trichlorofluoromethane	7	26	130	99	18.0
16	Vinyl chloride	7	80	254	133	4.5
17	Benzene	10	85	105	98	40.0
17	Ethylbenzene	7	100	239	121	29.1
17	Styrene	7	100	178	111	34.9
17	Toluene	7	60	204	96	34.9
17	m-Xylene and p-Xylene	7	90	265	122	31.8
17	o-Xylene	7	92	105	101	36.0
18	Acrolein	6	41	340	129	21.1
18	Acrylonitrile	6	91	168	112	20.1
19	Bis(2-ethylhexyl) phthalate	4	55	600	219	9.1
23	1,2,4-Trichlorobenzene	4	58	88	72	38.8
23	2,4,5-Trichlorotoluene	4	72	132	91	38.8
23	Hexachlorobenzene	4	68	152	103	38.8
23	Hexachlorobutadiene	4	6	80	51	15.1
23	Hexachloroethane	4	55	130	93	7.8
23	Octachlorostyrene	4	100	150	118	7.8
23	Pentachlorobenzene	4	64	118	90	38.8

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value x 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

QA/QC Tables for Polysar Ltd. - Sarnia (Page 7 of 10)
PR 1800 - Biox Effluent to River

TABLE C22.4B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		Average
		Minimum	Maximum	
Methylene chloride	11	.00	49.23	7.99
Toluene	7	.00	16.00	6.86
Benzene	11	.00	8.00	2.00
Chloroform	7	.00	4.29	1.43
m-Xylene and p-Xylene	7	.00	4.55	.78
Chloromethane	11	.00	3.78	.61
Bis(2-ethylhexyl) phthalate	4	.00	1.36	.57
1,3-Dichlorobenzene	7	.00	2.73	.52
Tetrachloroethylene	7	.00	3.64	.52
Acrylonitrile	7	.00	2.38	.44
1,2-Dichlorobenzene	7	.00	2.14	.31
Bromodichloromethane	7	.00	1.25	.18
1,4-Dichlorobenzene	7	.00	.59	.17
Trichlorofluoromethane	7	.00	1.00	.14
1,1-Dichloroethylene	7	.00	.71	.10
1,1,2,2-Tetrachloroethane	6	.00	.23	.04
1,1,2-Trichloroethane	7	.00	.00	.00
1,1-Dichloroethane	7	.00	.00	.00
1,2-Dichloroethane	7	.00	.00	.00
1,2-Dichloropropane	7	.00	.00	.00
Acrolein	7	.00	.00	.00
Bromoform	11	.00	.00	.00
Bromomethane	7	.00	.00	.00
Carbon tetrachloride	7	.00	.00	.00
Chlorobenzene	7	.00	.00	.00
Cis-1,3-Dichloropropylene	7	.00	.00	.00
Dibromochloromethane	7	.00	.00	.00
Ethylbenzene	7	.00	.00	.00
Ethylene dibromide	7	.00	.00	.00
Styrene	7	.00	.00	.00
Trans-1,2-Dichloroethylene	7	.00	.00	.00
Trans-1,3-Dichloropropylene	7	.00	.00	.00
Trichloroethylene	7	.00	.00	.00
Vinyl chloride	7	.00	.00	.00
o-Xylene	7	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Polysar Ltd. - Sarnia (Page 8 of 10)
PR 1800 - Biox Effluent to River

TABLE C22.5A Absolute Value of the Difference Between Effluent Monitoring and
Duplicate Sample Concentration Divided by the
Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Aluminum	12	.00	110.33	30.50
Toluene	7	.00	47.20	6.83
Bis(2-ethylhexyl) phthalate	4	.00	17.27	5.11
Chloroform	7	.00	27.14	4.31
DOC	12	.00	10.00	2.65
Total suspended solids	12	.20	8.00	2.01
Total phosphorus	12	.00	10.00	1.78
Hexachloroethane	4	.00	2.83	1.42
Nitrate+Nitrite	12	.00	14.00	1.35
Phenolics (4AAP)	12	.00	5.00	.99
Sulphide	3	.05	2.00	.85
TOC	3	.80	.80	.80
COD	3	.00	1.50	.77
Oil and grease	4	.10	1.44	.63
1,2,4-Trichlorobenzene	4	.00	1.39	.57
Total Kjeldahl Nitrogen	12	.00	1.80	.56
Volatile suspended solids	12	.00	2.05	.52
Zinc	12	.10	1.40	.43
Benzene	12	.00	4.20	.38
Antimony	4	.00	1.00	.30
Ammonia plus Ammonium	12	.00	1.60	.22
m-Xylene and p-Xylene	7	.00	1.36	.19
Bromoform	12	.00	1.35	.18
Copper	7	.00	.20	.13
Nickel	7	.00	.25	.08
Ethylbenzene	7	.00	.50	.07
Boron	7	.00	.16	.04
Cobalt	7	.00	.10	.03
Lead	7	.00	.10	.01
Hexachlorobutadiene	4	.00	.05	.01
Octachlorostyrene	4	.00	.04	.01
2,4,5-Trichlorotoluene	4	.00	.03	.01
Molybdenum	7	.00	.05	.01
Pentachlorobenzene	4	.00	.01	.00
1,1,2,2-Tetrachloroethane	8	.00	.00	.00
1,1,2-Trichloroethane	8	.00	.00	.00
1,1-Dichloroethane	8	.00	.00	.00
1,1-Dichloroethylene	8	.00	.00	.00
1,2-Dichlorobenzene	8	.00	.00	.00
1,2-Dichloroethane	7	.00	.00	.00
1,2-Dichloropropane	7	.00	.00	.00
1,3-Dichlorobenzene	7	.00	.00	.00
1,4-Dichlorobenzene	7	.00	.00	.00
Acrolein	7	.00	.00	.00
Acrylonitrile	7	.00	.00	.00
Arsenic	4	.00	.00	.00
Bromodichloromethane	7	.00	.00	.00
Bromomethane	7	.00	.00	.00
Carbon tetrachloride	7	.00	.00	.00
Chlorobenzene	7	.00	.00	.00
Chloromethane	12	.00	.00	.00
Cis-1,3-Dichloropropylene	7	.00	.00	.00
Dibromochloromethane	7	.00	.00	.00

QA/QC Tables for Polysar Ltd. - Sarnia (Page 9 of 10)
PR 1800 - Biox Effluent to River

TABLE C22.5A (cont'd) Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Ethylene dibromide	7	.00	.00	.00
Hexachlorobenzene	4	.00	.00	.00
Methylene chloride	12	.00	.00	.00
Styrene	7	.00	.00	.00
Tetrachloroethylene	8	.00	.00	.00
Trans-1,2-Dichloroethylene	8	.00	.00	.00
Trans-1,3-Dichloropropylene	8	.00	.00	.00
Trichloroethylene	7	.00	.00	.00
Trichlorofluoromethane	8	.00	.00	.00
Vinyl chloride	8	.00	.00	.00
o-Xylene	7	.00	.00	.00

TABLE C22.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	8	.00	7.20	4.13
Methylene chloride	12	.00	5.77	2.10
Benzene	12	.00	2.40	1.32
Ethylbenzene	8	.00	6.17	.77
Chloroform	8	.00	2.71	.75
m-Xylene and p-Xylene	8	.00	3.91	.59
Bis(2-ethylhexyl) phthalate	4	.00	1.36	.55
Bromomethane	8	.00	.86	.11
Chloromethane	12	.00	.65	.08
1,1-Dichloroethylene	8	.00	.25	.04
1,1,2,2-Tetrachloroethane	8	.00	.00	.00
1,1,2-Trichloroethane	8	.00	.00	.00
1,1-Dichloroethane	8	.00	.00	.00
1,2-Dichlorobenzene	8	.00	.00	.00
1,2-Dichloroethane	8	.00	.00	.00
1,2-Dichloropropane	8	.00	.00	.00
1,3-Dichlorobenzene	8	.00	.00	.00
1,4-Dichlorobenzene	8	.00	.00	.00
Acrolein	8	.00	.00	.00
Acrylonitrile	8	.00	.00	.00
Bromodichloromethane	8	.00	.00	.00
Bromoform	12	.00	.00	.00
Carbon tetrachloride	8	.00	.00	.00
Chlorobenzene	8	.00	.00	.00
Cis-1,3-Dichloropropylene	8	.00	.00	.00
Dibromochloromethane	8	.00	.00	.00
Ethylene dibromide	8	.00	.00	.00
Styrene	8	.00	.00	.00
Tetrachloroethylene	8	.00	.00	.00
Trans-1,2-Dichloroethylene	8	.00	.00	.00
Trans-1,3-Dichloropropylene	8	.00	.00	.00
Trichloroethylene	8	.00	.00	.00

QA/QC Tables for Polysar Ltd. - Sarnia (Page 10 of 10)
PR 1800 - Biox Effluent to River

TABLE C22.5B (cont'd) Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Trichlorofluoromethane	8	.00	.00	.00
Vinyl chloride	8	.00	.00	.00
o-Xylene	8	.00	.00	.00

TABLE C22.6 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Bromodichloromethane	71	.00	5,624.50	79.22
Toluene	75	.00	53.20	6.92
Methylene chloride	155	.00	192.08	4.82
Benzene	155	.00	23.60	2.26
Chloroform	75	.00	13.71	1.27
Bis(2-ethylhexyl) phthalate	50	.00	9.82	.46
m-Xylene and p-Xylene	75	.00	3.00	.17
Bromomethane	75	.00	2.59	.14
Bromoform	155	.00	12.33	.09
Chloromethane	155	.00	1.35	.05
Dibromochloromethane	75	.00	2.36	.03
Tetrachloroethylene	76	.00	.55	.02
1,3-Dichlorobenzene	75	.00	.73	.01
1,4-Dichlorobenzene	75	.00	.47	.01
o-Xylene	75	.00	.40	.01
1,1-Dichloroethylene	76	.00	.14	.00
Carbon tetrachloride	75	.00	.08	.00
1,1,2,2-Tetrachloroethane	76	.00	.00	.00
1,1,2-Trichloroethane	76	.00	.00	.00
1,1-Dichloroethane	76	.00	.00	.00
1,2-Dichlorobenzene	76	.00	.00	.00
1,2-Dichloroethane	75	.00	.00	.00
1,2-Dichloropropane	75	.00	.00	.00
Acrolein	75	.00	.00	.00
Acrylonitrile	75	.00	.00	.00
Chlorobenzene	75	.00	.00	.00
Cis-1,3-Dichloropropylene	75	.00	.00	.00
Ethylbenzene	75	.00	.00	.00
Ethylene dibromide	75	.00	.00	.00
Styrene	75	.00	.00	.00
Trans-1,2-Dichloroethylene	76	.00	.00	.00
Trans-1,3-Dichloropropylene	76	.00	.00	.00
Trichloroethylene	75	.00	.00	.00
Trichlorofluoromethane	76	.00	.00	.00
Vinyl chloride	76	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Rohm and Haas Canada Inc. - Morrisburg (Page 1 of 5)
PR 0200 - Oil Additives Process Effluent

TABLE C23.1 Detection Frequencies and Concentration Ratios for Found Parameters Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	363	FH	100	99	91	.80	102.00	12.82
Phenolics (4AAP)	52	FL	96	50	12	.15	29.00	2.96
Oil and grease	51	FL	75	43	4	.23	8.00	2.09
Total suspended solids	157	IL	6	0	0	.20	1.50	.78

TABLE C23.2 Detection Frequencies and Concentration Ratios For Found Parameters Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Toluene	12	FH	92	92	92	.80	198.00	102.97
Chloroform	12	FH	75	75	67	.57	24.29	9.49
COD	4	FL	75	50	50	.98	27.70	8.74
Cyanide Total	4	FL	75	0	0	.60	1.40	1.00
Total Kjeldahl Nitrogen	4	FL	75	0	0	.80	1.98	1.31
Dibromochloromethane	12	FM	67	58	8	.36	5.73	1.95
o-Xylene	12	FM	58	58	50	.80	60.00	13.28
m-Xylene and p-Xylene	12	FL	58	42	25	.45	41.82	7.76
Sulphide	12	FL	58	33	0	.95	2.50	1.52
Bromodichloromethane	12	FL	50	50	33	.50	15.00	3.95
Ethylbenzene	12	FL	50	33	25	.67	18.33	4.04
Aluminum	12	IL	25	8	0	.30	3.67	.96
Nitrate+Nitrite	4	IL	25	0	0	.68	1.04	.84
Copper	12	IL	25	0	0	.20	1.40	.63
Total phosphorus	12	IL	17	8	0	.69	4.20	1.07
Zinc	12	IL	17	8	0	.30	2.40	.68
Ammonia plus Ammonium	4	NO	0	0	0	.10	.80	.38
Boron	12	NO	0	0	0	.10	.56	.38

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Rohm and Haas Canada Inc. - Morrisburg (Page 2 of 5)
PR 0200 - Oil Additives Process Effluent

TABLE C23.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Chloroform	4	25	.57	9.86	2.89
DOC	12	25	.64	12.80	1.86
Sulphide	4	0	.95	.95	.95
Toluene	4	0	.80	.80	.80
o-Xylene	4	0	.80	.80	.80
Total phosphorus	4	0	.69	.70	.69
Ethylbenzene	4	0	.67	.67	.67
Bromodichloromethane	4	25	.50	1.15	.66
Aluminum	4	25	.30	1.60	.63
m-Xylene and p-Xylene	4	0	.45	.45	.45
Phenolics (4AAP)	4	0	.15	1.00	.45
Zinc	4	0	.40	.40	.40
Dibromochloromethane	4	0	.36	.36	.36
Oil and grease	2	0	.10	.50	.30
Copper	4	0	.20	.20	.20
Boron	4	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C23.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	1.40	5.40	2.75
Chloroform	4	.00	1.00	.38
m-Xylene and p-Xylene	4	.00	.29	.07
Bromodichloromethane	4	.00	.00	.00
Dibromochloromethane	4	.00	.00	.00
Ethylbenzene	4	.00	.00	.00
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Rohm and Haas Canada Inc. - Morrisburg (Page 3 of 5)
PR 0200 - Oil Additives Process Effluent

TABLE C23.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	Bromodichloromethane	4	85	100	94	25.0
16	Chloroform	4	90	95	91	28.6
16	Dibromochloromethane	4	85	105	94	18.2
17	Ethylbenzene	4	80	100	93	33.3
17	Toluene	4	2	90	66	40.0
17	m-Xylene and p-Xylene	3	88	200	128	30.3
17	o-Xylene	4	80	150	105	40.0

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C23.4B Absolute Value of the Difference Between Uncorrected Travelling Spiked Blank Sample Concentration and Corrected Travelling Spiked Blank Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	.00	6.00	3.00
Chloroform	4	.00	2.86	1.07
m-Xylene and p-Xylene	4	.00	1.82	.68
Bromodichloromethane	4	.00	1.25	.31
Dibromochloromethane	4	.00	.00	.00
Ethylbenzene	4	.00	.00	.00
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Rohm and Haas Canada Inc. - Morrisburg (Page 4 of 5)
PR 0200 - Oil Additives Process Effluent

TABLE C23.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	.00	16.00	5.50
o-Xylene	4	.00	14.00	5.50
m-Xylene and p-Xylene	4	.00	8.18	2.29
Ethylbenzene	4	.00	3.33	1.25
Bromodichloromethane	4	.00	2.75	.69
Dibromochloromethane	4	.00	1.82	.68
Sulphide	4	.00	2.40	.60
Chloroform	4	.00	1.00	.39
Oil and grease	4	.00	.47	.20
Total suspended solids	1	.00	.00	.00

TABLE C23.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	4	1.40	40.00	12.85
Chloroform	4	.00	45.14	12.21
m-Xylene and p-Xylene	4	.00	1.82	.68
o-Xylene	4	.00	2.00	.50
Bromodichloromethane	4	.00	.75	.19
Dibromochloromethane	4	.00	.00	.00
Ethylbenzene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Rohm and Haas Canada Inc. - Morrisburg (Page 5 of 5)
PR 0200 - Oil Additives Process Effluent

TABLE C23.6 Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	1	99.43	99.43	99.43
Toluene	1	70.00	70.00	70.00
Bromodichloromethane	1	37.00	37.00	37.00
DOC	12	.00	4.00	1.00
Zinc	4	.00	3.70	.93
Aluminum	4	.00	2.07	.53
Total phosphorus	4	.00	1.00	.27
Total suspended solids	10	.00	.60	.06
Copper	4	.00	.10	.05
Boron	4	.02	.04	.03
Dibromochloromethane	1	.00	.00	.00
Ethylbenzene	1	.00	.00	.00
Phenolics (4AAP)	4	.00	.00	.00
m-Xylene and p-Xylene	1	.00	.00	.00
o-Xylene	1	.00	.00	.00

TABLE C23.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	11	.00	38.00	9.95
Chloroform	11	.00	48.00	6.35
Bromodichloromethane	11	.00	5.63	.76
m-Xylene and p-Xylene	11	.00	1.82	.41
Dibromochloromethane	11	.00	1.82	.32
Ethylbenzene	11	.00	.00	.00
o-Xylene	11	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Rohm and Haas Canada Inc. - Scarborough (Page 1 of 1) OT 0100 - Storm Sewer

TABLE C24.1 Detection Frequencies and Concentration Ratios For Found Parameters Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	6	FH	100	100	83	3.20	94.00	32.37
Nitrate+Nitrite	6	FM	100	83	33	1.60	480.00	116.18
Aluminum	6	FM	100	83	33	1.93	11.33	4.73
Oil and grease	6	FL	83	33	17	.96	5.10	1.98
Phenolics (4AAP)	5	FL	80	20	20	.50	6.50	2.10
Total Kjeldahl Nitrogen	6	FL	67	17	17	.60	16.20	3.67
Cyanide Total	6	FL	50	33	33	.00	18.80	6.40
Zinc	6	FL	50	33	0	.40	3.20	1.55

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Stepan Canada Inc. - Longford Mills (Page 1 of 5)
PR 0200 - Clarifier Effluent

TABLE C25.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	156	FH	100	100	100	20.00	160.00	72.29
TOC	156	FH	100	100	83	2.00	16.50	7.80
Total Kjeldahl Nitrogen	156	FH	100	94	60	1.20	54.00	9.58
Oil and grease	156	FH	98	97	86	1.00	28.30	10.98
Aluminum	156	FH	97	96	91	.83	210.67	27.92
Chloroform	156	FH	96	92	71	1.00	87.29	11.34
Phenolics (4AAP)	155	FH	94	91	66	.10	45.00	7.78
Total suspended solids	156	FL	90	46	8	.40	11.20	2.32
Ammonia plus Ammonium	156	FM	89	51	17	.20	80.00	5.74
Zinc	155	FM	88	68	33	.30	36.90	4.60
Total phosphorus	155	FL	66	37	9	.10	20.00	2.30
Carbon tetrachloride	156	FL	53	42	29	.31	49.38	3.94
Nitrate+Nitrite	156	FL	51	36	7	.32	38.00	2.17
Volatile suspended solids	362	IL	30	9	0	.10	4.60	.91
Copper	156	IL	22	6	2	.30	11.80	1.00

TABLE C25.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
COD	4	FH	100	100	100	6.60	33.50	15.00
PCBT	12	FM	83	75	33	.50	3,560.00	300.08
Boron	12	FL	67	8	0	.62	2.08	1.16
Nickel	12	FL	58	8	0	.50	2.05	1.19
Sulphide	12	FL	50	25	0	.10	4.50	1.52
Chromium (hexavalent)	12	IL	33	17	8	.50	13.00	1.84

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Stepan Canada Inc. - Longford Mills (Page 2 of 5)
PR 0200 - Clarifier Effluent

TABLE C25.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Aluminum	11	73	.83	20.57	4.19
Zinc	11	18	.30	22.50	2.85
Total Kjeldahl Nitrogen	12	8	.20	16.00	2.13
Phenolics (4AAP)	12	33	1.00	12.50	2.08
DOC	12	25	1.00	4.40	1.68
Boron	4	50	.28	2.16	1.03
Oil and grease	11	0	1.00	1.00	1.00
Sulphide	4	0	1.00	1.00	1.00
Chloroform	11	0	.33	1.00	.94
Total phosphorus	12	0	.10	1.00	.92
Nickel	4	0	.50	1.00	.63
Copper	11	0	.30	1.00	.58
Chromium (hexavalent)	4	0	.50	.50	.50
PCBT	4	0	.50	.50	.50
TOC	12	8	.20	.54	.48
Nitrate+Nitrite	12	8	.32	1.60	.44
Total suspended solids	7	0	.20	.44	.37
Ammonia plus Ammonium	12	8	.20	1.20	.31
Carbon tetrachloride	11	0	.31	.31	.31
Volatile suspended solids	4	0	.22	.22	.22

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C25.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Carbon tetrachloride	11	.00	.00	.00
Chloroform	11	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Stepan Canada Inc. - Longford Mills (Page 3 of 5)
PR 0200 - Clarifier Effluent

TABLE C25.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
16	Carbon tetrachloride	11	32	112	68	4.8
16	Chloroform	11	18	107	68	8.5
27	PCBT	4	68	84	80	5.0

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C25.4B Absolute Value of the Difference Between
Uncorrected Travelling Spiked Blank Sample Concentration
and Corrected Travelling Spiked Blank Sample Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	11	.00	.14	.01
Carbon tetrachloride	11	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Stepan Canada Inc. - Longford Mills (Page 4 of 5)
PR 0200 - Clarifier Effluent

TABLE C25.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
PCBT	4	.49	1,000.00	252.62
Aluminum	11	.30	17.07	5.18
Chloroform	11	.29	14.43	3.60
Zinc	11	.00	9.50	2.27
Phenolics (4AAP)	11	.00	2.50	1.82
Oil and grease	11	.00	3.40	1.33
Total Kjeldahl Nitrogen	11	.00	3.80	.90
Total phosphorus	11	.00	7.20	.79
Carbon tetrachloride	11	.00	1.61	.44
Copper	11	.00	3.50	.39
Ammonia plus Ammonium	11	.00	2.40	.36
DOC	11	.00	2.40	.33
Nickel	4	.05	.30	.17
Boron	4	.02	.24	.12
Nitrate+Nitrite	11	.00	.40	.10
Total suspended solids	12	.00	.40	.10
Volatile suspended solids	12	.00	.30	.08
TOC	11	.00	.48	.08
Chromium (hexavalent)	4	.00	.20	.05
Sulphide	4	.00	.00	.00

TABLE C25.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	10	.00	.14	.01
Carbon tetrachloride	10	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Stepan Canada Inc. - Longford Mills (Page 5 of 5)
PR 0200 - Clarifier Effluent

TABLE C25.6A Absolute Value of the Difference Between Effluent Monitoring and Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	2	3.56	12.69	8.12
Carbon tetrachloride	2	1.61	2.15	1.88

TABLE C25.6B Absolute Value of the Difference Between Uncorrected Split Sample Concentration and Corrected Split Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Carbon tetrachloride	2	.00	.00	.00
Chloroform	2	.00	.00	.00

TABLE C25.7 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Chloroform	107	.00	23.77	.34
Carbon tetrachloride	106	.00	5.73	.11

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Uniroyal Chemical Ltd. - Elmira (Page 1 of 4)
CO 0900 - Outfall #11 to River

TABLE C26.1 Detection Frequencies and Concentration Ratios for Found Parameters
Monitored Daily, Thrice-Weekly or Weekly in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
DOC	359	FH	98	95	78	.64	82.00	12.11
Phenolics (4AAP)	51	FM	86	51	16	.15	62.50	4.66
Total suspended solids	148	FL	62	34	5	.16	34.00	2.22
Total phosphorus	51	FL	47	31	2	.13	6.90	1.64
Oil and grease	51	FL	43	14	4	.96	67.00	2.77
Toluene	148	IH	28	26	25	.80	18,600.00	458.25
Cyanide Total	51	NO	0	0	0	.00	.80	.40

TABLE C26.2 Detection Frequencies and Concentration Ratios For Found Parameters
Monitored Monthly, Quarterly or Semi-Annually in Effluent

Parameter	Number of Observations	Class	Frequency of Detection (%)			Concentration Ratios (1)		
			>RMDL	>2RMDL	>5RMDL	Minimum	Maximum	Average
Octachlorodibenzofuran	4	FH	100	100	75	2.37	43.33	15.01
Total H7CDF	4	FM	100	100	50	3.67	50.00	15.83
Nitrate+Nitrite	12	FM	92	92	50	.10	16.40	6.77
Octachlorodibenzo-p-dioxin	4	FM	75	75	50	.67	7.67	4.42
Total H6CDF	4	FM	75	75	50	.75	10.00	5.40
Total H7CDD	4	FM	75	75	25	.57	14.00	5.31
Sulphide	4	FM	75	75	0	.95	2.50	1.86
Zinc	12	FM	75	58	33	.40	13.00	3.87
Total Kjeldahl Nitrogen	11	FL	73	27	0	.32	4.80	1.67
TOC	23	FL	65	17	4	.34	6.00	1.40
Aluminum	12	FL	58	42	8	.30	46.67	5.35
COD	4	FL	50	50	0	.62	4.10	2.38
Copper	12	IL	33	17	0	.20	3.40	1.10
Mercury	12	IH	17	8	8	.19	5.20	.80
Boron	12	IL	17	0	0	.10	1.06	.72
Ammonia plus Ammonium	12	IL	8	0	0	.10	1.48	.74
Chromium	12	NO	0	0	0	.10	.35	.13
Lead	12	NO	0	0	0	.33	.80	.39
o-Xylene	12	NO	0	0	0	.80	.80	.80

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

QA/QC Tables for Uniroyal Chemical Ltd. - Elmira (Page 2 of 4)
CO 0900 - Outfall #11 to River

TABLE C26.3A Detection Frequencies and Concentration Ratios
for Found Parameters in Travelling Blanks

Parameter	Number of Observations	Frequency of Detection >RMDL (%)	Concentration Ratios (1)		
			Minimum	Maximum	Average
Oil and grease	4	0	.96	.96	.96
Toluene	12	0	.80	.80	.80
o-Xylene	4	0	.80	.80	.80
Total Kjeldahl Nitrogen	4	50	.32	1.28	.74
DOC	4	0	.70	.70	.70
Zinc	4	25	.40	1.60	.70
Total phosphorus	4	0	.69	.70	.69
Aluminum	4	0	.30	.80	.43
Phenolics (4AAP)	4	0	.15	.50	.41
Lead	4	0	.33	.33	.33
Copper	4	0	.20	.60	.33
Mercury	4	0	.19	.40	.24
Cyanide Total	4	0	.00	.20	.20
TOC	4	0	.10	.18	.12
Boron	4	0	.10	.16	.12
Ammonia plus Ammonium	4	0	.10	.10	.10
Chromium	4	0	.10	.10	.10
Nitrate+Nitrite	4	0	.10	.10	.10

NOTE: (1) Concentration Ratio = Concentration Divided by Regulation Method Detection Limit

TABLE C26.3B Absolute Value of the Difference Between Uncorrected Travelling
Blank Concentration and Corrected Travelling Blank Concentration
Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	12	.00	6.60	3.35
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration
Divided by the Regulation Method Detection Limit

QA/QC Tables for Uniroyal Chemical Ltd. - Elmira (Page 3 of 4)
CO 0900 - Outfall #11 to River

TABLE C26.4A Range of Recoveries and Ratio of Spiked Quantity to the Regulation Method Detection Limit for Found Parameters (1)

ATG	Parameter	Number of Observations	Recovery (2) (%)			SPIKE/RMDL (3)
			Minimum	Maximum	Average	
17	Toluene	10	70	105	88	40.0
17	o-Xylene	3	90	100	95	40.0

NOTE: (1) - Only those parameters for which travelling spikes were required are presented.

(2) - Recovery = Actual value divided by expected value X 100%

(3) - SPIKE/RMDL = Expected value of the spiked sample divided by Regulation Method Detection Limit

TABLE C26.4B Absolute Value of the Difference Between Uncorrected Travelling Spiked Blank Sample Concentration and Corrected Travelling Spiked Blank Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	12	.00	10.00	4.50
o-Xylene	4	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

QA/QC Tables for Uniroyal Chemical Ltd. - Elmira (Page 4 of 4)
CO 0900 - Outfall #11 to River

TABLE C26.5A Absolute Value of the Difference Between Effluent Monitoring and Duplicate Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Oil and grease	4	.14	2,299.04	575.46
Zinc	4	.00	39.00	11.65
Toluene	11	.00	46.00	8.18
Phenolics (4AAP)	4	.00	11.50	3.00
Nitrate+Nitrite	4	.00	7.10	2.02
Total suspended solids	3	.00	3.56	1.51
Mercury	4	.10	1.10	.58
Aluminum	4	.07	.83	.36
Total Kjeldahl Nitrogen	3	.00	.74	.34
Total phosphorus	4	.00	1.27	.34
DOC	6	.00	.60	.27
Boron	4	.00	.62	.17
Ammonia plus Ammonium	3	.00	.40	.15
Copper	4	.00	.40	.13
Chromium	4	.00	.05	.01
Cyanide Total	4	.00	.20	.00
Lead	4	.00	.00	.00
o-Xylene	4	.00	.00	.00

TABLE C26.5B Absolute Value of the Difference Between Uncorrected Duplicate Concentration and Corrected Duplicate Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	11	.00	40.00	8.22
o-Xylene	4	.00	.00	.00

TABLE C26.6 Absolute Value of the Difference Between Uncorrected Monitoring Sample Concentration and Corrected Monitoring Sample Concentration Divided by the Regulation Method Detection Limit for Found Parameters

Parameter	Number of Observations	Difference Ratios (1)		
		Minimum	Maximum	Average
Toluene	137	.00	40.00	4.45
o-Xylene	12	.00	.00	.00

NOTE: (1) Difference Ratio = Absolute Value of the Difference in Concentration Divided by the Regulation Method Detection Limit

APPENDIX D PROBLEMATICAL DATA ANALYSIS TABLES

<u>PLANT</u>	<u>PAGE</u>
Akzo Chemicals Ltd. - Sarnia	D-2
Amoco Canada Resources Ltd. - Sarnia	D-2
B.F. Goodrich Canada Inc. - Thorold	D-3
BASF Canada Inc. - Arnprior	D-5
BASF Canada Inc. - Sarnia	D-6
Canadianoxy Chemicals Ltd. - Fort Erie	D-7
Celanese Canada Inc. - Millhaven	D-7
Chinook Group Ltd. - Sombra	D-8
Cornwall Chemicals Ltd. - Cornwall	D-9
Courtaulds Fibres Canada - Cornwall	D-13
Dow Chemical Canada Inc. - Sarnia	D-20
Du Pont Canada Inc. - Corunna	D-27
Du Pont Canada Inc. - Kingston	D-29
Du Pont Canada Inc. - Maitland	D-33
Du Pont Canada Inc. - Whitby	D-34
Esso Chemical Canada - Sarnia	D-34
Ethyl Canada Inc. - Corunna	D-35
GE Plastics Canada Ltd. - Cobourg	D-42
Guardsman Products Ltd. - Cornwall	D-42
Morbern Inc. - Cornwall	D-43
Novacor Chemicals Ltd. - Mooretown	D-45
Polysar Ltd. - Sarnia	D-46
Rohm and Haas Canada Inc. - Morrisburg	D-54
Rohm and Haas Canada Inc. - Scarborough	D-55
Stepan Canada Inc. - Longford Mills	D-56
Uniroyal Chemical Ltd. - Elmira	D-58

Akzo Chemicals Ltd., Sarnia
OT 0100 - Reactor #4 Cooling Water to River

QA/QC data was not required.

Amoco Canada Resources Ltd., Sarnia
CO 0100 - API Separator Effluent to River

Copper (ATG 9): RMDL=10 µg/L, FL, 13 monitoring samples, average = 4.7RMDL, maximum = 30RMDL

Precision: 2 duplicate/3 split samples, average duplicate difference = 0, average split difference = 2.3RMDL. Precision is poor for 2 split samples:

	<u>Monitoring</u>	<u>Split</u>
1)	40 µg/L	76 µg/L
2)	61 µg/L	30 µg/L

All other pairs are close to the detection limit.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

Mercury (ATG 12): RMDL=0.1 µg/L, FM, 45 monitoring samples, average = 4.9RMDL

Precision: 1 duplicate/3 split samples. Average duplicate difference = 5RMDL shows poor agreement. Split samples are all acceptable.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

B.F. Goodrich Canada Inc., Thorold
PR 0100 - Final Effluent to River

Chloroform (ATG 16): RMDL=0.7 $\mu\text{g/L}$, FH, 12 monitoring samples, average = 12.6RMDL

Travelling Spiked Blanks: 4 samples, average spike = 7.6RMDL. Recoveries are 62, 58, 55 and 132%.

Conclusion: Recoveries are low.

Conclusion: Data is acceptable.

Cyanide Total (ATG 2): RMDL=0.005 mg/L, FH, 51 monitoring samples, average = 19.4RMDL

Precision: 4 duplicate samples, average difference = 5.6RMDL, maximum difference = 20.8RMDL. 1 pair shows poor agreement: monitoring = 0.005 mg/L, duplicate = 0.109 mg/L. Other 3 duplicates show excellent agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Methylene Chloride (ATG 16): RMDL=1.3 $\mu\text{g/L}$, FL, 12 monitoring samples, average = 1.77RMDL, maximum = 5.9RMDL

Travelling Blanks: 4 samples, average = 5.96RMDL. 1 unusual travelling blank result (28 $\mu\text{g/L}$), monitoring = 1.7 $\mu\text{g/L}$. Other ratios are 1.2, 0.6 and 0.6.

Conclusion: Possible false positives. Travelling blanks are negligible.

Conclusion: Data is acceptable.

B.F. Goodrich Canada Inc., Thorold (cont'd)
PR 0100 - Final Effluent to River

Phenolics (4AAP) (ATG 14): RMDL=2 µg/L, FM, 12 monitoring samples, average = 3.8RMDL, maximum = 19.5RMDL

Travelling Blanks: 4 samples, average = 2.4RMDL. 1 unusual travelling blank result (13 µg/L), monitoring = 9 µg/L. All other travelling blanks are <RMDL.

Conclusion: Significant but infrequent travelling blank contamination.

Precision: 4 duplicate samples, average difference = 5RMDL. Poor agreement for one sample: monitoring = 39 µg/L, duplicate = 2 µg/L. Other duplicates show acceptable agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Total Phosphorus (ATG 6): RMDL=0.1 mg/L, IL, 132 monitoring samples, average = 1.33RMDL

Travelling Blanks: 10 samples, average = 164.4RMDL. 1 unusual result (164 mg/L) on 90/04/23, no monitoring sample on 90/04/23. All other travelling blanks are <RMDL.

Conclusion: Travelling blanks are negligible.

Conclusion: Data is acceptable.

Total Suspended Solids (ATG 8): RMDL=5 mg/L, FM, 155 monitoring samples, average = 5RMDL

Precision: 10 duplicate/1 split samples, average duplicate difference = 1.2RMDL, maximum duplicate difference = 5.4RMDL. Poor agreement for 1 duplicate sample: monitoring = 56 mg/L, duplicate = 29 mg/L. All other duplicates and the split sample show acceptable agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

B.F. Goodrich Canada Inc., Thorold (cont'd)

PR 0100 - Final Effluent to River

Vinyl Chloride (ATG 16): RMDL=4 $\mu\text{g/L}$, FH, 157 monitoring samples, average = 39.8RMDL

Travelling Spiked Blanks: 10 samples, average spike = 3.2RMDL. Recoveries are erratic (48 - 148%). 4 samples are < 60%.

Conclusion: Recoveries are erratic.

Precision: 11 duplicate/1 split samples, average difference = 5.84RMDL, maximum difference = 27.5RMDL. Agreement is acceptable between all pairs. High duplicate difference ratios are due to high level of samples.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Zinc (ATG 9): RMDL=10 $\mu\text{g/L}$, FL, 12 monitoring samples, average = 3.8RMDL

Travelling Blanks: 4 samples, average = 3RMDL. 1 unusual travelling blank result (103 $\mu\text{g/L}$) on 90/09/17, monitoring = 166 $\mu\text{g/L}$ on 90/09/17. All other travelling blanks are $\leq$ RMDL.

Conclusion: Travelling blanks are negligible.

Precision: 4 duplicate samples, average difference = 4.3RMDL. Poor agreement for one duplicate on same day as contaminated travelling blank (90/09/17): monitoring = 166 $\mu\text{g/L}$, duplicate = 14 $\mu\text{g/L}$. All other duplicates show acceptable agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

BASF Canada Inc., Arnprior

OT 0100 - Storm Discharge

QA/QC data was not required.

BASF Canada Inc., Sarnia
OT 0200 - #1 Plant Storm Sewer to River

Copper (ATG 9): RMDL=10 µg/L, FL, 12 monitoring samples, average = 1.2RMDL, maximum = 2RMDL

Travelling Blanks: 3 samples, average = 1.33RMDL, maximum = 2RMDL. Possible false positives.

Conclusion: Travelling blank contamination is significant.

Conclusion: Data is equivocal.

Phenolics (4AAP) (ATG 14): RMDL=2 µg/L, FL, 12 monitoring samples, average = 2RMDL, maximum = 6.5RMDL

Travelling Blanks: 3 samples, average = 4RMDL. 1 sample contaminated at 20 µg/L, monitoring = 2 µg/L.

Conclusion: Travelling blank contamination is significant.

Conclusion: Data is equivocal.

Toluene (ATG 17): RMDL=0.5 µg/L, IM, 12 monitoring samples, average = 0.71RMDL, maximum = 4RMDL

Precision: 4 duplicate samples, average difference = 1.3RMDL. Precision is marginal on only duplicate pair that was detected.

Conclusion: Precision may be limited.

Conclusion: Data is acceptable.

Zinc (ATG 9): RMDL=10 µg/L, FL, 12 monitoring samples, average = 2.25RMDL, maximum = 6RMDL

Travelling Blanks: 3 samples, average = 1.33RMDL, maximum= 2RMDL. Possible false positives.

Conclusion: Travelling blank contamination is significant.

Conclusion: Data is equivocal.

Canadianoxy Chemicals Ltd., Fort Erie
OT 0100 - Final Effluent to River

Chromium (ATG 9): RMDL=20 µg/L, IH, 12 monitoring samples, average = 1.6RMDL

Precision: 2 duplicate samples, average difference = 1.5RMDL. 1 pair shows poor agreement: monitoring = 110 µg/L, duplicate = 52 µg/L. Other duplicate pair is a non-detect.

Conclusion: Insufficient QA/QC data to validate precision.

Conclusion: Data is acceptable.

DOC (ATG 5): RMDL=0.5 mg/L, FM, 12 monitoring samples, average = 4.8RMDL

Precision: 2 duplicate samples, average difference = 3.7RMDL. 1 pair shows poor agreement: monitoring = 3.9 mg/L, duplicate = 0.4 mg/L (not detected). Other duplicate pair is acceptable.

Conclusion: Insufficient QA/QC data to validate precision.

Conclusion: Data is acceptable.

Celanese Canada Inc., Millhaven
PR 0400 - Treatment Plant Effluent

Chromium (hexavalent) (ATG 11): RMDL=10 µg/L, IM, 10 monitoring samples, average = 1.3RMDL

Precision: 5 duplicate samples, average difference = 0.6RMDL, maximum difference = 3RMDL. 1 duplicate pair shows poor agreement: monitoring = 20 µg/L, duplicate = 50 µg/L. Other duplicate pairs are all non-detects.

Conclusion: Precision is acceptable.

Conclusion: Parameter was selected at intake and storm streams. Data is acceptable.

Celanese Canada Inc., Millhaven (cont'd)

PR 0400 - Treatment Plant Effluent

Copper (ATG 9): RMDL=10 $\mu\text{g/L}$, IH, 52 monitoring samples, average = 1.1RMDL

Precision: 5 duplicate samples, average difference = RMDL, maximum difference = 4.7RMDL. 1 pair shows poor agreement: monitoring = 68 $\mu\text{g/L}$, duplicate = 21 $\mu\text{g/L}$. Other duplicates are acceptable.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Oil and Grease (ATG 25): RMDL=1 mg/L, IM, 50 monitoring samples, average = 1.4RMDL, maximum = 11RMDL

Travelling Blanks: 3 samples, average = 1.7RMDL. 1 travelling blank detected (3 mg/L) on 89/10/02, no monitoring sample on that day. Other travelling blanks are equal to the RMDL.

Conclusion: Insufficient QA/QC information to assess travelling blank contamination.

Conclusion: Data is acceptable. Parameter was selected in storm water only.

Chinook Group Ltd., Sombra

CO 0100 - Sump Effluent to River

Aluminum (ATG 9): RMDL=30 $\mu\text{g/L}$, FH, 12 monitoring samples, average = 9.4RMDL, maximum = 23.6RMDL

Travelling Blanks: 4 samples, average = 2.9RMDL. 1 unusual result at 288 $\mu\text{g/L}$. Other travelling blanks are acceptable.

Conclusion: Travelling blank is negligible.

Conclusion: Data is acceptable.

Cornwall Chemicals Ltd., Cornwall
PR 0100 - Manhole 26 Effluent to River

1,2,3-Trichlorobenzene (ATG 23): RMDL=10 ng/L, IM, 11 monitoring samples, average = 1.1RMDL, maximum = 5.8RMDL.

Travelling Blanks: 7 samples, average = 1.44RMDL, maximum = 3.9RMDL. 1 result is reported at 15 ng/L with <DL remark code and 2 results at 39 ng/L.

Conclusion: Travelling blanks are negligible.

Conclusion: Data is acceptable.

Carbon Tetrachloride (ATG 16): RMDL=1.3 µg/L, FH, 156 monitoring samples, average = 12,983RMDL

Precision: 13 duplicate samples, average difference = 1,902RMDL. Large difference ratios are primarily due to the high level of concentrations. Poor agreement for 2 duplicate samples:

	Monitoring	Lab	Duplicate	Lab
1)	0.93 µg/L	1	4,440 µg/L	2
2)	9,400 µg/L	1	17,360 µg/L	2

2 pairs (with better agreement) were analyzed by different laboratories.

Corrections: 13 uncorrected duplicate samples, average difference = 263RMDL. Possible entry error for one sample (corrected duplicate = 4,440 µg/L, uncorrected duplicate = 0.7 µg/L). All other difference ratios are = 0.

Conclusion: Precision is acceptable.

Monitoring Lab Corrections: 156 uncorrected samples, average difference = 169RMDL, maximum difference = 15,385RMDL. Largest correction is possibly an data entry error (corrected sample = 22,160 µg/L, uncorrected sample = 2,160 µg/L). Some other large difference ratios are due to multiple sample entries from Lab 1 and Lab 2 on the same day. Other large corrections exist but are negligible compared to the level of monitoring concentrations.

Conclusion: Lab corrections are acceptable.

Conclusion: Data is acceptable. Poor agreement between samples analyzed by Lab 1 and Lab 2 should be investigated.

Cornwall Chemicals Ltd., Cornwall (cont'd)

PR 0100 - Manhole 26 Effluent to River

Chloroform (ATG 16): RMDL=0.7 µg/L, FH, 156 monitoring samples, average = 128RMDL

Precision: 13 duplicate samples, average difference = 366RMDL, maximum difference = 2,101RMDL. All large ratios are due to comparison of monitoring samples done by Lab 1 with duplicate samples analyzed by Lab 2. All other duplicate pairs show good agreement. Corrections: 1 large correction (difference = 44.6RMDL) is a possible entry error (corrected duplicate = 32 µg/L, uncorrected duplicate = 0.8 µg/L). Other duplicate corrections are = 0.

Conclusion: Precision is acceptable.

Monitoring Lab Corrections: 156 uncorrected samples, average difference = 11.5RMDL, maximum difference = 1,779RMDL. Large ratios are due to match of uncorrected results and corrected results from different laboratories.

Conclusion: Lab corrections are acceptable.

Conclusion: Data is acceptable. Poor agreement between samples from Lab 1 and Lab 2 should be investigated.

Chloromethane (ATG 16): RMDL=3.7 µg/L, FM, 12 monitoring samples, average = 20RMDL, maximum = 138RMDL

Precision: 12 duplicate samples, average difference = 17RMDL, maximum difference = 135RMDL. Large ratios are due primarily to match of monitoring samples analyzed by Lab 1 and duplicates analyzed by Lab 2. Bulk of duplicates (9) show acceptable agreement.

Conclusion: Precision is acceptable.

Monitoring Lab Corrections: 12 uncorrected samples, average difference = 5.5RMDL, maximum difference = 62RMDL. Large difference ratios are due to match of uncorrected results and corrected results from different laboratories.

Conclusion: Lab corrections are acceptable.

Conclusion: Data is acceptable. Poor agreement between samples from Lab 1 and Lab 2 should be investigated.

Cornwall Chemicals Ltd., Cornwall (cont'd)
PR 0100 - Manhole 26 Effluent to River

Hexachlorocyclopentadiene (ATG 23): RMDL=10 ng/L, FL, 12 monitoring samples, average = 1.3RMDL, maximum = 1.7RMDL .

Travelling Spiked Blanks: 5 samples, average spike = 9.8RMDL. Recoveries range from 10 to 47%.

Conclusion: Recoveries are low.

Conclusion: Possible method problems. Check audit results for presence of analyte. Parameter was selected because RMDL was not met for those samples analyzed by Cornwall (LMDL=17 ng/L, RMDL=10 ng/L).

Hexachloroethane (ATG 23): RMDL=10 ng/L, FH, 12 monitoring samples, average = 54.2RMDL, maximum = 229RMDL

Precision: 5 split samples, average difference = 13RMDL, maximum difference = 50RMDL. Large ratios are due to high concentrations of samples.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Methylene Chloride (ATG 16): RMDL=1.3 µg/L, FL, 142 monitoring samples, average = 4.5RMDL, maximum = 65.3RMDL

Precision: 12 duplicate samples, average difference = 2.6RMDL, maximum difference = 24.2RMDL. High ratios are due to match of monitoring samples analyzed by Lab 1 and duplicates analyzed by Lab 2.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable. Poor agreement between samples from Lab 1 and Lab 2 should be investigated.

Cornwall Chemicals Ltd., Cornwall (cont'd)
PR 0100 - Manhole 26 Effluent to River

Sulphide (ATG 15): RMDL=20 $\mu\text{g/L}$, FH, 151 monitoring samples, average = 265RMDL

Precision: 8 duplicate samples, average difference = 71.8RMDL, maximum difference = 290RMDL. Poor precision is indicated due to comparison of 2 duplicate samples analyzed by Lab 2 and 2 monitoring samples analyzed by Lab 1. The other 6 duplicate samples show good agreement.

18 split samples, average difference = 65RMDL, maximum difference = 720RMDL. Large difference ratios are due to comparison of monitoring samples analyzed by Lab 1 with split samples analyzed by Lab 2.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable. Poor agreement between samples analyzed by Lab 1 and Lab 2 should be investigated.

Trichloroethylene (ATG 16): RMDL=1.9 $\mu\text{g/L}$, IL, 156 monitoring samples, average = 1.1RMDL

Precision: 13 duplicate samples, average difference = 1.5RMDL, maximum difference = 13.6RMDL. Poor agreement for 1 sample is due to comparison of monitoring sample from Lab 1 and duplicate from Lab 2 (monitoring = 27 $\mu\text{g/L}$, duplicate = 1.2 $\mu\text{g/L}$). Other duplicates show acceptable agreement.

Conclusion: Precision is acceptable.

Monitoring Lab Corrections: 156 uncorrected samples, average difference = 0.1RMDL, maximum difference = 13.9RMDL. All large difference ratios are due to results reported from two different laboratories.

Conclusion: Lab corrections are acceptable.

Conclusion: Data is acceptable. Poor agreement between samples from Lab 1 and Lab 2 should be investigated.

Courtaulds Fibres Canada, Cornwall

PR 0300 - Alkaline Sewer to River

1,2-Dichloroethane (ATG 16): RMDL=0.8 µg/L, IH, 12 monitoring samples, average = 1.4RMDL, maximum = 5RMDL

Spike Recovery: 3 travelling spiked blanks, average spike = 14RMDL. Recoveries are 85, 80 and 5%. Poor recovery for one sample.

Conclusion: Erratic recovery. Insufficient QA/QC information to assess data.

Precision: 4 duplicate samples, average difference = 1.1RMDL. One duplicate pair shows poor agreement: monitoring = 4 µg/L, duplicate = 0.51 µg/L. All other duplicate pairs are < RMDL.

Conclusion: Precision is limited.

Conclusion: All monitoring data (all control points) reported above the RMDL is qualified by the <, <WE or <DL remark code. Data is unsuitable.

Aluminum (ATG 9): RMDL=30 µg/L, FM, 150 monitoring samples, average = 6.9RMDL

Precision: 8 duplicate/2 split samples, average duplicate difference = 2.4RMDL, maximum duplicate difference = 9.7RMDL. Precision is poor for 2 duplicates:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	231 µg/L	44 µg/L
2)	100 µg/L	390 µg/L

Precision poor for 1 split sample pair (monitoring = 160 µg/L, split = 78 µg/L).

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Courtaulds Fibres Canada, Cornwall (cont'd)

PR 0300 - Alkaline Sewer to River

Chloroform (ATG 16): RMDL=0.7 µg/L, FH, 154 monitoring samples, average = 22.3RMDL, maximum = 271RMDL

Travelling Spiked Blanks: 11 samples, average spike = 17.6RMDL. Recoveries range from 5% to 125% (average = 93%). Recovery poor for one sample. Other recoveries are acceptable.

Corrections: 10 uncorrected travelling spiked blank samples, average difference = 0.57RMDL. All corrections are reasonable.

Conclusion: Recoveries are acceptable.

Precision: 8 duplicate samples, average difference = 4.6RMDL, maximum difference = 20RMDL. Poor agreement for 1 duplicate pair: monitoring = 0.07 µg/L, duplicate = 13.9 µg/L. 2 split samples, agreement is acceptable for both pairs.

Corrections: 7 uncorrected duplicate samples, average difference = 0.22RMDL.

Corrections are reasonable. 2 uncorrected split samples. 1 large split sample correction.

Conclusion: Precision is acceptable.

Monitoring Lab Corrections: 151 uncorrected samples, average difference = 6.8RMDL. Erratic and some very large corrections (maximum difference = 222.9RMDL).

Conclusion: Lab corrections are significant.

Conclusion: Data is equivocal.

Copper (ATG 9): RMDL=10 µg/L, FL, 151 monitoring samples, average = 2.6RMDL

Precision: 8 duplicate/2 split samples, average duplicate difference = 9RMDL. Precision is poor for 2 duplicates:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	520 µg/L	11 µg/L
2)	170 µg/L	17 µg/L

Split samples are acceptable.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Courtaulds Fibres Canada, Cornwall (cont'd)

PR 0300 - Alkaline Sewer to River

DOC (ATG 5): RMDL = 0.5 mg/L, FH, 274 monitoring samples, average = 160RMDL

Precision: 7 duplicate/2 split samples, average duplicate difference = 76RMDL.

Agreement is marginal between 4 monitoring samples and their duplicates:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	140 mg/L	200 mg/L
2)	187 mg/L	310 mg/L
3)	110 mg/L	73 mg/L
4)	38 mg/L	70 mg/L

Other duplicates and split samples show good agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Mercury (ATG 12): RMDL = 0.1 µg/L, FH, 152 monitoring samples, average = 47.3RMDL

Precision: 7 duplicate/2 split samples, average duplicate difference = 5.6RMDL, maximum duplicate difference = 13.6RMDL. Precision is poor for 1 duplicate sample:

monitoring = 2.6 µg/L, duplicate = 16.5 µg/L (remark code = SD) and for 1 split sample: monitoring = 5.5 µg/L, split = 2 µg/L. Other QA/QC data shows acceptable precision.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Oil and Grease (ATG 25): RMDL = 1 mg/L, FH, 52 monitoring samples, average = 62RMDL

Precision: 4 duplicate samples, average difference = 15.3RMDL. All duplicate pairs show acceptable agreement when compared to the monitoring samples. High difference ratios are due to high concentrations.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Courtaulds Fibres Canada, Cornwall (cont'd)
PR 0300 - Alkaline Sewer to River

Phenol (ATG 20): RMDL=2.4 µg/L, IL, 11 monitoring samples, average = 0.68RMDL, maximum = 1.3RMDL

Travelling Spiked Blanks: 5 travelling spiked blanks, average spike = 9RMDL. Generally poor spike recoveries (38, 47, 60, 66 and 17%).

Conclusion: Recoveries are low.

Conclusion: Data is acceptable.

Phenolics (4AAP) (ATG 14): RMDL=2 µg/L, FM, 51 monitoring samples, average = 9.3RMDL

Precision: 4 duplicate samples, average difference = 9.4RMDL. Agreement is poor for 2 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	4 µg/L	0.014 µg/L
2)	2.9 µg/L	22.1 µg/L

Conclusion: Precision is limited.

Conclusion: Data is equivocal.

Total Phosphorus (ATG 6): RMDL=0.1 mg/L, IL, 49 monitoring samples, average = 1.7RMDL

Precision: 4 duplicate samples, average difference = 30RMDL. Poor agreement between 1 pair: monitoring = 0.08 mg/L, duplicate = 12 mg/L. Concentrations for other duplicate pairs are close to the RMDL.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Courtaulds Fibres Canada, Cornwall (cont'd)

PR 0300 - Alkaline Sewer to River

Sulphide (ATG 15): RMDL=20 µg/L, FH, 154 monitoring samples, average = 4,709RMDL

Precision: 8 duplicate/2 split samples, average duplicate difference = 759RMDL, maximum duplicate difference = 4525RMDL. Agreement is poor for 1 duplicate pair: monitoring = 10,500 µg/L, duplicate = 101,000 µg/L. Split samples and other duplicates show acceptable agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

TOC (ATG 4): RMDL=5 mg/L, FH, 126 monitoring samples, average = 19.5RMDL

Precision: 8 duplicate/2 split samples, average duplicate difference = 5RMDL, maximum duplicate difference = 28RMDL. Precision is poor for 2 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	129 mg/L	270 mg/L
2)	52 mg/L	105 mg/L

Split samples are acceptable.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Courtaulds Fibres Canada, Cornwall (cont'd)
PR 0300 - Alkaline Sewer to River

Toluene (ATG 17): RMDL=0.5 µg/L, IH, 50 monitoring samples, average = 2.34RMDL, maximum = 30RMDL

Travelling Blanks: 6 samples, average = 0.64RMDL.

Corrections: 6 uncorrected travelling blank samples, average difference = 1.37RMDL.

Large corrections for 2 samples (3.6RMDL/4.5RMDL). All other corrections are <RMDL.

Conclusion: Travelling blanks are negligible. Possible lab contamination.

Travelling Spiked Blanks: 3 travelling spiked blanks, average spike = 22.3RMDL.

Recoveries are 2, 62 and 95%.

Corrections: 3 uncorrected travelling spiked blank samples, average difference = 3.7RMDL.

Conclusion: Erratic/low recovery and significant laboratory corrections.

Precision: 4 duplicate samples, average difference = 2RMDL. Poor agreement for 1

duplicate pair: monitoring = 3.9 µg/L, duplicate = 0.24 µg/L.

Corrections: 4 uncorrected duplicate samples, average difference = 2.7RMDL. Corrections are significant for 2 duplicate samples.

Conclusion: Poor agreement for 1 duplicate and significant lab corrections compared to level of samples.

Monitoring Lab Corrections: 49 uncorrected samples, average difference = 13RMDL.

Erratic and some very large corrections (maximum difference = 195.2RMDL).

Conclusion: Lab corrections are significant.

Conclusion: Data is equivocal.

Courtaulds Fibres Canada, Cornwall (cont'd)

PR 0300 - Alkaline Sewer to River

Total Suspended Solids (ATG 8): RMDL=5 mg/L, FH, 151 monitoring samples, average = 22.3RMDL

Precision: 6 duplicate/1 split sample, average duplicate difference = 9.7RMDL, maximum duplicate difference = 40RMDL. Precision poor for 2 duplicate sample pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	272 mg/L	72 mg/L
2)	31 mg/L	72 mg/L

Others duplicate pairs are acceptable. Split pair is acceptable.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Volatile Suspended Solids (ATG 8): RMDL=10 mg/L, FM, 51 monitoring samples, average = 5.6RMDL

Precision: 5 duplicate samples, average difference = 1.8RMDL. Poor agreement for 2 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	20 mg/L	52 mg/L
2)	60 mg/L	28 mg/L

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Zinc (ATG 9): RMDL=10 µg/L, FH, 151 monitoring samples, average = 246RMDL

Precision: 8 duplicate samples, average difference = 17.8RMDL, maximum difference = 44.5RMDL. Poor agreement for 1 pair: monitoring = 1,025 µg/L, duplicate = 580 µg/L. Other duplicates show good agreement. 2 split samples, average difference = 20RMDL, maximum difference = 20RMDL. Good agreement for both split pairs.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Dow Chemical Canada Inc., Sarnia
PR 1200 - Throx Stripper Effluent

1,2,4-Trichlorobenzene (ATG 23): RMDL=10 ng/L, IH, 10 monitoring samples, average = 2.8RMDL, maximum = 18.4RMDL

Travelling Blanks: 3 samples, average = 1.5RMDL. 1 unusual travelling blank result (28 ng/L), monitoring = 9 ng/L. Other travelling blanks are < RMDL.

Conclusion: Insufficient data to validate presence in travelling blanks.

Conclusion: Data is acceptable.

1,2-Dichloropropane (ATG 16): RMDL=0.9 µg/L, IM, 12 monitoring samples, average = 65RMDL, maximum = 772RMDL

Precision: 5 duplicate samples, average difference = 152RMDL. Poor agreement between 2 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	0.2 µg/L	6.6 µg/L
2)	695 µg/L	16.3 µg/L

Other duplicate pair results are all < DL.

Conclusion: Precision is marginal.

Conclusion: Data is equivocal.

2,3,4,5-Tetrachlorophenol (ATG 20): RMDL=0.4 µg/L, FL, 12 monitoring samples, average = 1.2RMDL, maximum = 1.3RMDL

Travelling Blanks: 4 samples, average = 1.13RMDL, maximum = 1.25RMDL. 2 travelling blanks at 0.5 µg/L with < DL remark code. 2 travelling blanks at 0.4 µg/L.

Conclusion: Travelling blanks are negligible.

Travelling Spiked Blanks: 4 samples, average spike = 19.9RMDL. Recoveries are 48, 119, 60, 25%.

Conclusion: Recoveries are marginal.

Conclusion: Data is acceptable. Selected on basis that RMDL was not reached by the laboratory.

Dow Chemical Canada Inc., Sarnia (cont'd)
PR 1200 - Throx Stripper Effluent

2,3,4-Trichlorophenol (ATG 20): RMDL=0.6 µg/L, FL, 12 monitoring samples, average ratio = 0.88RMDL, maximum = 1.2RMDL

Travelling Spiked Blanks: 4 samples, average spike = 11RMDL. Recoveries are 40, 104, 74, 26%.

Conclusion: Recoveries are marginal.

Conclusion: Data is acceptable. Selected on basis that RMDL was not reached by the laboratory.

2-Chloronaphthalene (ATG 19): RMDL=1.8 µg/L, FL, 12 monitoring samples, average = 0.99RMDL, maximum = 1.56RMDL

Travelling Spiked Blanks: 4 samples, average spike = 3.5RMDL. Recoveries are 21, 94, 74 and 32%.

Conclusion: Recoveries are marginal.

Conclusion: Data is acceptable. Selected on basis that RMDL was not reached by the laboratory.

Aluminum (ATG 9): RMDL=30 µg/L, IM, 12 monitoring samples, average = 1.2RMDL, maximum = 2.4RMDL

Travelling Blanks: 4 samples, average = 6.6RMDL. 2 contaminated travelling blanks (41.1 µg/L and 705 µg/L).

Conclusion: Possible false positives. Travelling blanks may be significant.

Conclusion: Data is equivocal.

Dow Chemical Canada Inc., Sarnia (cont'd)
PR 1200 - Throx Stripper Effluent

Biphenyl (ATG 19): RMDL=0.6 µg/L, FL, 12 monitoring samples, average = 1.8RMDL, maximum = 2.7RMDL

Travelling Spiked Blanks: 4 samples, average spike = 10.6RMDL. Recoveries are 42, 82, 72 and 31%.

Conclusion: Recoveries are marginal.

Conclusion: Data is acceptable. Selected on basis that RMDL was not reached by the laboratory.

Bromodichloromethane (ATG 16): RMDL=0.8 µg/L, IH, 12 monitoring samples, average = 5.6RMDL, maximum = 39RMDL

Precision: 5 duplicate samples, average difference = 10RMDL. Poor agreement between 2 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	0.3 µg/L	8.3 µg/L
2)	31.2 µg/L	0.3 µg/L

Conclusion: Precision is marginal.

Conclusion: Data is equivocal.

Bromoform (ATG 16): RMDL=3.7 µg/L, IH, 12 monitoring samples, average = 1.9RMDL

Precision: 5 duplicate samples, average difference = 1.9RMDL. Poor agreement for 2 pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	0.3 µg/L	11.9 µg/L
2)	23.4 µg/L	0.3 µg/L

Conclusion: Precision is marginal.

Conclusion: Data is equivocal.

Dow Chemical Canada Inc., Sarnia (cont'd)
PR 1200 - Throx Stripper Effluent

Chloroform (ATG 16): RMDL=0.7 µg/L, FM, 143 monitoring samples, average = 3.3RMDL

Precision: 11 duplicate samples, average difference = 3.4RMDL. Poor agreement for 3 pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	11.5 µg/L	23.5 µg/L
2)	8.4 µg/L	2.4 µg/L
3)	6.5 µg/L	2.9 µg/L

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Cis-1,3-Dichloropropylene (ATG 16): RMDL=1.4 µg/L, NO, 11 monitoring samples, average = 0.38RMDL, maximum = 0.93RMDL

Travelling Spiked Blanks: 4 samples, average spike = 6.9RMDL. Recoveries are 66, 79, 79 and 55%.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Dibromochloromethane (ATG 16): RMDL=1.1 µg/L, IH, 12 monitoring samples, average = 10.3RMDL, maximum = 72RMDL

Precision: 5 duplicate samples, average difference = 16RMDL. Poor agreement between 2 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	0.3 µg/L	8.6 µg/L
2)	79.7 µg/L	0.3 µg/L

Conclusion: Precision is marginal.

Conclusion: Data is equivocal.

Dow Chemical Canada Inc., Sarnia (cont'd)
PR 1200 - Throx Stripper Effluent

DOC (ATG 5): RMDL=0.5 mg/L, FM, 152 monitoring samples, average = 4.8RMDL

Travelling Blanks: 9 samples, average = 3.2RMDL. Maximum travelling blank (5 mg/L) is higher than monitoring sample (0.4 mg/L). Four travelling blanks are ≥ 1.25 mg/L.

Conclusion: Erratic travelling blanks.

Conclusion: Data is acceptable.

Hexachlorocyclopentadiene (ATG 23): RMDL=10 ng/L, IL, 10 monitoring samples, average = 0.59RMDL, maximum = 1.3RMDL

Travelling Spiked Blanks: 3 samples, average spike = 5.4RMDL. Recoveries are 276, 109 and 109%.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Methylene Chloride (ATG 16): RMDL=1.3 $\mu\text{g/L}$, IH, 12 monitoring samples, average = 3.3RMDL, maximum = 36RMDL

Precision: 5 duplicate samples, average difference = 8RMDL. Poor agreement for 2 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	0.3 $\mu\text{g/L}$	7.7 $\mu\text{g/L}$
2)	47 $\mu\text{g/L}$	0.3 $\mu\text{g/L}$

Conclusion: Precision is marginal.

Conclusion: Data is equivocal.

Dow Chemical Canada Inc., Sarnia (cont'd)
PR 1200 - Throx Stripper Effluent

Molybdenum (ATG 9): RMDL=20 $\mu\text{g/L}$, IM, 12 monitoring samples, average = 3.3RMDL

Precision: 4 duplicate samples, average difference = 3RMDL. Poor precision for 1 sample: monitoring = 627 $\mu\text{g/L}$, duplicate = 388 $\mu\text{g/L}$. Both have remark code matrix interference (IM).

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Naphthalene (ATG 19): RMDL=1.6 $\mu\text{g/L}$, FL, 12 monitoring samples, average = 0.9RMDL, maximum = 1.6RMDL

Travelling Spiked Blanks: 4 samples, average spike = 4.1RMDL. Recoveries are 33, 75, 60, 26%.

Conclusion: Recoveries are marginal.

Conclusion: Data is acceptable. Selected on basis that RMDL was not reached by the laboratory.

Nickel (ATG 9): RMDL=20 $\mu\text{g/L}$, NO, 12 monitoring samples, average = 0.85RMDL, maximum = 0.9RMDL

Travelling Blanks: 4 samples, average = 3.8RMDL. 1 unusual result (260 $\mu\text{g/L}$). All other travelling blanks are <RMDL.

Conclusion: Travelling blanks are negligible.

Conclusion: Data is acceptable.

Dow Chemical Canada Inc., Sarnia (cont'd)
PR 1200 - Throx Stripper Effluent

Phenolics (4AAP) (ATG 14): RMDL=2 $\mu\text{g/L}$, FM, 153 monitoring samples, average = 2.8RMDL

Precision: 10 duplicate samples, average difference = 1.6RMDL, maximum difference = 5RMDL. Agreement is poor for 4 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	2 $\mu\text{g/L}$	7 $\mu\text{g/L}$
2)	2 $\mu\text{g/L}$	10 $\mu\text{g/L}$
3)	5 $\mu\text{g/L}$	10 $\mu\text{g/L}$
4)	13 $\mu\text{g/L}$	3 $\mu\text{g/L}$

Conclusion: Precision is marginal.

Conclusion: Data is equivocal.

Total H6CDF (ATG 24): RMDL=20 pg/L , FH, 12 monitoring samples, average = 281RMDL, maximum = 1129RMDL.

Precision: 4 duplicate samples, average difference = 95RMDL, maximum difference = 242RMDL. High difference concentrations are due to high concentration levels.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Total H7CDF (ATG 24): RMDL=30 pg/L , FH, 12 monitoring samples, average = 317RMDL, maximum = 1,110RMDL

Precision: 4 duplicate samples, average difference = 113RMDL, maximum difference = 296RMDL. Large difference ratios are due to high concentration levels.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Dow Chemical Canada Inc., Sarnia (cont'd)
PR 1200 - Throx Stripper Effluent

Total TCDF (ATG 24): RMDL=15 pg/L, FH, 12 monitoring samples, average = 64RMDL

Precision: 4 duplicate samples, average difference = 40RMDL, maximum difference = 140RMDL. High difference ratios are due to high concentration levels.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Zinc (ATG 9): RMDL=10 µg/L, IM, 12 monitoring samples, average = 1.4RMDL, maximum = 7.4RMDL

Precision: 4 duplicate samples, average difference = 2RMDL. 1 duplicate pair shows poor precision: monitoring = 74 µg/L, duplicate = 3 µg/L. Other duplicate pairs are acceptable. Single QC duplicate sample for zinc from PR 1900 Biox effluent also shows poor agreement: monitoring = 149 µg/L, duplicate = 4 µg/L.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

Du Pont Canada Inc., Corunna
CO 0200 - Final Effluent to River

DOC (ATG 5): RMDL=0.5 mg/L, FM, 363 monitoring samples, average = 5.9RMDL, maximum = 28RMDL

Travelling Blanks: 12 samples, average = 17.7RMDL, maximum = 200RMDL. Large travelling blank concentration is due to 1 unusual result (100 mg/L). Other travelling blanks are acceptable.

Conclusion: Travelling blanks are negligible.

Conclusion: Data is acceptable.

Du Pont Canada Inc., Corunna
CO 0200 - Final Effluent to River

Copper (ATG 9): RMDL=10 $\mu\text{g/L}$, FL, 12 monitoring samples, average = 2.32RMDL, maximum = 6.7RMDL

Travelling Blanks: 4 samples, average = 1.3RMDL, maximum = 3.1RMDL. 2 travelling blanks are 31 $\mu\text{g/L}$ and 16 $\mu\text{g/L}$.

Conclusion: Possible false positives.

Conclusion: Data is equivocal.

Toluene (ATG 17): RMDL=0.5 $\mu\text{g/L}$, FL, 12 monitoring samples, average = 6RMDL, maximum = 20RMDL

Travelling Blanks: 4 samples, average = 0.8RMDL, maximum = 0.8RMDL.

Corrections: 4 uncorrected travelling blank samples, average difference = 5.9RMDL. Corrections are significant.

Conclusion: Large lab corrections for travelling blanks.

Travelling Spiked Blanks: 4 samples, average spike = 40RMDL. Recoveries range from 85 % to 95 % (average = 90 %).

Corrections: 4 uncorrected travelling spiked blanks, average difference = 6.5RMDL, maximum difference = 10RMDL. Corrections are significant.

Conclusion: Large lab corrections for travelling spiked blanks.

Precision: 4 duplicate samples, average difference = 15.3RMDL. Large due to poor agreement for one sample. Others are acceptable.

Corrections: 4 uncorrected duplicate samples, average difference = 6.4RMDL. Large lab corrections relative to sample level.

Conclusion: Precision is acceptable. Large laboratory corrections for duplicate samples.

Monitoring Lab Corrections: 12 uncorrected samples, average difference = 4.8RMDL, maximum difference = 10.6RMDL. Large, erratic laboratory corrections exist.

Conclusion: Lab corrections are significant.

Conclusion: Data is equivocal.

Du Pont Canada Inc., Kingston
PR 0600 - Flake Effluent

1,1,2,2-Tetrachloroethane (ATG 16): RMDL=4.3 µg/L, NO, 12 monitoring samples, average = 0.23RMDL, maximum = 0.23RMDL

Travelling Spiked Blanks: 3 samples, average spike = 1.2RMDL. Recoveries are 104, 20 and 84%.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

1,1,2-Trichloroethane (ATG 16): RMDL=0.6 µg/L, NO, 12 monitoring samples, average = 0.35RMDL

Travelling Spiked Blanks: 3 samples, average spike = 8.3RMDL. Recoveries are 112, 160 and 94%.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

1,2-Dichloroethane (ATG 16): RMDL=0.8 µg/L, NO, 12 monitoring samples, average = 0.25RMDL

Travelling Spiked Blanks: 3 samples, average spike level = 6.3RMDL. Recoveries are 116, 146, and 122%.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Acrolein (ATG 18): RMDL=40 µg/L, NO, 12 monitoring samples, average = RMDL

Travelling Spiked Blanks: 3 samples, average spike = 5RMDL. Recoveries are 41, 7 and 67%.

Conclusion: Recoveries are marginal.

Conclusion: Data is acceptable.

Du Pont Canada Inc., Kingston (cont'd)
PR 0600 - Flake Effluent

Boron (ATG 9): RMDL=50 µg/L, IL, 12 monitoring samples, average = 1.1RMDL, maximum = 1.8RMDL

Travelling Blanks: 3 samples, average = 1.07RMDL, maximum = 1.2RMDL. 1 travelling blank = 60 µg/L. Other travelling blank ratios are RMDL. Conclusion: Insufficient data to validate presence in travelling blanks. Contamination is possible.

Precision: 2 split samples, average difference = 2.1RMDL. Poor agreement for one split pair: monitoring = 50 µg/L, split = 260 µg/L. Results for the other split pair are both <DL.

Conclusion: Insufficient data to validate precision.

Conclusion: Data is acceptable.

Cis-1,3-Dichloropropylene (ATG 16): RMDL=1.4 µg/L, NO, 12 monitoring samples, average = 0.36RMDL, maximum = 0.36RMDL

Travelling Spiked Blanks: 3 samples, average spike = 4.4RMDL. Recoveries are 102, 203 and 92%.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Mercury (ATG 12): RMDL = 0.1 µg/L, FL, 12 monitoring samples, average = 1.7RMDL, maximum = 3RMDL

Travelling Blanks: 3 samples, average = 1.3RMDL. One travelling blank with minor contamination (0.2 µg/L) on 90/07/17, monitoring = 0.28 µg/L. Others travelling blanks are = RMDL.

Conclusion: Insufficient data to validate presence in travelling blanks.

Conclusion: Data is acceptable.

Du Pont Canada Inc., Kingston (cont'd)
PR 0600 - Flake Effluent

Sulphide (ATG 15): RMDL=20 $\mu\text{g/L}$, NO, 12 monitoring samples, average = 0.5RMDL, maximum = 0.5RMDL

Precision: 2 split samples, average difference = 1.4RMDL. 1 split sample pair shows poor agreement: monitoring = 10 $\mu\text{g/L}$, split = 67 $\mu\text{g/L}$. Results for the other split pair are both <DL.

Conclusion: Insufficient data to validate precision.

Conclusion: Data is acceptable.

Toluene (ATG 17): RMDL=0.5 $\mu\text{g/L}$, NO, 12 monitoring samples, average = 0.42RMDL

Travelling Spiked Blanks: 3 samples, average spike = 10RMDL. Recoveries are 106, 158 and 114%.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Trans-1,3-dichloropropylene (ATG 16): RMDL=1.4 $\mu\text{g/L}$, NO, 12 monitoring samples, average = 0.36RMDL, maximum = 0.36RMDL

Travelling Spiked Blanks: 3 samples, average spike = 2.9RMDL. Recoveries are 102, 175 and 95%.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Du Pont Canada Inc., Kingston (cont'd)
PR 0600 - Flake Effluent

Trichlorofluoromethane (ATG 16): RMDL = 1 µg/L, NO, 12 monitoring samples, average = RMDL

Travelling Spiked Blanks: 3 samples, average spike = 5RMDL. Recoveries are 80, 72 and 180%.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Du Pont Canada Inc., Kingston (cont'd)
PR 1000 - Staple Sewer - Limited QC Available.

Oil and Grease (ATG 25): RMDL = 1 mg/L, FH, 46 monitoring samples, average = 250RMDL, maximum = 1,504RMDL

Travelling Blanks: 2 samples, average = 25RMDL. 1 unusual travelling blank result (49.2 mg/L), monitoring = 49.2 mg/L. Other travelling blank is <DL.

Conclusion: Insufficient data to validate presence in travelling blanks.

Conclusion: Data is acceptable.

Total Suspended Solids (ATG 8): RMDL = 5 mg/L, FH, 143 monitoring samples, average = 13.6RMDL

Precision: 4 duplicate duplicates, average difference = 6.2RMDL. 1 duplicate pair shows poor agreement: monitoring = 54 mg/L, duplicate = 131.9 mg/L. The other 3 duplicate pairs show excellent agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Du Pont Canada Inc., Maitland
PR 0300 - WTP Effluent

Acrolein (ATG 18): RMDL=4 µg/L, FH, 4 monitoring samples, average = 28RMDL

Travelling Spiked Blanks: 2 samples, average spike = 5RMDL. Recoveries are 5 and 59%.

Conclusion: Recoveries are low. Insufficient data to assess recoveries.

Conclusion: Parameter had <WE problems.

Cyanide Total (ATG 2): RMDL=0.005 mg/L, FH, 48 monitoring samples, average = 41RMDL

Precision: 3 split samples, average difference = 20RMDL. Agreement is poor for one sample: monitoring = 0.27 µg/L, split = 0.005 µg/L (non-detect). Other split samples show good agreement.

Conclusion: Insufficient information to assess precision.

Conclusion: Data is acceptable.

Total Phosphorus (ATG 6): RMDL=0.1 mg/L, FH, 151 monitoring samples, average = 42RMDL, maximum = 235RMDL

Travelling Blanks: 12 samples, average = 7.4RMDL. Unusual result for 1 travelling blank (7.8 mg/L). All other travelling blanks are <RMDL.

Conclusion: Travelling blanks are negligible.

Precision: 1 duplicate/11 split samples, average split difference = 10RMDL, maximum split difference = 77RMDL. Precision is poor on one split pair: monitoring = 7.8 mg/L, split = 0.1 mg/L. Others QA/QC data shows acceptable precision. High difference ratios are coupled with high monitoring ratios.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Du Pont Canada Inc., Whitby
CO 0200 - Nylon Line Combined Effluent

Oil and Grease (ATG 25): RMDL=1 mg/L, IM, 45 monitoring samples, average = 1.3RMDL, maximum = 5RMDL

Travelling Blanks: 3 samples, average = 1.33RMDL, maximum = 2RMDL. Possible false positives.

Conclusion: Travelling blank contamination may be significant.

Conclusion: Data is equivocal.

Esso Chemical Canada, Sarnia
PR 0200 - Carbon Contactor Effluent

Aluminum (ATG 9): RMDL=30 µg/L, FL, 12 monitoring samples, average = 2.5RMDL

Travelling Blanks: 4 samples, average = 1.7RMDL. 1 unusual result (111 µg/L), monitoring = 90 µg/L. Others are acceptable.

Conclusion: Travelling blanks are negligible.

Conclusion: Data is acceptable.

DOC (ATG 5): RMDL=0.5 mg/L, FH, 152 monitoring samples, average = 8.8RMDL

Travelling Blanks: 11 samples, average = 2.4RMDL, maximum = 7.8RMDL. Significant contamination for 3 samples. 11 samples for the intake stream, average = 1.5RMDL, maximum = 2.6RMDL. Minor contamination for 3 samples.

Conclusion: Travelling blanks are negligible.

Precision: 11 duplicate/1 split samples, average duplicate difference = 2.1RMDL, maximum duplicate difference = 10RMDL. Poor agreement on 1 duplicate sample: monitoring = 2.5 µg/L, duplicate = 7.6 µg/L. Others are acceptable.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Esso Chemical Canada, Sarnia (cont'd)

PR 0200 - Carbon Contactor Effluent

Vinyl Chloride (ATG 16): RMDL=4 µg/L, IL, 44 monitoring samples, average = 0.63RMDL

Travelling Spiked Blanks: 2 samples, average spike = 2.5RMDL. Recoveries are 13% and 35%. Recoveries for the intake stream are 13% and 19%.

Conclusion: Insufficient QA/QC data to assess recoveries. Reported recoveries are low.

Conclusion: Data is equivocal.

Ethyl Canada Inc., Corunna

PR 0300 - TEL Process Effluent

1,1,2-Trichloroethane (ATG 16): RMDL=0.6 µg/L, FL, 12 monitoring samples, average = 16.8RMDL, maximum = 40RMDL

Travelling Spiked Blanks: 4 samples, average spike = 33.3RMDL. Recoveries are 3, 100, 100 and 100%.

Conclusion: Recoveries are acceptable.

Conclusion: Parameter has '<WE' remark code problem. Data is acceptable.

1,1-Dichloroethane (ATG 16): RMDL=0.8 µg/L, FL, 12 monitoring samples, average = 11.7RMDL

Precision: 3 duplicate samples, average difference = 958RMDL. 1 duplicate pair shows poor agreement: monitoring = 0.5 µg/L, duplicate = 2,300 µg/L, uncorrected duplicate = 0.5 µg/L. Possible entry error or sample mix-up with duplicate. Results for one pair are both <DL. Results for the other pair are both qualified by the < remark code.

Conclusion: Insufficient data to assess precision. Precision is acceptable.

Conclusion: Parameter has '<WE' remark code problem. Data is acceptable.

Ethyl Canada Inc., Corunna (cont'd)
PR 0300 - TEL Process Effluent

1,1-Dichloroethylene (ATG 16): RMDL=2.8 µg/L, FL, 12 monitoring samples, average = 4.5RMDL

Monitoring Lab Corrections: 12 uncorrected samples, average difference = 1.82RMDL. 1 large correction (difference = 21.7RMDL) reported.

Conclusion: Lab corrections are acceptable.

Conclusion: Parameter has ' < WE' remark code problem. Data is acceptable.

1,2-Dichloroethane (ATG 16): RMDL=0.8 µg/L, FH, 91 monitoring samples, average = 3095RMDL

Precision: 4 duplicate samples, average difference = 1656RMDL. Poor agreement for 1 pair and marginal for 2 pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	0.4 µg/L	3,100 µg/L
2)	3,300 µg/L	2,200 µg/L
3)	4,300 µg/L	3,300 µg/L

2 split samples. Poor agreement for one pair: monitoring = 3,300 µg/L, split = 2,300 µg/L.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

1-Methylnaphthalene (ATG 19): RMDL=3.2 µg/L, FM, 12 monitoring samples, average = 5.5RMDL

Travelling Spiked Blanks: 4 samples, average spike = 6.3RMDL. Recoveries are 75, 120, 11 and 50%.

Conclusion: Recoveries are low.

Conclusion: Data is acceptable.

Ethyl Canada Inc., Corunna (cont'd)
PR 0300 - TEL Process Effluent

2-Methylnaphthalene (ATG 19): RMDL=2.2 µg/L, FM, 12 monitoring samples, average = 5.2RMDL

Travelling Spiked Blanks: 4 samples, average spike = 9.1RMDL. Recoveries are 85, 95, 7.5 and 50%.

Conclusion: Recoveries are low.

Precision: 1 duplicate/2 split samples, average split difference = 1.6RMDL, maximum split difference = 2.5RMDL. Precision is marginal for all samples.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

Aluminum (ATG 9): RMDL=30 µg/L, FH, 182 monitoring samples, average = 671RMDL

Precision: 2 duplicate/ 3 split samples, average duplicate difference = 117RMDL, average split difference = 48RMDL. 1 duplicate sample with poor agreement: monitoring = 11,000 µg/L, duplicate = 18,000 µg/L. Other duplicate and split pairs show good agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Benzene (ATG 17): RMDL=0.5 µg/L, FL, 12 monitoring samples, average = 20RMDL

Monitoring Lab Corrections: 12 uncorrected samples, average difference = 23RMDL. Erratic corrections were made.

Conclusion: Lab corrections are significant.

Conclusion: Parameter has '<WE' remark code problem. Data is equivocal.

Ethyl Canada Inc., Corunna (cont'd)
PR 0300 - TEL Process Effluent

Biphenyl (ATG 19): RMDL=0.6 µg/L, FH, 12 monitoring samples, average = 8.6RMDL

Travelling Spiked Blanks: 4 samples, average spike = 33RMDL. Recoveries are 85, 100, 8 and 50%.

Conclusion: Recoveries are low.

Precision: 1 duplicate/2 split samples, average split difference = 2.9RMDL. Precision is poor for 1 split sample pair: monitoring = 3.4 µg/L, split = 6.3 µg/L.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Chloroform (ATG 16): RMDL=0.7 µg/L, FL, 12 monitoring samples, average = 35.5RMDL

Travelling Blanks: 4 samples, average = 0.57RMDL. All samples are <RMDL (not detected).

Corrections: 4 uncorrected travelling blank samples. 1 large correction of 5.6RMDL, travelling blank is 0.57RMDL.

Conclusion: Travelling blanks are negligible.

Monitoring Lab Corrections: 12 uncorrected samples, average difference = 28RMDL. 3 samples have unusually large corrections. 1 sample's corrected concentration is larger than its uncorrected value. Other corrections are reasonable.

Conclusion: Lab corrections are acceptable.

Conclusion: Data is acceptable. Selected in streams PR 0200 and PR 0300 based on data with the '<' remark code. Selection in CO 0100 is not qualified by remark codes.

Ethyl Canada Inc., Corunna (cont'd)
PR 0300 - TEL Process Effluent

Chloromethane (ATG 16): RMDL=3.7 µg/L, FH, 80 monitoring samples, average = 64.8RMDL

Precision: 4 duplicate/2 split samples, average duplicate difference = 16RMDL and average split difference = 35RMDL. 1 split sample with poor agreement: monitoring = 440 µg/L, split = 180 µg/L. Other difference ratios are acceptable compared to monitoring ratios. All duplicate and split correction ratios = 0.

Conclusion: Precision is acceptable.

Conclusion: Parameter has '<WE' remark code problem. Data is acceptable.

Indole (ATG 19): RMDL=1.9 µg/L, FH, 12 monitoring samples, average = 230RMDL

Travelling Spiked Blanks: 4 samples, average spike = 10.5 RMDL. Recoveries are 90, 6, 6 and 55%.

Conclusion: Recoveries are low.

Precision: 1 duplicate/2 split samples, average split difference = 153RMDL. Poor precision for both split samples:

	<u>Monitoring</u>	<u>Split</u>
1)	440 µg/L	840 µg/L
2)	310 µg/L	490 µg/L

Results for duplicate sample pair are both <DL.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

Lead (ATG 9): RMDL=30 µg/L, FH, 278 monitoring samples, average = 557RMDL

Precision: 2 duplicate samples, average difference = 147RMDL. maximum difference = 220RMDL. Precision poor for both pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	5,000 µg/L	2,800 µg/L
2)	6,400 µg/L	13,000 µg/L

3 split samples. Precision is acceptable for all split samples.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

Ethyl Canada Inc., Corunna (cont'd)

PR 0300 - TEL Process Effluent

Methylene Chloride (ATG 16): RMDL=1.3 µg/L, FH, 91 monitoring samples, average = 426RMDL, maximum = 8,538RMDL

Travelling Spiked Blanks: 5 samples, average spike = 15.4 RMDL. Recoveries range from 45 to 110% (average = 80%). 4 samples show acceptable recovery.

Conclusion: Recoveries are acceptable.

Precision: 4 duplicate samples, average difference = 42.3RMDL. Poor agreement for one sample: monitoring = 400 µg/L, duplicate 280 µg/L. 2 split samples. Both samples show acceptable agreement.

Corrections: Large correction for 1 duplicate sample (108RMDL) and both split samples (110RMDL and 154RMDL).

Conclusion: Precision is acceptable.

Monitoring Lab Corrections: 80 uncorrected samples, average difference = 64RMDL.

Inconsistent laboratory blank corrections.

Conclusion: Lab corrections are significant.

Conclusion: Parameter has '<WE' remark code problem. Data is acceptable.

Naphthalene (ATG 19): RMDL=1.6 µg/L, FM, 81 monitoring samples, average = 3.6RMDL

Travelling Spiked Blanks: 5 samples, average spike = 12.5RMDL. Recoveries range from 50-90 % (average = 72%). 1 sample with marginal spike recovery.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Ethyl Canada Inc., Corunna (cont'd)

PR 0300 - TEL Process Effluent

Toluene (ATG 17): RMDL=0.5 µg/L, FH, 12 monitoring samples, average = 650RMDL, maximum = 1,040RMDL

Monitoring Lab Corrections: 12 uncorrected samples, average difference = 143RMDL, maximum difference = 820RMDL. 5 samples have significant corrections compared to the level of monitoring concentration. 1 sample is a possible entry error with monitoring concentration higher than the uncorrected value.

Conclusion: Lab corrections are significant.

Conclusion: Data is equivocal.

Total Phosphorus (ATG 6): RMDL=0.1 mg/L, FL, 12 monitoring samples, average = 1.8RMDL, maximum = 11RMDL

Travelling Blanks: 4 samples, average = 0.84RMDL. 1 sample with minor contamination (0.13 mg/L), monitoring = 0.069 mg/L.

Conclusion: Travelling blanks are negligible.

Conclusion: Data is acceptable.

m-Xylene and p-Xylene (ATG 17): RMDL=1.1 µg/L, FL, 12 monitoring samples, average = 7.6RMDL

Monitoring Lab Corrections: 12 uncorrected samples, average difference = 5.5RMDL. Large and erratic corrections on 3 samples.

Conclusion: Lab corrections are acceptable.

Conclusion: Data is acceptable.

G. E. Plastics Canada Ltd., Cobourg
CO 0100 - Clarifier Effluent to Lake

Acrylonitrile (ATG 18): RMDL=4.2 µg/L, IH, 50 monitoring samples, average = 1.1RMDL, maximum = 23.6RMDL

Travelling Spiked Blanks: 4 samples, average spike = 23.8RMDL. Recoveries are from 21 % to 102 %. Recovery is poor for 1 sample. Other recoveries are acceptable.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable. Parameter was selected in storm water stream only.

Guardsman Products Ltd., Cornwall
OT 0100 - Southeast Drain to River

QA/QC data was not required.

Morbern Inc., Cornwall

OT 0100 - East Cooling Water to River

Benzene (ATG 17): RMDL=0.5 $\mu\text{g/L}$, IM, 13 monitoring samples, average = 1.4RMDL

Travelling Blanks: 4 samples, average = 0.9RMDL.

Corrections: 4 uncorrected travelling blank samples, average difference = 2RMDL, maximum = 3RMDL. Travelling blanks have significant corrections.

Conclusion: Significant lab corrections for travelling blanks.

Travelling Spiked Blanks: 4 samples, average spike = 11RMDL. Recoveries are 68, 116, 52 and 48%. Erratic recoveries.

Corrections: 4 uncorrected travelling spiked blanks, average difference = 2.7RMDL. Correction are significant.

Conclusion: Recoveries are erratic and significant lab corrections for travelling spiked blanks.

Precision: 4 duplicate samples, average difference = 2.9RMDL. Poor agreement between 2 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	2.9 $\mu\text{g/L}$	0.9 $\mu\text{g/L}$
2)	0.19 $\mu\text{g/L}$	3.3 $\mu\text{g/L}$

Corrections: 4 uncorrected duplicate samples, average difference = 2.48RMDL. All corrections are significant compared to duplicate concentration.

Conclusion: Precision is limited and significant lab corrections for duplicate samples.

Monitoring Lab Corrections: 13 uncorrected samples, average difference = 1.6RMDL. Significant corrections on 5 samples.

Conclusion: Lab corrections are significant.

Conclusion: Data is equivocal.

Bromomethane (ATG 16): RMDL=3.7 $\mu\text{g/L}$, IL, 13 monitoring samples, average = 0.85RMDL, maximum = 4RMDL

Travelling Spiked Blanks: 4 samples, average spike = 2.2RMDL. Recoveries are 98, 135, 6 and 179%. All corrections are <RMDL.

Conclusion: Recoveries are erratic.

Conclusion: Data is acceptable.

Morbern Inc., Cornwall (cont'd)
OT 0100 - East Cooling Water to River

Chloroform (ATG 16): RMDL=0.7 µg/L, FH, 13 monitoring samples, average = 13RMDL, maximum = 35.7RMDL

Travelling Spiked Blanks: 4 samples, average spike = 7.8RMDL. Recoveries are 69, 119, 21 and 317%. All corrections are < RMDL.

Conclusion: Recoveries are erratic.

Precision: 4 duplicate samples, average difference = 8RMDL. Precision is poor for 2 samples:

	<u>Monitoring</u>	<u>Duplicate</u>	<u>Uncorrected Duplicate</u>
1)	12 µg/L	0.55 µg/L	0.55 µg/L
2)	8 µg/L	0.55 µg/L	9.4 µg/L

Agreement is good for the other 2 duplicates.

Corrections: 1 large correction which may be cause for poor agreement for 1 duplicate pair. Other corrections are all < RMDL.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

Toluene (ATG 17): RMDL=0.5 µg/L, IH, 13 monitoring samples, average = 1.9RMDL, maximum = 5.6RMDL

Travelling Spiked Blanks: 4 samples, average spike = 11RMDL. Recoveries are 26, 121, 54 and 163%.

Corrections: 1 significant correction for sample with 26% recovery (expected result = 3 µg/L, measured result = 0.78 µg/L, uncorrected result 2.1 µg/L). Recovery may be underestimated for that sample. Other corrections are reasonable.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Morbern Inc., Cornwall (cont'd)
OT 0100 - East Cooling Water to River

o-Xylene (ATG 17): RMDL=0.5 µg/L, IL, 13 monitoring samples, average = 1.3RMDL

Travelling Spiked Blanks: 4 samples, average spike = 1.3RMDL. Recoveries are 68, 117, 57 and 310%. All corrections are <RMDL.

Conclusion: Recoveries are erratic.

Conclusion: Data is equivocal.

Zinc (ATG 9): RMDL=10 µg/L, FM, 13 monitoring samples, average = 4.3RMDL

Precision: 4 duplicate samples, average difference = 3RMDL. Poor agreement for 1 duplicate pair: monitoring = 119 µg/L, duplicate = 14 µg/L. Other duplicates show acceptable agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Novacor Chemicals Ltd., Mooretown
CO 0100 - Final Effluent to River

Chloroform (ATG 16): RMDL=0.7 µg/L, NO, 2 monitoring samples, average = 0.57RMDL

Monitoring Lab Corrections: 2 uncorrected samples (difference are 0 and 2.43RMDL).

Conclusion: Insufficient data to assess lab contamination.

Conclusion: Data is acceptable. Selected only at intake stream.

Novacor Chemicals Ltd., Mooretown (cont'd)
CO 0100 - Final Effluent to River

Total Phosphorus (ATG 6): RMDL=0.1 mg/L, FM, 50 monitoring samples, average = 4.1 RMDL.

Travelling Blanks: 3 samples, average = 1.8RMDL. 1 sample contaminated (0.36 mg/L), monitoring = 0.37 mg/L. Other 2 travelling blanks are acceptable.

Conclusion: Insufficient data to validate presence in travelling blanks.

Conclusion: Data is acceptable.

Polysar Ltd., Sarnia
PR 1800 - Biox Plant Effluent

Acrolein (ATG 18): RMDL=4 µg/L, IH, 75 monitoring samples, average = 1.04RMDL, maximum = 7.15RMDL

Travelling Spiked Blanks: 6 samples, average spike = 21.1RMDL. Poor recovery for one sample analyzed by Lab 1 (41%) and over-recovery for one sample analyzed by Lab 2 (340%). Recoveries for other 4 samples analyzed by Lab 1 are acceptable (81-120%).

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable for Lab 1. Problems with Lab 2 should be investigated.

Polysar Ltd., Sarnia (cont'd)
PR 1800 - Biox Plant Effluent

Aluminum (ATG 9): RMDL=30 $\mu\text{g/L}$, FH, 154 monitoring samples, average = 48.5RMDL, maximum = 213 RMDL

Precision: 12 duplicate samples, average difference = 30.5RMDL, maximum difference = 110RMDL. Precision poor for 5 pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	1500 $\mu\text{g/L}$	4400 $\mu\text{g/L}$
2)	1500 $\mu\text{g/L}$	400 $\mu\text{g/L}$
3)	1300 $\mu\text{g/L}$	360 $\mu\text{g/L}$
4)	490 $\mu\text{g/L}$	3800 $\mu\text{g/L}$
5)	520 $\mu\text{g/L}$	1300 $\mu\text{g/L}$

Other pairs show marginal agreement.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

Benzene (ATG 17): RMDL=0.5 $\mu\text{g/L}$, IM, 155 monitoring samples, average = 3.2RMDL

Monitoring Lab Corrections: 155 uncorrected samples, average difference = 2.3RMDL, maximum difference = 23.6RMDL. Erratic and significant laboratory corrections compared to level of samples.

Conclusion: Lab corrections are significant.

Conclusion: Data is equivocal.

Polysar Ltd., Sarnia (cont'd)
PR 1800 - Biox Plant Effluent

Bis(2-ethylhexyl)phthalate (ATG 19): RMDL=2.2 µg/L, FL, 50 monitoring samples, average = 3.3RMDL

Travelling Blanks: 4 samples, average = 22RMDL. Unusual results for 2 travelling blanks (53 µg/L and 140 µg/L), monitoring = 10 µg/L and 3.2 µg/L respectively.

Conclusion: Travelling blanks are significant.

Travelling Spiked Blanks: 4 samples, average spike = 9.1RMDL. Poor recovery for one sample (55%) and over-recovery for one sample (600%). Recoveries for other 2 samples are acceptable. Corrections are all acceptable.

Conclusion: Recoveries are erratic.

Precision: 4 duplicate samples, average difference = 5.1RMDL. Precision is poor for one pair: monitoring = 10 µg/L, duplicate = 48 µg/L. Other pairs show good agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is equivocal.

Bromodichloromethane (ATG 16): RMDL=0.8 µg/L, IH, 71 monitoring samples, average = 0.9RMDL, maximum = 8.3RMDL

Monitoring Lab Corrections: 71 uncorrected samples, average difference = 79RMDL, maximum difference = 5,625RMDL. High average difference ratio is due to one high correction.

Conclusion: Lab corrections are acceptable.

Conclusion: Data is acceptable.

Polysar Ltd., Sarnia (cont'd)
PR 1800 - Biox Plant Effluent

Chloromethane (ATG 16): RMDL=3.7 µg/L, IM, 155 monitoring samples, average = 1.1RMDL, maximum = 20.3RMDL

Travelling Spiked Blanks: 10 samples, average spike = 5.4RMDL. Erratic recovery for 3 samples (35, 220 and 31%). Other spikes have recoveries from 70 to 110%. Large correction for 1 sample.

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable.

Hexachlorobutadiene (ATG 23): RMDL=10 ng/L, IL, 50 monitoring samples, average = 0.45RMDL, maximum = 2.8RMDL

Travelling Spiked Blanks: 4 samples, average spike = 15.1RMDL. Recovery is marginal (60%) for one sample spiked at 0.5RMDL, poor (56%) for one sample spiked at 5RMDL and poor (6%) for one sample spiked at 50RMDL (possible entry error). The remaining sample spiked at 5RMDL had 80% recovery.

Conclusion: Recoveries are low.

Conclusion: Data is acceptable.

Polysar Ltd., Sarnia (cont'd)
PR 1800 - Biox Plant Effluent

Hexachloroethane (ATG 23): RMDL=10 ng/L, IH, 50 monitoring samples, average = 0.7RMDL, maximum = 7RMDL

Travelling Blanks: 4 samples, average = 1.4RMDL. One unusual travelling blank result (50 ng/L, remark code '<WE'), monitoring = 30 µg/L, remark code '<WE'.

Conclusion: Travelling blanks are negligible.

Travelling Spiked Blanks: 4 samples, average spike = 7.8RMDL. Poor recovery (55%) for one sample spiked at RMDL and poor recovery (55%) for one sample spiked at 10RMDL. The remaining 2 samples spiked at 10RMDL have recoveries of 130%. Conclusion: Recoveries are low.

Precision: 4 duplicate samples, average difference = 1.4RMDL. 2 duplicate pairs show poor agreement:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	30 ng/L	1.7 ng/L
2)	1.7 ng/L	30 ng/L

Possibility of sample mixup. Other duplicate pairs are <DL.

Conclusion: Precision may be limited.

Conclusion: Data is acceptable.

Polysar Ltd., Sarnia (cont'd)
PR 1800 - Biox Plant Effluent

Methylene Chloride (ATG 16): RMDL = $1.3 \mu\text{g/L}$, IH, 155 monitoring samples, average = 1.6RMDL, maximum = 49RMDL

Travelling Blanks: 12 samples, average = 4.5RMDL. 1 unusual result ($65 \mu\text{g/L}$). Others travelling blanks are acceptable.

Corrections: 12 uncorrected travelling blank samples. Laboratory corrections to travelling blanks are significant and erratic (average difference = 2.1RMDL, maximum difference = 6.2RMDL).

Conclusion: Travelling blanks are negligible.

Travelling Spiked Blanks: 10 samples, average spike = 15.4RMDL. 4 samples show unacceptable recovery (25, 20, 49, 55%).

Corrections: 11 uncorrected travelling spiked blank samples. Laboratory corrections are erratic.

Conclusion: Recoveries are low.

Precision: 12 duplicate samples, average difference = 0. All sample pairs are <DL or <WE. **Corrections:** 12 uncorrected duplicate samples. Laboratory corrections are significant (average difference = 2.1RMDL, maximum difference = 5.8RMDL).

Conclusion: Precision is acceptable.

Monitoring Lab Corrections: 155 uncorrected samples, average difference = 4.8RMDL. Corrections are erratic.

Conclusion: Lab corrections are significant.

Conclusion: Data is acceptable.

Polysar Ltd., Sarnia (cont'd)
PR 1800 - Biox Plant Effluent

Toluene (ATG 17): RMDL=0.5 µg/L, IH, 75 monitoring samples, average = 2.8RMDL

Travelling Blanks: 7 samples, average = 0.8RMDL.

Corrections: 7 uncorrected travelling blank samples, average difference = 3.9RMDL.

Erratic corrections were made to the travelling blanks.

Conclusion: Travelling blanks are negligible.

Travelling Spiked Blanks: 7 samples, average spike = 35RMDL. Over-recovery for 1 sample (204%). Other recoveries are in the range 60-90%.

Corrections: 7 uncorrected travelling spiked blank samples, average difference = 6.9RMDL.

Erratic and significant corrections were made to the travelling spiked blanks.

Conclusion: Recoveries are acceptable.

Precision: 7 duplicate samples, average difference = 6.8RMDL. Poor agreement for 1 duplicate pair: monitoring = 24 µg/L, duplicate = 0.4 µg/L. Other duplicates show acceptable agreement.

Corrections: 8 uncorrected duplicate samples, average difference = 4.1RMDL. Corrections are significant.

Conclusion: Precision is acceptable.

Monitoring Lab Corrections: 75 uncorrected samples, average difference = 6.9RMDL, maximum difference = 53.2RMDL. Erratic and some very large corrections were made to the monitoring samples.

Conclusion: Lab corrections are significant.

Conclusion: Data is equivocal.

Polysar Ltd., Sarnia (cont'd)
PR 1800 - Biox Plant Effluent

Total Suspended Solids (ATG 8): RMDL=5 mg/L, FM, 154 monitoring samples, average = 3RMDL, maximum = 12RMDL

Precision: 12 duplicate samples, average difference = 2RMDL. Precision is poor for 3 pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	48 mg/L	8 mg/L
2)	5 mg/L	30 mg/L
3)	4.2 mg/L	18 mg/L

Other pairs show good agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Trichlorofluoromethane (ATG 16): RMDL=1 μ g/L, IH, 76 monitoring samples, average = 1.1RMDL

Travelling Spiked Blanks: 7 samples, average spike = 18RMDL. Poor recovery for 1 sample analyzed by Polysar (26%). All other samples were analyzed by Lab 1 and have acceptable recoveries (95-130%).

Conclusion: Recoveries are acceptable.

Conclusion: Data is acceptable for Lab 1. Problems with Lab 2 laboratory should be investigated.

Rohm and Haas Canada Inc., Morrisburg
PR 0200 - Oil Additives Process Effluent

Chloroform (ATG 16): RMDL=0.7 µg/L, FH, 12 monitoring samples, average = 9.5RMDL

Travelling Blanks: 4 samples, average = 2.9RMDL, maximum = 9.9RMDL.
Contamination indicated in 1 travelling blank (6.93 µg/L), monitoring sample = 0.42 µg/L.
All other travelling blanks are <RMDL.
Conclusion: Travelling blanks are negligible.

Monitoring Lab Corrections: 11 uncorrected samples, average difference = 6.4RMDL.
3 significant corrections:

	<u>Monitoring</u>	<u>Uncorrected</u>
1)	1.70 µg/L	4.6 µg/L
2)	0.4 µg/L	34 µg/L remark code <DL
3)	0.4 µg/L	6.4 µg/L

Large correction for 2) above probable data entry error.

Conclusion: Lab corrections are acceptable.

Conclusion: Data is acceptable.

Toluene (ATG 17): RMDL=0.50 µg/L, FH, 12 monitoring samples, average = 103RMDL

Travelling Spiked Blanks: 4 samples, average spike = 40RMDL. 1 sample with poor recovery (2%). Other recoveries are acceptable (85-90%). Corrections are reasonable.
Conclusion: Recoveries are acceptable.

Monitoring Lab Corrections: 11 uncorrected samples, average difference = 10RMDL.
Possible data entry error for one correction: monitoring = 12.0 µg/L, uncorrected = 0.40 µg/L. Corrections are erratic but the bulk of large corrections are not significant compared to the level of the monitoring sample.

Conclusion: Lab corrections are acceptable.

Conclusion: Data is acceptable.

Rohm and Haas Canada Inc., Morrisburg (cont'd)

PR 0200 - Oil Additives Process Effluent

o-Xylene (ATG 17): RMDL=0.50 µg/L, FM, 12 monitoring samples, average = 13.3RMDL

Precision: 4 duplicate samples, average difference = 5.5RMDL, maximum difference = 14RMDL. Difference ratios are acceptable compared to level of concentrations.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Rohm and Haas Canada Inc., Scarborough

OT 0100 - Storm Sewer

QA/QC data was not required.

Stepan Canada Inc., Longford Mills
PR 0200 - Clarifier Effluent

Aluminum (ATG 9): RMDL=30.0 $\mu\text{g/L}$, FH, 156 monitoring samples, average = 27.9RMDL

Travelling Blanks: 11 samples, average = 4.2RMDL, maximum = 20.6RMDL. 2 unusually high results (420 $\mu\text{g/L}$ and 617 $\mu\text{g/L}$). Other travelling blanks are acceptable.
Conclusion: Travelling blanks are negligible.

Precision: 11 duplicate samples, average difference = 5.2RMDL, maximum difference = 17RMDL. Agreement is poor between 3 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	30 $\mu\text{g/L}$	299 $\mu\text{g/L}$
2)	549 $\mu\text{g/L}$	37 $\mu\text{g/L}$
3)	473 $\mu\text{g/L}$	51 $\mu\text{g/L}$

Agreement is marginal between 2 other duplicate pairs. Other 6 duplicates are acceptable.
Conclusion: Precision is limited.

Conclusion: Data is acceptable.

Boron (ATG 9): RMDL=50.0 $\mu\text{g/L}$, FL, 12 monitoring samples, average = 1.2RMDL, maximum = 2.1RMDL

Travelling Blanks: 4 samples, average = 1.03RMDL, maximum = 2.2 RMDL. Possible false positives.
Conclusion: Travelling blanks are significant.

Conclusion: Data is unsuitable.

Carbon Tetrachloride (ATG 16): RMDL=1.30 $\mu\text{g/L}$, FL, 156 monitoring samples, average = 3.9RMDL

Travelling Spiked Blanks: 11 samples, average spike = 4.8RMDL. Recoveries range from 32 to 112% (average = 68%). 5 samples have <60% recovery.
Conclusion: Recoveries are low.

Conclusion: Data is equivocal.

Stepan Canada Inc., Longford Mills (cont'd)

PR 0200 - Clarifier Effluent

Chloroform (ATG 16): RMDL=0.70 µg/L, FH, 156 monitoring samples, average = 11.3RMDL

Travelling Spiked Blanks: 11 samples, average spike = 8.5RMDL. Recoveries range from 18 to 107% (average = 68%). 3 samples have < 50% recovery. 3 samples have recoveries between 60-70%.

Conclusion: Recoveries are acceptable.

Precision: 11 duplicate/2 split samples, average duplicate difference = 3.6RMDL, maximum duplicate difference = 14RMDL. 1 split sample shows poor agreement. Others are acceptable, high difference ratios are due to high level samples.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

PCBT (ATG 27): RMDL=0.10 µg/L, FM, 12 monitoring samples, average = 300RMDL

Precision: 4 duplicate samples, average difference = 253RMDL. High duplicate difference is due to high monitoring concentration.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Stepan Canada Inc., Longford Mills (cont'd)
PR 0200 - Clarifier Effluent

Zinc (ATG 9): RMDL=10.0 µg/L, FM, 155 monitoring samples, average = 4.6RMDL

Travelling Blanks: 11 samples, average = 2.85RMDL. 2 travelling blanks are significant (225 µg/L, 30 µg/L). Other travelling blanks are ≤ RMDL. **Conclusion:** Travelling blanks are negligible.

Precision: 11 duplicate samples, average difference = 2.3RMDL, maximum difference = 9.5RMDL. Agreement is poor between 3 duplicate pairs:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	10 µg/L	54 µg/L
2)	91 µg/L	52 µg/L
3)	171 µg/L	76 µg/L

Agreement is marginal between 2 other duplicate pairs. Other 6 duplicates are acceptable. **Conclusion:** Precision is acceptable.

Conclusion: Data is acceptable.

Uniroyal Chemical Ltd., Elmira
CO 0900 - Outfall #11 to River

Nitrate+Nitrite (ATG 4): RMDL=0.25 mg/L, FM, 12 monitoring samples, average = 6.8RMDL

Precision: 4 duplicate samples, average difference = 2RMDL. Agreement is poor for one sample pair: monitoring = 0.024 mg/L, duplicate = 1.8 mg/L.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Uniroyal Chemical Ltd., Elmira (cont'd)
CO 0900 - Outfall #11 to River

Oil and Grease (ATG 25): RMDL=1 mg/L, FL, 51 monitoring samples, average = 2.8RMDL, maximum = 67RMDL

Precision: 4 duplicate samples, average difference = 575RMDL. Poor agreement for two samples:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	0.96 mg/L	2,300 mg/L
2)	3.5 mg/L	0.96 mg/L

The other two duplicates show good agreement.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

Phenolics (4AAP) (ATG 14): RMDL=2 µg/L, FM, 51 monitoring samples, average = 4.7RMDL

Precision: 4 duplicate samples, average difference = 3RMDL. Poor agreement for 1 sample: monitoring = 2 µg/L, duplicate = 25 µg/L. Other duplicates show good agreement.

Conclusion: Precision is acceptable.

Conclusion: Data is acceptable.

Uniroyal Chemical Ltd., Elmira (cont'd)
CO 0900 - Outfall #11 to River

Toluene (ATG 17): RMDL=0.5 µg/L, IH, 148 monitoring samples, average = 458RMDL

Travelling Blanks: 12 samples, average = 0.8RMDL.

Corrections: 12 uncorrected travelling blank samples, average difference = 3.4RMDL, maximum = 6.6RMDL. Significant corrections for travelling blanks.

Conclusion: Lab corrections for travelling blanks are significant.

Precision: 11 duplicate samples, average difference = 8.2RMDL. Precision is marginal for 3 samples:

	<u>Monitoring</u>	<u>Duplicate</u>	<u>Uncorrected Duplicate</u>
1)	2.8 µg/L	7.3 µg/L	10 µg/L
2)	7.2 µg/L	0.2 µg/L	8.2 µg/L
3)	25 µg/L	48 µg/L	48 µg/L

Two samples pairs >RMDL show good precision. Other duplicate pairs are <DL.

Corrections: 11 uncorrected duplicate samples, average difference = 8.2RMDL, maximum difference = 40RMDL. 6 duplicate samples have significant corrections compared to level of duplicate sample.

Conclusion: Precision may be limited. Lab correction for duplicate samples are significant.

Monitoring Lab Corrections: 137 uncorrected samples, average difference = 4.5RMDL.

The high monitoring data is influenced largely by 9 consecutive analysis from 90/01/22 to 90/02/07 with ratios ranging from 1000RMDL to 18,600RMDL and by 2 consecutive analysis on 90/05/21 and 90/05/22 with ratios of 1820RMDL and 2200RMDL. For the bulk of the monitoring data (108 data points <DL), there are significant and erratic laboratory corrections.

Conclusion: Significant laboratory corrections.

Conclusion: Data is equivocal.

Uniroyal Chemical Ltd., Elmira (cont'd)

CO 0900 - Outfall #11 to River

Zinc (ATG 9): RMDL=10 $\mu\text{g/L}$, FM, 12 monitoring samples, average = 3.9RMDL

Precision: 4 duplicate samples, average difference = 11.7RMDL. Poor agreement for 2 samples:

	<u>Monitoring</u>	<u>Duplicate</u>
1)	4 $\mu\text{g/L}$	72 $\mu\text{g/L}$
2)	130 $\mu\text{g/L}$	520 $\mu\text{g/L}$

Other 2 duplicates show good agreement.

Conclusion: Precision is limited.

Conclusion: Data is acceptable.

APPENDIX E

FOUND/CLASSIFIED PARAMETER TABLES

<u>PLANT</u>	<u>PAGE</u>
Akzo Chemicals Ltd. - Sarnia	E-2
Amoco Canada Resources Ltd. - Sarnia	E-3
B.F. Goodrich Canada Inc. - Thorold	E-4
BASF Canada Inc. - Arnprior	E-5
BASF Canada Inc. - Sarnia	E-5
Canadianoxy Chemicals Ltd. - Fort Erie	E-6
Celanese Canada Inc. - Millhaven	E-7
Chinook Group Ltd. - Sombra	E-8
Cornwall Chemicals Ltd. - Cornwall	E-9
Courtaulds Fibres Canada - Cornwall	E-10
Dow Chemical Canada Inc. - Sarnia	E-11
Du Pont Canada Inc. - Corunna	E-14
Du Pont Canada Inc. - Kingston	E-14
Du Pont Canada Inc. - Maitland	E-16
Du Pont Canada Inc. - Whitby	E-18
Esso Chemical Canada - Sarnia	E-19
Ethyl Canada Inc. - Corunna	E-20
GE Plastics Canada Ltd. - Cobourg	E-22
Guardsman Products Ltd. - Cornwall	E-23
Morbern Inc. - Cornwall	E-23
Novacor Chemicals Ltd. - Mooretown	E-24
Polysar Ltd. - Sarnia	E-25
Rohm and Haas Canada Inc. - Morrisburg	E-27
Rohm and Haas Canada Inc. - Scarborough	E-28
Stepan Canada Inc. - Longford Mills	E-28
Uniroyal Chemical Ltd. - Elmira	E-29

Table E1 - Found Parameters for Akzo Chemicals Ltd. - Sarnia

ATG	PARAMETER	OT	ST
		0100	0300
4	Ammonia plus Ammonium		A
	Nitrate+Nitrite	A	A
	Total Kjeldahl Nitrogen		A
5	DOC	A	A
	TOC		A
7	Specific conductance		A
8	Total suspended solids		A
9	Aluminum	A	A
	Copper		A
	Zinc	A	A
14	Phenolics (4AAP)	A	A
25	Oil and grease		A

NOTE: A = data are acceptable

SAMPLING POINTS

IN 0600 - Intake Water to Site (no data)

OT 0100 - Reactor #4 Cooling Water to River

ST 0300 - Reactor Building Storm Water

Table E2 - Found Parameters for Amoco Canada Resources Ltd. - Sarnia

ATG	PARAMETER	CO	ST
		0100	0400
1	COD	A	
4	Ammonia plus Ammonium Nitrate+Nitrite		A
	Total Kjeldahl Nitrogen	A	A
5	DOC	A	A
	TOC	A	A
6	Total phosphorus	A	A
7	Specific conductance	A	A
8	Total suspended solids	A	A
9	Aluminum	A	A
	Boron	A	A
	Copper	A	A
	Molybdenum	A	
	Zinc	A	A
10	Arsenic	A	
12	Mercury	A	
14	Phenolics (4AAP)	A	A
15	Sulphide	A	A
16	1,1-Dichloroethane	A	
	1,2-Dichlorobenzene	A	
	1,4-Dichlorobenzene	A	
	Bromodichloromethane	A	
	Carbon tetrachloride	A	
	Chlorobenzene	A	
	Chloroform	A	
17	Benzene	A	
	Toluene	A	
	m-Xylene and p-Xylene	A	
	o-Xylene	A	
25	Oil and grease	A	A

NOTE: A = data are acceptable

SAMPLING POINTS

IN 0800 - Intake Water to Site (no data)

CO 0100 - API Separator Effluent to River

ST 0400 - West Storm Drain

Table E3 - Found Parameters for B.F. Goodrich Canada Inc. - Thorold

ATG	PARAMETER	IN	PR
		0600	0100
1	COD	A	A
2	Cyanide Total		A
4	Ammonia plus Ammonium Nitrate+Nitrite	A	A
	Total Kjeldahl Nitrogen	A	A
5	DOC	A	A
	TOC	A	A
6	Total phosphorus		A
7	Specific conductance		A
8	Total suspended solids	A	A
	Volatile suspended solids		A
9	Aluminum	A	A
	Boron	A	A
	Molybdenum		A
	Zinc	A	A
11	Chromium (hexavalent)		A
14	Phenolics (4AAP)	A	A
15	Sulphide	A	A
16	Chloroform		A
	Methylene chloride	A	A
	Trichloroethylene		A
	Vinyl chloride		A
17	Toluene	A	
24	Octachlorodibenzo-p-dioxin	L	A
25	Oil and grease	A	A
PP1	BOD, 5 day, Total Demand		A

NOTE: A = data are acceptable

L = found on basis that LMDL did not meet RMDL

SAMPLING POINTS

IN 0600 - Intake Water to Site

PR 0100 - Final Effluent to River

Table E4 - Found Parameters for BASF Fibres Inc. - Arnprior

ATG	PARAMETER	OT
		0100
4	Total Kjeldahl Nitrogen	A
5	DOC	A
	TOC	A
6	Total phosphorus	A
9	Aluminum	A
	Copper	A
	Vanadium	A
	Zinc	A
14	Phenolics (4AAP)	A

NOTE: A = data are acceptable

SAMPLING POINTS

IN 0300 - Intake Water to Site (no data)

OT 0100 - Storm Discharge to River.

Table E5 - Found Parameters for BASF Canada Inc. - Sarnia

ATG	PARAMETER	IN	OT	OT
		0500	0100	0200
4	Total Kjeldahl Nitrogen		A	A
5	DOC	A	A	A
8	Total suspended solids		A	
9	Aluminum	A	A	A
	Copper			E
	Lead			A
	Zinc	L	L	E
14	Phenolics (4AAP)	E		E
17	Ethylbenzene		A	
	Styrene		A	
	Toluene	A		
18	Acrylonitrile		A	
25	Oil and grease		A	A

NOTE: A = data are acceptable

E = data are equivocal

L = found on basis that LMDL did not meet RMDL

SAMPLING POINTS

IN 0500 - Intake Water to Site

OT 0100 - #2 Plant Storm Sewer to River

OT 0200 - #1 Plant Storm Sewer to River

Table E6 - Found Parameters for Canadianoxy Chemicals Ltd. - Fort Erie

ATG	PARAMETER	IN	OT
		0400	0100
5	DOC	A	A
9	Aluminum	A	A
	Chromium		A
	Zinc		A
14	Phenolics (4AAP)		A
25	Oil and grease		A

NOTE: A = data are acceptable

SAMPLING POINTS

IN 0400 - Intake Water to Site

OT 0100 - Final Effluent to River

Table E7 - Found Parameters for Celanese Canada Inc. - Millhaven

ATG	PARAMETER	IN 0900	PR 0400	CO 0100	CO 0200	CO 0300	ST 0700
1	COO		A	A			
4	Ammonia plus Ammonium Nitrate+Nitrite Total Kjeldahl Nitrogen	A	A A	A A	A	A	
5	DOC TOC	A	A A	A	A	A	A A
6	Total phosphorus		A	A			A
8	Total suspended solids Volatile suspended solids	A	A A	A	A		A
9	Aluminum Copper Zinc	A A A	A A A	A A A	A A A	A A A	A A A
10	Antimony		A	A			A
11	Chromium (hexavalent)	A					A
14	Phenolics (4AAP)					A	
15	Sulphide			A			
16	1,2-Dichloroethane Methylene chloride	L A	L	L A	L	L	
25	Oil and grease						A
PP1	BOD, 5 day, Total Demand			A			

NOTE: A = data are acceptable

L = found on basis that LMDL did not meet RMDL

SAMPLING POINTS

IN 0900 - Intake Water to Site

PR 0400 - Treatment Plant Effluent flows into CO 0100

CO 0100 - Centre Outfall to Lake

CO 0200 - West Outfall to Lake

CO 0300 - East Outfall to Lake

ST 0700 - East Storm Ditch

Table E8 - Found Parameters for Chinook Group Ltd. - Sombra

ATG	PARAMETER	IN	CO	ST
		0400	0100	0200
1	COD		A	
2	Hydrogen ion (pH)		A	
4	Ammonia plus Ammonium		A	A
	Nitrate+Nitrite		A	A
	Total Kjeldahl Nitrogen		A	A
5	DOC	A	A	A
	TOC		A	
6	Total phosphorus		A	A
7	Specific conductance		A	A
8	Total suspended solids		A	A
9	Aluminum	A	A	A
	Boron			A
	Chromium		A	
	Copper			A
	Nickel			A
	Zinc		A	A
11	Chromium (hexavalent)		A	
16	Bromodichloromethane	L	L	
	Methylene chloride		A	
19	Diphenyl ether	L	L	
25	Oil and grease		A	A

NOTE: A = data are acceptable

L = found on basis that LMDL did not meet RMDL

SAMPLING POINTS

IN 0400 - Intake Water to Site

CO 0100 - Sump Effluent to River

ST 0200 - Storm Sump Effluent

Table E9 - Found Parameters for Cornwall Chemicals Ltd. - Cornwall

ATG	PARAMETER	IN	PR
		0300	0100
1	COD		A
3	Hydrogen ion (pH)		A
4	Nitrate+Nitrite	A	
	Total Kjeldahl Nitrogen		A
5	DOC	A	A
	TOC		A
6	Total phosphorus		A
7	Specific conductance		A
8	Total suspended solids	A	A
9	Aluminum	A	A
	Beryllium	L	
	Boron		A
	Cadmium	L	
	Copper	A	A
	Molybdenum	L	
	Nickel		A
	Thallium	L	
	Vanadium	L	
	Zinc	A	A
12	Mercury	A	A
14	Phenolics (4AAP)	A	
15	Sulphide		A
16	Bromodichloromethane	A	A
	Carbon tetrachloride		A
	Chloroform	A	A
	Chloromethane		A
	Methylene chloride		A
	Tetrachloroethylene		A
	Trichloroethylene		A
23	1,2,3-Trichlorobenzene	A	
	Hexachlorobenzene		A
	Hexachlorobutadiene		A
	Hexachlorocyclopentadiene	L	L
	Hexachloroethane		A
25	Oil and grease		A

NOTE: A = data are acceptable
L = found on basis that LMDL did not meet RMDL

SAMPLING POINTS
IN 0300 - Intake Water to Site
PR 0100 - Manhole 26 Effluent to River

Table E10 - Found Parameters for Courtaulds Fibres Canada - Cornwall

ATG	PARAMETER	IN 1300	PR 0100	PR 0300	CO 0500	CO 0600	CO 0700	CO 0800
1	COD	A	A	A	A	A		A
3	Hydrogen ion (pH)		A	A		A	A	A
4	Nitrate+Nitrite Total Kjeldahl Nitrogen		A	A				A
5	DOC TOC	A	A A	A A	A A	A	A	A
6	Total phosphorus		A	A	A			
7	Specific conductance		A	A				A
8	Total suspended solids Volatile suspended solids		A A	A A	A A	A	A	A
9	Aluminum Boron Cadmium Chromium Copper Lead Nickel Zinc	A	A A A A A A A	A A A A A	A A A	A	A	A
11	Chromium (hexavalent)		A		A			
12	Mercury		A	A	A	A	A	
14	Phenolics (4AAP)		E	E	E	E	E	E
15	Sulphide	A	A	A	A	A	A	A
16	1,2-Dichloroethane Chloroform		U E	U E	U R	U R		U
17	Toluene			E	R			
20	Phenol		A					
25	Oil and grease		A	A	A	A	A	A

NOTE: A = data are acceptable
 E = data are equivocal
 U = data are unsuitable
 R = analysis difficulties were encountered

SAMPLING POINTS

IN 1300 - Intake Water to Site
 PR 0100 - Acid Sewer to River
 PR 0300 - Alkaline Sewer to River
 CO 0500 - Storm Sewer to River

CO 0600 - Acid Recovery Sewer to River
 CO 0700 - CS2 Sewer to River
 CO 0800 - Caravelle Sewer to River

Table E11 - Found Parameters for Dow Chemical Canada - Sarnia

ATG	PARAMETER	IN	PR	PR	PR	PR	PR	CO	CO	CO	CO	CO	CO	OT	OT
		0100	1200	1600	1700	1900	2000	2100	0200	0500	0600	0700	0900	0300	1000
1	COD	A		A	A	A	A	A					A		
2	Cyanide Total							A							
3	Hydrogen ion (pH)			A											
4	Ammonia plus Ammonium Nitrate+Nitrite Total Kjeldahl Nitrogen	A	A	A	A	A	A	A	A	A	A	A	A	A	A
5	DOC	A	A	A	A	A	A	A	A	A	A	A	A	A	A
6	Total phosphorus							A							A
7	Specific conductance		A	A	A	A	A	A		A			A		
8	Total suspended solids	A	A	A	A	A	A	A	A	A	A	A	A	A	A
9	Volatile suspended solids		A	A											
9	Aluminum		E	E	E	E	E	E	E	E	E				E
	Boron														
	Chromium			A		A		A							
	Copper		A	A	A	A	A								
	Lead		L	L	L	L	L								L
	Molybdenum														
	Nickel		L	L	L	L	L	A							
	Vanadium			A	A										
	Zinc			A	A	A		A							
12	Mercury														
14	Phenolics (4AAP)		E	E	E	E	E	E	E	E	E	E	E	E	E
15	Sulphide		A	A	A	A	A	A	A	A	A	A	A	A	A

Table E11 (cont'd) - Found Parameters for Dow Chemical Canada - Sarnia

ATG	PARAMETER	IN	PR	PR	PR	PR	PR	CO	CO	CO	CO	CO	CO	OT	OT
		0100	1200	1600	1700	1900	2000	2100	0200	0300	0500	0600	0700	0900	1000
16	1,1,2,2-Tetrachloroethane				A										
	1,1,2-Trichloroethane				A				A						
	1,1-Dichloroethane				A				A						
	1,1-Dichloroethylene				A				A						
	1,2-Dichloroethane			A	A				A				A		A
	1,2-Dichloropropane				E	E			E	E					
	Bromodichloromethane		E	E											
	Bromoform				E										
	Carbon tetrachloride														
	Chloroform			A	A				A	L	A	L	L	L	L
	Chloromethane	L	A	A	A				A	L	L	L	L	L	L
	Cis-1,3-Dichloropropylene	A													
	Dibromochloromethane				A										
	Methylene chloride			E	E										
	Tetrachloroethylene			A	A				A	A	E	A	A		A
	Trichloroethylene			A	A				A	A					
	Vinyl chloride				A										
17	Benzene					A						A			
	Ethylbenzene			A		A							A		
	Styrene					A									
19	o-Xylene			A											
	2-Chloronaphthalene														
	Biphenyl	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Bis(2-chloroethyl)ether			A	A	A									
	Bis(2-chloroisopropyl)ether				A	A									
20	Naphthalene		L			L									
	2,3,4,5-Tetrachlorophenol	L	L	L	L	L	L	L	L	L			L	L	L
	2,3,4-Trichlorophenol	L	L	L	L	L	L	L					L	L	L

Table E11 (cont'd) - Found Parameters for Dow Chemical Canada - Sarnia

ATG	PARAMETER	IN	PR	PR	PR	PR	PR	PR	CO	CO	CO	CO	CO	OT	OT
		0100	1200	1600	1700	1900	2000	2100	0200	0500	0600	0700	0900	0300	1000
23	1,2,4,5-Tetrachlorobenzene					A									
	1,2,4-Trichlorobenzene	A	A		A			A	A	A	A	A	A	A	
	2,4,5-Trichlorotoluene				A			A	A	A	A				
	Hexachlorobenzene			A				A	A						
	Hexachlorobutadiene							A	A					A	
	Hexachlorocyclopentadiene			A				A	A						
	Hexachloroethane			A				A	A						
	Octachlorostyrene							A	A						
24	Total TCDF					A		A							
	Total PCDF			A		A		A							
	Total PCDF			A		A		A							
	Total HxCDF			A		A		A							
	Total HxCDF			A		A		A							
	Total HxCDF			A		A		A							
	Total HxCDF			A		A		A							
	Octachlorodibenzo-p-dioxin			A		A		A							
	Octachlorodibenzofuran			A		A		A				A			
25	Oil and grease	A		A		A		A		A		A		A	

NOTE: A = data are acceptable

E = data are equivocal

L = found on basis that LMD did not meet RMDL

SAMPLING POINTS

IN 0100 - Intake Water to Site
 PR 1200 - Throx Stripper Effluent flows into CO 0500
 PR 1600 - Tank Car Wash (Building 88) flows into CO 0900
 PR 1700 - Block 90 Feed (Buildings 35 & 39) flows into CO 0900
 PR 1900 - Biox Plant Effluent flows into CO 0900
 PR 2000 - Boiler Feedwater Effluent flows into CO 0900
 PR 2100 - Scott Road Treated Runoff to River
 CO 0200 - 42 inch Outfall to River
 CO 0500 - 54 inch Sluice Outfall to River
 CO 0600 - 2nd Street Outfall to River
 CO 0700 - 3rd Street Outfall to River
 CO 0900 - 4th Street Outfall to River
 OT 0300 - 48 inch Outfall to River
 OT 1000 - 5th Street Outfall to River

Table E12 - Found Parameters for Du Pont Canada Inc. - Corunna

ATG	PARAMETER	IN 0100	CO 0200	CO 0400
1	COD	A	A	
4	Nitrate+Nitrite Total Kjeldahl Nitrogen	A	A	A
5	DOC TOC	A	A A	A
8	Total suspended solids	A	A	A
9	Aluminum Copper Zinc	A E A	A E A	A E A
14	Phenolics (4AAP)	A	A	A
15	Sulphide	A	A	A
16	1,1-Dichloroethane	A		
17	Toluene		E	E
25	Oil and grease		A	A

NOTE: A = data are acceptable
E = data are equivocal

SAMPLING POINTS

IN 0100 - Intake Water to Site

CO 0200 - Final Effluent to River

CO 0400 - Pellet Pond Effluent flows into CO 0200

Table E13 - Found Parameters for Du Pont Canada Inc. - Kingston

ATG	PARAMETER	IN 1300	PR 0600	PR 1000	CO 0700	CO 1100
1	COD		A	A	A	A
4	Nitrate+Nitrite Total Kjeldahl Nitrogen		A	A	A	A
5	DOC TOC	A	A A	A A	A A	A A
6	Total phosphorus			A	A	A
8	Total suspended solids Volatile suspended solids		A A	A A		A
9	Aluminum Boron Copper Zinc	A A A	A A A	A A A	A A A	A A A

Table E13 (cont'd) - Found Parameters for Du Pont Canada Inc. - Kingston

ATG	PARAMETER	IN 1300	PR 0600	PR 1000	CO 0700	CO 1100
12	Mercury		A			
14	Phenolics (4AAP)			A	A	A
15	Sulphide			A		
16	1,1,2,2-Tetrachloroethane			R		
	1,1,2-Trichloroethane			R		
	1,1-Dichloroethane			R		
	1,2-Dichloroethane			R		
	1,2-Dichloropropane			R		
	Bromodichloromethane	A	A	A	A	A
	Bromoform			R		
	Bromomethane			R		
	Chlorobenzene			R		
	Chloroform	A	A	A	A	A
	Chloromethane			R		
	Cis-1,3-Dichloropropylene			R		
	Dibromochloromethane	A	A	R	A	A
	Ethylene dibromide			R		
	Methylene chloride			R		
	Tetrachloroethylene			R		
	Trans-1,3-Dichloropropylene			R		
	Trichlorofluoromethane			R		
	Vinyl chloride			R		
17	Benzene			A		
	Ethylbenzene			R		
	Styrene			R		
	Toluene			R		
	o-Xylene			R		
18	Acrolein			R		
	Acrylonitrile			R		
19	Biphenyl		A	A	A	A
	Diphenyl ether		A	A	A	A
24	Total TCDD			A		
	Octachlorodibenzo-p-dioxin			A		
25	Oil and grease		A	A	A	A

NOTE: A = data are acceptable

R = analysis difficulties were encountered

SAMPLING POINTS

IN 1300 - Intake Water to Site

PR 0600 - Flake Effluent flows into CO 1100

PR 1000 - Staple Sewer flows into CO 1100

CO 0700 - Service Sewer to Lake

CO 1100 - Catch Tank Effluent to Lake

Table E14 - Found Parameters for Du Pont Canada Inc. - Maitland

ATG	PARAMETER	IN 1000	PR 0300	CO 0400	CO 0500	CO 0700	CO 1100	ST 0800	ST 0900
1	COD		A	A	A	A	A		
2	Cyanide Total		A		A	A	A		
3	Hydrogen ion (pH)			A					
4	Ammonia plus Ammonium		A			A	A		A
	Nitrate+Nitrite	A	A	A	A	A	A		A
	Total Kjeldahl Nitrogen		A		A	A	A		A
5	DOC	A	A	A	A	A	A	A	A
	TOC		A				A	A	A
6	Total phosphorus		A				A		A
7	Specific conductance		A	A	A			A	A
8	Total suspended solids		A	A		A	A	A	A
	Volatile suspended solids		A				A		
9	Aluminum	A	A	A	A	A	A	A	A
	Boron	A	A	A				A	A
	Chromium		A						
	Cobalt		A						
	Copper		A		A		A	A	A
	Nickel		A						A
	Vanadium		A						
	Zinc		A				A	A	A
10	Antimony			A			A	A	
	Arsenic			A					A
14	Phenolics (4AAP)		A	A					A

Table E14 (cont'd) - Found Parameters for Du Pont Canada Inc. - Maitland

ATG	PARAMETER	IN 1000	PR 0300	CO 0400	CO 0500	CO 0700	CO 1100	ST 0800	ST 0900
16	1,1,2,2-Tetrachloroethane		R	R				R	
	1,1,2-Trichloroethane		R	R				R	
	1,1-Dichloroethane		R	R				R	
	1,1-Dichloroethylene			R				R	
	1,2-Dichlorobenzene			R				R	
	1,2-Dichloroethane		R	R				A	
	1,2-Dichloropropane		R	R				R	
	1,3-Dichlorobenzene			R				R	
	1,4-Dichlorobenzene			R				R	
	Bromodichloromethane	A	R	A	A	R	A	R	
	Bromoform		R	R				R	
	Bromomethane		R	R				R	
	Carbon tetrachloride			A	R	R	A	A	
	Chlorobenzene		R	R		R		R	
	Chloroform	A	A	A	A	A	A	A	
	Chloromethane		R	R				R	
	Cis-1,3-Dichloropropylene		R	R				R	
	Dibromochloromethane		R	R		R		R	
	Ethylene dibromide		R	R				A	
	Methylene chloride		R	R				A	
	Tetrachloroethylene		R	A	R	A	A	A	
	Trans-1,2-Dichloroethylene			R				R	
	Trans-1,3-Dichloropropylene		R	R				R	
	Trichloroethylene			R				R	
	Trichlorofluoromethane		R	A	R	A	A	A	
	Vinyl chloride		R	R				R	
17	Benzene		A	R	R	A	A		
	Ethylbenzene		R	R					
	Styrene		R	R					
	Toluene		R	R			R		
	m-Xylene and p-Xylene			R					
	o-Xylene		R	R					
18	Acrolein		R	R					
	Acrylonitrile		R	R					
23	Hexachlorobenzene			A					
	Hexachloroethane			A					
24	Octachlorodibenzo-p-dioxin		A			A			
	Octachlorodibenzofuran			A		A			
25	Oil and grease		A			A	A	A	A

NOTE: A = data are acceptable

R = analysis difficulties were encountered

SAMPLING POINTS

IN 1000 - Intake Water to Site

PR 0300 - WTP Effluent flows into CO 1100

CO 0400 - CFH Effluent flows into CO 0700

CO 0500 - Spandex, Polymers, Powerhouse Effluent flows into CO 1100

CO 0700 - Cribbed Ditch flows into CO 1100

CO 1100 - Site Effluent to River

ST 0800 - East Ditch to River

ST 0900 - South Smades Creek

Table E15 - Found Parameters for Du Pont Canada Inc. - Whitby

ATG	PARAMETER	IN 0900	CO 0200	OT 0300	OT 0400	OT 0500	OT 0600	ST 0100
1	COD		A					
4	Nitrate+Nitrite		A					
5	DOC	A	A	A	A	A	A	A
	TOC		A					A
8	Total suspended solids						A	
9	Aluminum	A	A	A	A	A	A	A
	Copper			A			A	
	Zinc	A						A
14	Phenolics (4AAP)		A					A
16	Bromodichloromethane		A					
	Chloroform		A					
	Dibromochloromethane		A					
25	Oil and grease		E					E

NOTE: A = data are acceptable
E = data are equivocal

SAMPLING POINTS

IN 0900 - Intake Water to Site
CO 0200 - Nylon Line Combined Effluent to River
CO 0700 - Reclaim Unit #1 Contact Water to River (no data)
OT 0300 - Nylon Line Cooling Water to River
OT 0400 - Polyethylene Extrusion Water South to River
OT 0500 - Reclaim Unit #2 Water to River
OT 0600 - Polyethylene Extrusion Water North to River
ST 0100 - Vexar Line Effluent

Table E16 - Found Parameters for Esso Chemical Canada - Sarnia

ATG	PARAMETER	IN	PR	CO
		0100	0200	0300
1	COD		A	A
2	Cyanide Total			A
3	Hydrogen ion (pH)			A
4	Nitrate+Nitrite	A	A	
5	DOC	A	A	A
	TOC		A	A
8	Total suspended solids	A	A	A
9	Aluminum	A	A	A
	Copper	A	A	A
	Zinc	A	A	A
14	Phenolics (4AAP)		A	A
16	Bromodichloromethane			A
	Chloroform		A	A
	Tetrachloroethylene		A	
	Vinyl chloride			E
17	Benzene		A	A
	Toluene			A
	m-Xylene and p-Xylene			A
	o-Xylene			A
23	Hexachlorobutadiene		A	A
	Hexachloroethane		A	
25	Oil and grease		A	A

NOTE: A = data are acceptable
E = data are equivocal

SAMPLING POINTS

IN 0100 - Intake Water to Site

PR 0200 - Carbon Contactor Effluent flows into CO 0300

CO 0300 - Effluent to River

Table E17 - Found Parameters for Ethyl Canada Inc. - Corunna

ATG	PARAMETER	IN 0800	PR 0200	PR 0300	CO 0100	ST 0400	ST 0500	ST 0600
1	COD	A	A	A				
3	Hydrogen ion (pH)		A	A	A	A		
4	Ammonia plus Ammonium Nitrate+Nitrite Total Kjeldahl Nitrogen	A	A	A	A			
5	DOC TOC	A	A	A	A	A	A	A
6	Total phosphorus		A	A	A	A	A	
7	Specific conductance		A	A	A	A	A	A
8	Total suspended solids Volatile suspended solids		A	A	A	A	A	A
9	Aluminum Boron Chromium Copper Lead Nickel Thallium Zinc	A	A	A	A	A	A	A
10	Antimony							A
12	Mercury		A	A	A		A	A
13	Tetra-alkyl lead (Total) Tri-alkyl lead (Total)		A	A	A	A	A	A
14	Phenolics (4AAP)		A	A	A	A	A	A
15	Sulphide	A	A	A	A			

Table E17 (cont'd) - Found Parameters for Ethyl Canada Inc. - Corunna

ATG	PARAMETER	IN 0800	PR 0200	PR 0300	CO 0100	ST 0400	ST 0500	ST 0600
16	1,1,2,2-Tetrachloroethane		R	R	R			
	1,1,2-Trichloroethane		R	R	R			R
	1,1-Dichloroethane		A	R	A			R
	1,1-Dichloroethylene		R	R	R			R
	1,2-Dichlorobenzene		R	R	R			R
	1,2-Dichloroethane		A	A	A			A
	1,2-Dichloropropane		R	R	R			R
	1,3-Dichlorobenzene		R	R	R			R
	1,4-Dichlorobenzene		R	R	R			R
	Bromodichloromethane		R	R	R			R
	Bromoform		R	R	R			
	Bromomethane		R	R	R			R
	Carbon tetrachloride		R	R	R			R
	Chlorobenzene		R	R	R			R
	Chloroform		R	R	A			R
	Chloromethane		A	A	R			R
	Cis-1,3-Dichloropropylene		R	R	R			R
	Dibromochloromethane		R	R	R			R
	Ethylene dibromide		A	A	R			A
	Methylene chloride		A	A	R			R
	Tetrachloroethylene		R	R	R			R
	Trans-1,2-Dichloroethylene		R	R	R			R
	Trans-1,3-Dichloropropylene		R	R	R			R
	Trichloroethylene		R	R	R			R
	Trichlorofluoromethane		R	R	R			R
	Vinyl chloride		R	R	R			R
17	Benzene	E/R	E/R	E/R				E/R
	Ethylbenzene		R	R	R			R
	Styrene		R	R	R			R
	Toluene	E/R	E	E	E			E/R
	m-Xylene and p-Xylene		R	R	R			R
	o-Xylene		R	R	R			R
19	1-Methylnaphthalene			A				
	2-Methylnaphthalene			A				
	Acenaphthene			A				
	Biphenyl			A				
	Fluorene			A				
	Indole			A	A			
	Naphthalene			A				
	Phenanthrene			A				
20	Phenol			A				
	m-Cresol			A				
	p-Cresol			A				
25	Oil and grease		A	A	A	A	A	A

NOTE: A = data are acceptable
 E = data are equivocal
 R = analysis difficulties were encountered

SAMPLING POINTS

IN 0800 - Intake Water to Site
 PR 0200 - Neutralization Pit Effluent flows into CO 0100
 PR 0300 - TEL Process Effluent flows into CO 0100
 CO 0100 - Final Effluent to River

ST 0400 - Northeast Ditch
 ST 0500 - Southwest Ditch
 ST 0600 - Northwest Ditch

Table E18 - Found Parameters for GE Plastics Canada Ltd. - Cobourg

ATG	PARAMETER	IN 0600	CO 0100	OT 0400	ST 0200	ST 0300
1	COD		A			
2	Cyanide Total		A		A	A
4	Ammonia plus Ammonium Nitrate+Nitrite Total Kjeldahl Nitrogen		A A A	A A A		
5	DOC TOC		A A	A A	A A	A A
6	Total phosphorus		A	A	A	A
7	Specific conductance		A	A		A
8	Total suspended solids Volatile suspended solids		A A	A A	A A	A A
9	Aluminum Cadmium Zinc	A A	A A A	A A A	A A A	A A A
10	Antimony		A	A	A	A
12	Mercury			A	A	A
14	Phenolics (4AAP)		A	A	A	A
15	Sulphide		A			
17	o-Xylene		A			
18	Acrylonitrile				A	
25	Oil and grease		A	A	A	A

NOTE: A = data are acceptable

SAMPLING POINTS

IN 0600 - Intake Water to Site
 CO 0100 - Clarifier Effluent to Lake
 OT 0400 - Cooling Water to Lake
 ST 0200 - Storm Water North
 ST 0400 - Storm Water South

Table E19 - Found Parameters for Guardsman Products Ltd. - Cornwall

ATG	PARAMETER	OT
		0100
5	DOC	A
	TOC	A
6	Total phosphorus	A
9	Aluminum	A
	Beryllium	A
	Cadmium	A
	Copper	A
	Molybdenum	A
	Zinc	A
17	Toluene	L

NOTE: A = data are acceptable

L = found on basis that LMDL did not meet RMDL

SAMPLING POINTS

IN 0400 - Intake Water to Site (no data)

OT 0100 - Southeast Drain to River

OT 0200 - Cooling Water (no data)

Table E20 - Found Parameters for Morbern Inc. - Cornwall

ATG	PARAMETER	OT	OT
		0100	0200
5	DOC	A	A
9	Aluminum	A	A
	Boron	A	
	Copper	A	
	Zinc	A	A
14	Phenolics (4AAP)	A	
16	1,2-Dichloroethane	L	L
	Bromodichloromethane	A	A
	Bromomethane	A	
	Chloroform	A	A
	Dibromochloromethane	A	A
17	Benzene	E	
	Toluene	A	A
	o-Xylene	E	

NOTE: A = data are acceptable

E = data are equivocal

L = found on basis that LMDL did not meet RMDL

SAMPLING POINTS

IN 0400 - Intake Water to Site (no data)

OT 0100 - East Cooling Water to River

OT 0200 - Cooling Water to River

Table E21 - Found Parameters for Novacor Chemicals Ltd. - Mooretown

ATG	PARAMETER	IN	CO	ST	ST
		0600	0100	0200	0400
1	COD		A		
3	Hydrogen ion (pH)		A		
4	Ammonia plus Ammonium		A		
	Nitrate+Nitrite		A		
	Total Kjeldahl Nitrogen		A		
5	DOC	L	A	A	A
	TOC		A	A	A
6	Total phosphorus		A	A	A
7	Specific conductance		A		
8	Total suspended solids		A	A	A
9	Aluminum	A	A	A	A
	Zinc		A	A	A
14	Phenolics (4AAP)		A		A
16	Chloroform	A			
	Dibromochloromethane	A			
25	Oil and grease		A		

NOTE: A = data are acceptable

L = found on basis that LMDL did not meet RMDL

SAMPLING POINTS

IN 0600 - Intake Water to Site

CO 0100 - Final Effluent to River

ST 0200 - Retention Ponds Discharge

ST 0400 - West Ditch Runoff

Table E22 - Found Parameters for Polysar Ltd. - Sarnia

[illegible]

Table E22 (cont'd) - Found Parameters for Polysar Ltd. - Sarnia

ATG	PARAMETER	IN 2400	PR 0300	PR 0900	PR 1800	CO 0200	CO 0400	CO 0500	CO 1100	OT 1400	ST 1300	ST 1500	ST 1600	ST 2200
17	Benzene		E	E	E/R	E	E	E	E					
	Ethylbenzene		R	R										
	Styrene		R	R						A				
	Toluene		E	E/R	E/R		E/R	E						
	m-Xylene and p-Xylene		R	R										
	o-Xylene		R	R										
18	Acrolein		R	R										
	Acrylonitrile		R	R										
19	Bis(2-ethylhexyl) phthalate				E									
23	1,2,4-Trichlorobenzene				R									
	2,4,5-Trichlorotoluene								A					
	Hexachlorobenzene								A		A			A
	Hexachlorobutadiene	A				A		A	A					
	Hexachloroethane								R					
	Octachlorostyrene								A					
	Pentachlorobenzene								A					
25	Oil and grease		A	A	A		A				A	A		A

NOTE: A = data are acceptable
 E = data are equivocal
 R = analysis difficulties were encountered

SAMPLING POINTS

IN 2400 - Intake Water to Site
 PR 0300 - Crumb Separator flows into CO 0200
 PR 0900 - Butyl II flows into CO 0400
 PR 1800 - Biox Effluent to River
 CO 0200 - 72 inch Sewer to River
 CO 0400 - 66 inch Sewer to River
 CO 0500 - 54 inch Sewer to River

CO 1100 - Cole Drain to River
 OT 1400 - Turbine Cooling Water to River
 ST 1300 - Butyl II Storm Water
 ST 1500 - Salvage Area Drainage to River
 ST 1600 - Trade Waste Sewer to River
 ST 2200 - 24 inch Storm to River

Table E23 - Found Parameters for Rohm and Haas Canada Inc. - Morrisburg

ATG	PARAMETER	IN 0500	PR 0200	CO 0100	ST 0300	ST 0600
1	COD		A	A		
2	Cyanide Total		A			
4	Ammonia plus Ammonium Nitrate+Nitrite Total Kjeldahl Nitrogen			A A A		
5	DOC TOC		A	A A	A A	A A
6	Total phosphorus			A		
7	Specific conductance			A	A	A
8	Total suspended solids			A	A	
9	Aluminum Boron Copper Zinc			A A A A	A A A A	A A A A
14	Phenolics (4AAP)		A	A	A	A
15	Sulphide		A	A	A	A
16	Bromodichloromethane Chloroform Dibromochloromethane	A A	A A A	A A A		
17	Ethylbenzene Toluene m-Xylene and p-Xylene o-Xylene		A A A A	A		
25	Oil and grease		A	A	A	A

NOTE: A = data are acceptable

SAMPLING POINTS

IN 0500 - Intake Water to Site
 PR 0200 - Oil Additives Process Effluent flows into CO 0100
 CO 0100 - Final Outfall to River
 ST 0300 - West Ditch
 ST 0600 - North Ditch

Table E24 - Found Parameters for Rohm and Haas Canada Inc. - Scarborough

ATG	PARAMETER	OT
		0100
2	Cyanide Total	A
4	Nitrate+Nitrite Total Kjeldahl Nitrogen	A A
5	DOC	A
9	Aluminum Zinc	A A
14	Phenolics (4AAP)	A
25	Oil and grease	A

NOTE: A = data are acceptable

SAMPLING POINTS

IN 0300 - Intake Water to Site (no data)

OT 0100 - Storm Sewer to River

Table E25 - Found Parameters for Stepan Canada Inc. - Longford Mills

ATG	PARAMETER	IN	PR	CO
		0600	0200	0100
1	COD	A	A	A
3	Hydrogen ion (pH)			A
4	Ammonia plus Ammonium Nitrate+Nitrite Total Kjeldahl Nitrogen		A A A	
5	DOC TOC	A A	A A	A A
6	Total phosphorus		A	
7	Specific conductance		A	A
8	Total suspended solids Volatile suspended solids		A A	A
9	Aluminum Boron Copper Nickel Zinc	A A	A U A A A	A A
11	Chromium (hexavalent)		A	

Table E25 (cont'd) - Found Parameters for Stepan Canada Inc. - Longford Mills

ATG	PARAMETER	IN 0600	PR 0200	CO 0100
14	Phenolics (4AAP)	A	A	
15	Sulphide		A	A
16	Carbon tetrachloride Chloroform		E A	 A
25	Oil and grease		A	A
27	PCBT		A	

NOTE: A = data are acceptable
E = data are equivocal
U = data are unsuitable

SAMPLING POINTS

IN 0600 - Intake Water to Site

PR 0200 - Clarifier Effluent flows into CO 0100

CO 0100 - Effluent to Lake

Table E26 - Found Parameters for Uniroyal Chemical Ltd. - Elmira

ATG	PARAMETER	IN 1000	IN 1100	CO 0600	CO 0800	CO 0900	OT 0200	ST 0400
1	COD			A				
2	Cyanide Total							A
3	Hydrogen ion (pH)					A		A
4	Ammonia plus Ammonium Nitrate+Nitrite Total Kjeldahl Nitrogen	A A A	A A A	A A A	A A A	A A A	A A A	A A A
5	DOC TOC	A A	A A	A A	A A	A A	A A	A A
6	Total phosphorus	A	A	A	A	A		A
7	Specific conductance	A	A	A	A	A	A	A
8	Total suspended solids	A	A	A	A	A	A	A
9	Aluminum Boron Chromium Copper Lead Zinc		A A A A		A A A	A A A A		A A A A A A
12	Mercury			A				A

Table E26 (cont'd) - Found Parameters for Uniroyal Chemical Ltd. - Elmira

ATG	PARAMETER	IN 1000	IN 1100	CO 0600	CO 0800	CO 0900	OT 0200	ST 0400
14	Phenolics (4AAP)		A	A	A	A	A	A
15	Sulphide		A		A	A		
17	Toluene o-Xylene			E	E	E		E A
24	Total H6CDF					L		
	Total H7CDD					L		
	Total H7CDF					A		
	Octachlorodibenzo-p-dioxin					L		
	Octachlorodibenzofuran					A		
25	Oil and grease		A	A	A	A	A	A

NOTE: A = data are acceptable
 E = data are equivocal
 L = found on basis that LMDL did not meet RMDL

SAMPLING POINTS

IN 1000 - Intake Water to Site (Municipal or Canagagigue Creek)
 IN 1100 - Shirt Factory Creek to Site
 CO 0600 - Outfall #6 to River
 CO 0800 - Shirt Factory Creek from Site
 CO 0900 - Outfall #11 to River
 OT 0200 - Outfall #2 to River
 ST 0400 - Outfall #4 to River