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SEMIANNUAL MONITORING REPORT

CIBA-GEIGY FACILITY
180 MILL STREET
CRANSTON, RHODE ISLAND

MONITORING RESULTS

FOR

JUNE – DECEMBER 2001

CIBA SPECIALTY CHEMICALS CORPORATION
TOMS RIVER, NEW JERSEY 08754

SEMS DocID 657703

Ciba Specialty Chemicals Corporation
North America

Corporate
Remediation Services

RECD 1-30-02
F.B.

Ciba

January 28, 2002

Mr. Frank Battaglia (2 copies)
USEPA Region I
Office of Site Remediation and Restoration (HBT)
JFK Federal Building
Boston, MA 02203

Re: Semiannual Monitoring Report for July – December 2001
Ciba Specialty Chemicals, 180 Mill Street, Cranston, RI 02905
EPA ID RID001194323

Dear Mr. Battaglia:

Ciba is pleased to submit the semiannual monitoring report for the Ciba Specialty Chemicals facility located at 180 Mill Street, Cranston, RI. The report covers the monitoring activities and the results of these activities that were performed at the facility in October 2001. These monitoring activities are described in the Pawtuxet River Corrective Measures Study (PRCMS) Report (Section 3.5.1, page 3-12) as submitted to the USEPA in August 1996.

The Groundwater Extraction and Treatment System is controlling releases to the Pawtuxet River while long-term corrective measures to SWMU-11 are addressed by the SVE system.

If you have questions or need additional information, please contact me at 732 914-2537 of fax 732 914-2909.

Sincerely,

Barry Cohen

Barry Cohen
Compliance Manager

c: Ms. Margaret Dein Bradley, RIDEM

Oak Ridge Parkway
P.O. Box 71
Toms River, NJ 08754-0071
Tel. 732 914 2500

REC'D 1-30-02
F.B.

FILE COPY

SEMIANNUAL MONITORING REPORT

CIBA-GEIGY FACILITY
180 MILL STREET
CRANSTON, RHODE ISLAND

MONITORING RESULTS

FOR

JULY – DECEMBER 2001

CIBA SPECIALTY CHEMICALS CORPORATION
TOMS RIVER, NEW JERSEY 08754

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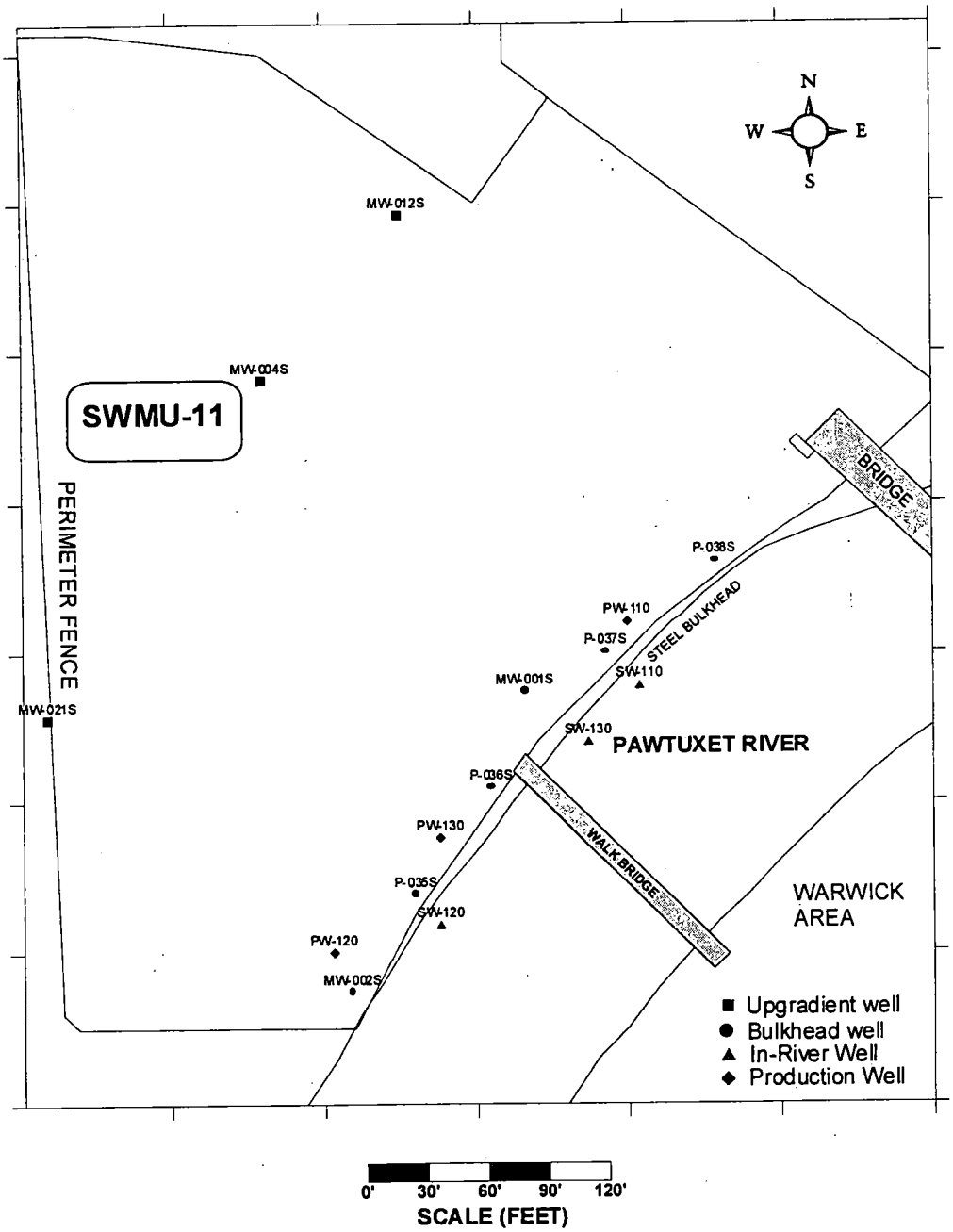
CIBA SPECIALTY CHEMICALS CORPORATION
(FORMERLY CIBA-GEIGY CORPORATION)
CRANSTON, RI FACILITY
FORMER PRODUCTION AREA

Chemical Well Monitoring Network



1.0 SUMMARY

On June 16, 1989, Ciba-Geigy Corporation (now Ciba Specialty Chemicals Corporation (Ciba)) entered into an Administrative Order on Consent (AOC) with the USEPA. The AOC required Ciba to conduct a Corrective Measures Study (CMS) and propose Media Protection Standards (MPSs) for the former manufacturing facility at Cranston, RI (the Facility). MPSs for five chemicals of concern (COC) were developed (see Table 1) and are monitored at 12 wells two times a year.

The second 2001 semiannual monitoring episode was performed on October 18-19, at which time 12 monitoring wells and 3 extraction wells were sampled and analyzed by Rhode Island Analytical for a suite of chemicals including the COC. Semiannual water level readings were recorded on October 16, 2001.

A third extraction well, PW-130, began operating on December 20, 1999. The new well complements the two existing extraction wells to achieve hydraulic capture of the plume along the bulkhead in the former Production area. The potentiometric surface map (Figure 2, Appendix A) for October 16, 2001, demonstrates capture along the entire bulkhead.

Two of the three extraction wells have experienced a decrease in capacity over time. Ciba contracted to have the well header piping replaced in the month of July 2001, and well rehabilitation for PW-110 and PW-130 in December 2001, using the AQUA FREED® process. The results of these combined efforts appear successful and are being further evaluated.

The results of the October 2001, sampling show 1,2-dichlorobenzene and chlorobenzene exceeding the MPS in two wells along the bulkhead and o-chlorotoluene and xylenes exceeding the MPS at one upgradient well (see Table 2). These results do not compare favorably to the last sampling of April 2001, when only one well (P-35S) along the bulkhead showed contamination exceeding the MPS for 1,2-dichlorobenzene and chlorobenzene.

The two contaminated wells along the bulkhead that exceed the MPS are MW-002S and P-035S. These two wells located at the southern end of the bulkhead have experienced increases in contamination of chlorinated aromatics since last half of 1999. As of December 1999, Ciba placed into service a new extraction well PW-130, which may be influencing the amount of contamination passing by these two monitoring wells as groundwater flux moves toward PW-130. Extraction well PW-130 pumps on average 23 GPM versus the 3 GPM for next nearest extraction well PW-120, and is within 100 feet of these two monitoring wells.

The one well upgradient with an MPS exceedance in o-chlorotoluene is MW-0021S. Though this well was within the MPS limit of 1500-ppb limit when last sampled in April 2001, the well

until the soil remediation at SWMU-11 is completed. The SWMU-11 vapor extraction wells are generally high in o-chlorotoluene reaching as much as 88,000-ppb.

The next monitoring episode is planned for April 2002.

2.0 OBJECTIVE

The objective of the monitoring program is to evaluate the Groundwater Extraction and Treatment System (GETS) on controlling releases to the Pawtuxet River while long-term corrective measures to areas of concern are now being addressed, specifically SWMU-11.

3.0 INTRODUCTION

In August 1996, Ciba submitted to the USEPA a Pawtuxet River Corrective Measures Study (PRCMS) Report. In the PRCMS report (Section 3.5.1, page 3-12) Ciba proposed to measure groundwater elevations in the former Production area quarterly during the first two years following startup of the groundwater capture system and then semiannually until the groundwater capture and pretreatment system were shutdown.

Therefore, groundwater elevation data is collected from 23 wells to show if shallow contaminated groundwater in the former Production area is hydraulically controlled from discharging into the Pawtuxet River.

Inclusive of the PRCMS Ciba also proposed to monitor groundwater quality at the Facility. Groundwater is sampled semiannually from 12 selected overburden-monitoring wells to evaluate changes in groundwater quality, specifically in the 5 chemicals of concern.

4.0 MEDIA PROTECTION STANDARDS

During the RCRA Facility investigation an MPS[1] was developed for each of five chemical contaminants detected in the former Production area groundwater. These contaminants and their respective MPSs are summarized in Table 1 and discussed in detail in the PRCMS Report, Section 2.4.1.

[1] From the Public Health and Environmental Risk Evaluation (PHERE) that concluded the sole receptor impacted by contaminated groundwater were benthic invertebrates in the shallow sediments of the Pawtuxet River.

Table 1
Media Protection Standards
of Chemical Of Concern
CIBA-GEIGY, Cranston R.I. Facility
Former Production Area

Compound	MPS Concentration (ppb)
1,2-dichlorobenzene	94
chlorobenzene	1700
ortho-chlorotoluene	1500
toluene	1700*
xylenes	76

* Rhode Island Groundwater Objective GB - Groundwater classified as GB has been designated by the Rhode Island Department of Environmental Management (RIDEM) as not suitable for public or private drinking water use.

5.0 SEMIANNUAL MONITORING RESULTS

This report summarizes the groundwater quality results for the COC sampling that was performed October 18-19, 2001. The COC data are compared to previous sampling rounds dating back to March 1996, when semiannual monitoring activities were initiated. Also in this report are results of the hydraulic monitoring performed on October 16, 2001. The current hydraulic results are compared to pre-pumping baseline conditions dated September 30, 1993 (see Appendix A).

5.1 Hydraulic Monitoring

Piezometric contours for the overburden aquifer were created using data collected on October 16, 2001, from 23 groundwater monitoring wells and 3 extraction wells using Golden Software, Inc., SURFER FOR WINDOWS, Version 5.01 software.

The tabulated groundwater elevation data and the associated potentiometric contours, Figures 1 and 2, are included in Appendix A.

The kriging contour algorithm was used as a best fit method of approximating the directional groundwater flow pattern. The baseline results in Figure 1 show groundwater flow from northwest to southeast to the Pawtuxet River. Figure 2 shows the effect of the 3 extraction wells on the groundwater flow. Well PW-110 north of the walk bridge shows groundwater

capture at present pumping capacity[2] 38 GPM; the second and third extraction wells, PW-120 (2 GPM) and PW-130 (23 GPM), are capturing the plume along the bulkhead south of the walk bridge. Together the 3 wells are capturing the groundwater plume that would otherwise pass by the bulkhead to the Pawtuxet River.

The hydraulic capture along the bulkhead is discussed in detail in the report " Capture Zone Analysis, Former Production area, Cranston, Rhode Island" dated July 7, 2000.

5.2 Chemicals of Concern Monitoring

Twelve wells were sampled as part of the semiannual sampling episode. The wells are divided into three main groups; shown on the Location Map in Section iii of this report. The COC analytical results are tabulated and included in Table 2 at the end of this section.

Three wells are designated upgradient to the bulkhead wells. One of the wells (MW-021S) is above the MPS for o-chlorotoluene and appears to fluctuate, but as discussed earlier this well is generally above the MPS of 1500-ppb o-chlorotoluene. The three upgradient wells show the presence of three COC contaminants, albeit at low concentrations, and continue to be acceptable for background comparisons. Well MW-004S has shown considerable improvement over the last year and this improvement may be attributed to the SVE system now operating within the upgradient adjacent area of SWMU-11.

The results of the 6 bulkhead wells show the presence of chlorobenzene and 1,2-dichlorobenzene. At bulkhead wells P-035S and MW-002S both contaminants were found to exceed the MPSs. Increase contamination at well P-035S was first observed in April 2000, and followed the introduction of the new extraction well PW-130 in December 1999. It would appear that contaminants are part of slug of material passing by the well and over time should decrease. This same observation can be made for well MW-002S, see Appendix D, Table 4.

The In-River wells are located beyond the bulkhead in the Pawtuxet River. Well SW-130 shows a presence of chlorobenzene. The presence of this contaminant at low levels is not unusual for the subject well. A second well, SW-120, showed a trace amount (2-ppb) of 1,2-dichlorobenzene. For 2001 the In-River wells have remained almost free of contamination a reflection of the success of the GETS.

[2] Pumping rates were taken the same day as the water levels, October 16, 2001.

Table 2

Monitoring Results for October 18-19, 2001
Chemicals Of Concern
(as ppb)

Well Designation	Well Number	MPS 94 1,2-Dichloro-Benzene	1700 Chloro-Benzene	1500 o-Chloro-Toluene	1700 Toluene	76 Xylenes
Upgradient	MW-004S	2	5	20	1 U	1
	MW-012S	1 U	3	1 U	1 U	1 U
	MW-021S	50 U	50 U	12000	270	210
Bulkhead	MW-001S	10 U	1700	10 U	10 U	10 U
	MW-002S	1800	12000	170	120	33
	P-035S	9000	11000	310	81	34
	P-036S	1 U	170	1 U	1 U	1 U
	P-037S	2	240	1 U	1 U	1 U
	P-038S	1 U	6	1 U	1 U	1 U
In-River	SW-110	1 U	2	1 U	1 U	1 U
	SW-120	2	54	1 U	1 U	1 U
	SW-130	1 U	12	1 U	1 U	1 U
Extraction	PW-110	1 U	28	27	1 U	2
	PW-120	1400	500	69	15	10 U
	PW-130	91	260	190	21	8

U = Nondetect with detection limit given
J = Estimated value
MPS Exceedance

6.0 DISCUSSION

The October 2001, Certificate of Analysis by R.I. Analytical is included in Appendix B. The cumulative results from 1996 to the present for 12 wells and 5 COC are included as Tables 3, 4, and 5 in Appendices C, D, and E respectively. The cumulative results of each COC are plotted as Time-Series graphs for a better perception of trends, if any, over the sampling history since the inception of the GETS in September 1995. These plots are also found in the respective Appendices C, D, and E.

Comprehensive trends in concentration are not apparent at 4 of the 6 bulkhead wells (Appendix D). However, as mentioned in Section 5.2, bulkhead wells P-035S and MW-002S where 1,2-dichlorobenzene and chlorobenzene exceed the MPS, and concentrations appear to be increasing since 1999. This increase is attributed to the effects of the new extraction well PW-130 that went into operation in 1999.

The 3 In-River wells (Appendix E) are generally low to non-detect for contamination. These wells located beyond the bulkhead in the Pawtuxet River have consistently shown improvement since Ciba began the operation of the GETS.

7.0 CONCLUSION

Groundwater quality in the former Production area has improved over time. Groundwater quality as measured by an exceedance of the Media Protection Standards of the selected COC remains under pressure due to the presence of 1,2-dichlorobenzene and chlorobenzene. This latest sampling episode identified three wells having contamination that exceeds the proposed media protection standards. Groundwater at two of these wells are in the capture path of a new extraction, which may increase contamination within these two wells.

Ciba has upgraded the extraction system piping and performed pump maintenance, as well as, reconditioned two of the three extraction wells. These improvements insure that the established hydraulic capture and treatment of contaminated groundwater is maintained. This capture can be viewed in Figure 2, Appendix A.

The next well sampling is scheduled for April 2002.

APPENDIX A

TABULATED

GROUNDWATER ELEVATION DATA

AND

POTENTIOMETRIC CONTOURS

Figure 1

CIBA SPECIALTY CHEMICALS CORPORATION
CRANSTON, RI FACILITY
FORMER PRODUCTION AREA

Pre-Pump & Treat Potentiometric Surface Map
September 30, 1993

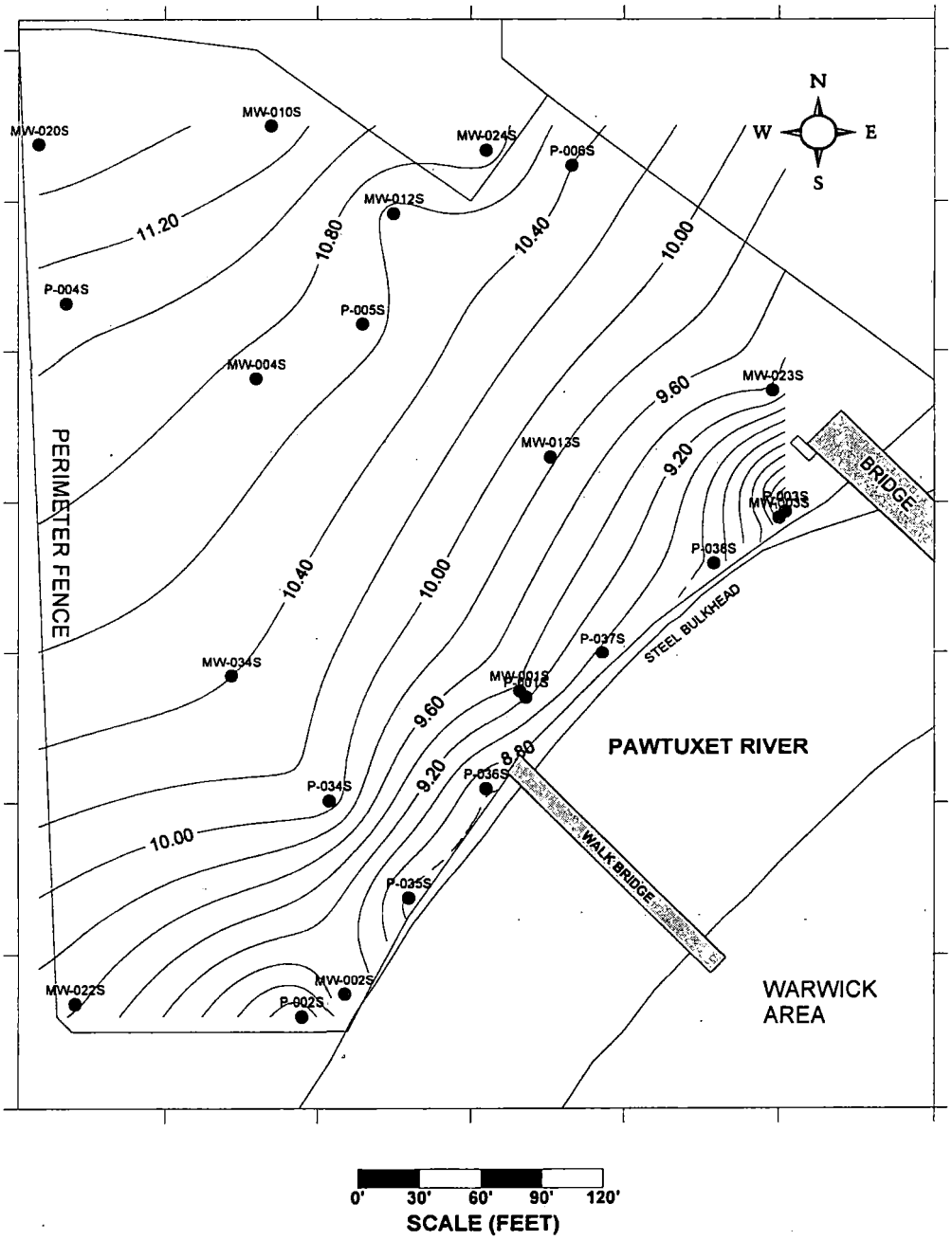
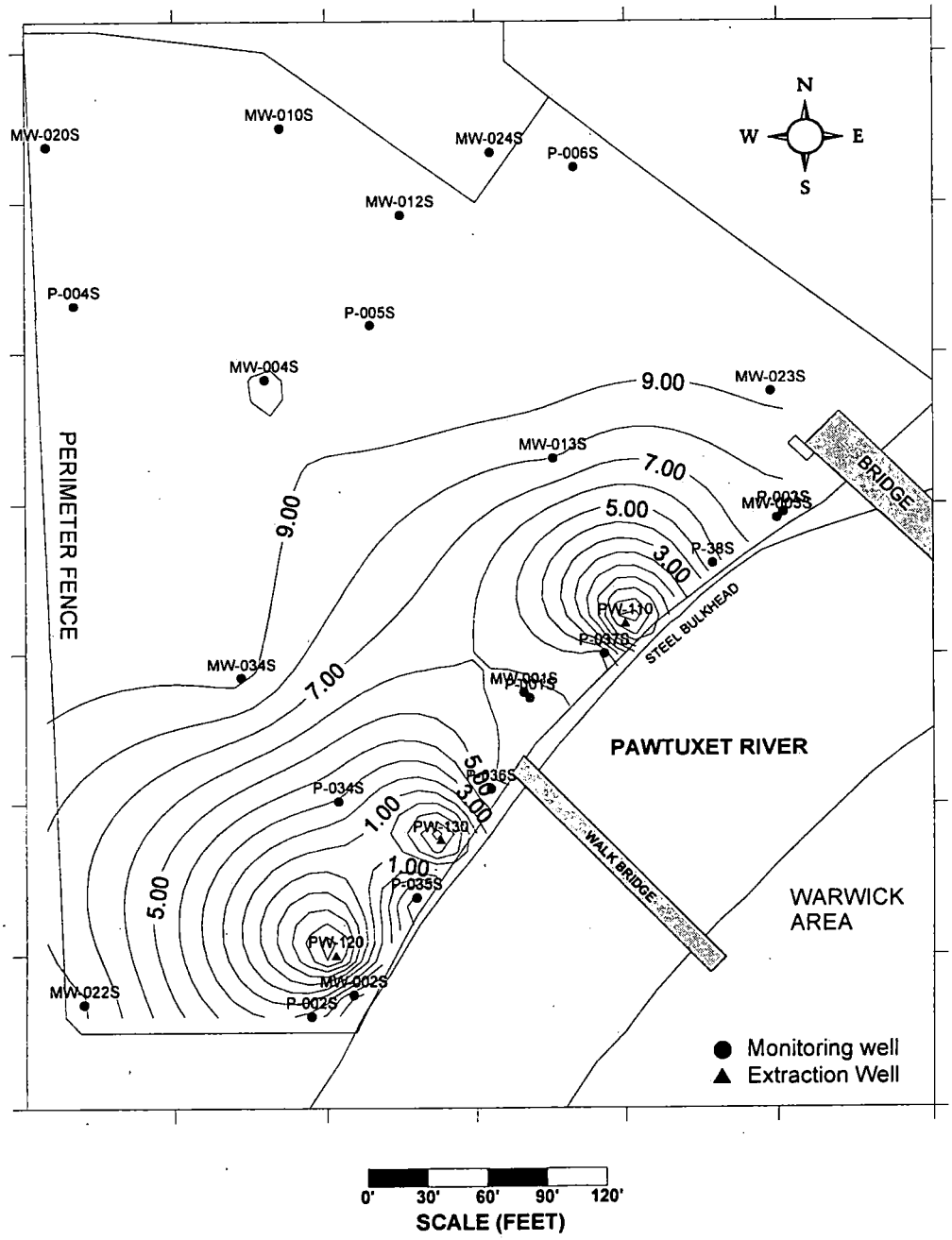


Figure 2

CIBA SPECIALTY CHEMICALS CORPORATION
CRANSTON, RI FACILITY
FORMER PRODUCTION AREA

Potentiometric Surface Map
October 16, 2001



CIBA SPECIALTY CHEMICALS CORPORATION
(FORMERLY CIBA-GEIGY CORPORATION)
180 MILL STREET
CRANSTON, RI

GROUNDWATER MONITORING

MONITORING WELL	TOC MSL FEET	TOC TO WATER FEET	October 16, 2001 GW ELEVATION MSL FEET	September 30, 1993 GW ELEVATION MSL FEET
PW-110	15.72	22.50	-4.78	NA
PW-120	14.25	15.92	-5.65	NA
PW-130	16.59	20.85	-4.41	NA
MW-001S	15.04	6.61	6.32	9.39
MW-002S	14.46	5.52	5.56	9.21
MW-003S	16.61	6.68	8.00	7.96
MW-004S	21.29	9.55	8.79	10.72
MW-010S	22.62	9.86	10.01	11.34
MW-012S	22.54	10.22	9.71	10.54
MW-013S	18.44	7.85	8.10	9.83
MW-020S	21.94	8.98	9.14	11.53
MW-022S	16.87	5.85	8.15	9.63
MW-023S	20.71	10.00	9.26	9.41
MW-024S	21.04	8.48	11.44	10.89
MW-034S	18.85	7.01	9.35	10.4
P-001S	16.41	8.42	6.01	9.17
P-002S	13.85	5.31	3.45	8.38
P-003S	15.45	6.93	7.51	7.09
P-004S	19.92	7.31	11.40	11.07
P-005S	21.18	10.43	10.77	10.68
P-006S	23.62	11.51	11.42	10.39
P-034S	17.15	8.78	3.00	10.12
P-035S	15.32	7.40	6.42	8.51
P-036S	15.91	7.62	6.11	8.62
P-037S	15.69	8.70	5.46	8.96
P-038S	16.19	6.71	5.87	8.74

NA - Not Available

APPENDIX B

CERTIFICATE OF ANALYSIS

R. I. ANALYTICAL

R.I. Analytical

Specialists in Environmental Services

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Attn: Mr. Barry Cohen
180 Mill Street
Cranston, RI 02905

Date Received: 10/19/01
Date Reported: 11/06/01
P.O. #: T0091717
Work Order #: 0110-12796

DESCRIPTION: CIBA GEIGY, MILL STREET MW'S (SAMPLED BY RIAL PERSONNEL)

Subject sample(s) has/have been analyzed by our laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA approved methodologies. The specific methodologies are listed in the methods column of the Certificate Of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.

Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015
NH-253700 A & B, USDA S-41844, NY-11726

If you have any questions regarding this work, or if we may be of further assistance, please contact us.

Approved by:

Michael J Hobin
QA/QC Coordinator

Paul Perrotti
Data Reporting Manager

Chain of Custody

41 Illinois Avenue, Warwick, RI 02888
Tel: (401) 737-8500 Fax: (401) 738-1970

950 Boylston Street, Unit 102, Newton Highlands, MA 02461
Tel: (617) 965-5133 Fax: (617) 965-5624

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 001
SAMPLE DESCRIPTION: PW-110 PUMP HOUSE GRAB 10/18/01 @1030

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.6		SU	EPA 150.1	10/18/01 10:30	JEC
TEMPERATURE (field)	58.4		F	EPA 170.1	10/18/01 10:30	JEC
SPECIFIC CONDUCTANCE	324	1	uMHOS/CM	EPA 120.1	10/18/01 10:30	JEC
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	10/18/01 16:25	LMW
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 20:28	BML
bromomethane	<10	10	ug/l	8260	10/25/01 20:28	BML
vinyl chloride	<1	1	ug/l	8260	10/25/01 20:28	BML
chlorodifluoromethane	<10	10	ug/l	8260	10/25/01 20:28	BML
chloroethane	<10	10	ug/l	8260	10/25/01 20:28	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 20:28	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 20:28	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 20:28	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 20:28	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 20:28	BML
chloroform	<1	1	ug/l	8260	10/25/01 20:28	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 20:28	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 20:28	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 20:28	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 20:28	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 20:28	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 20:28	BML
Trichloroethylene	2	1	ug/l	8260	10/25/01 20:28	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 20:28	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 20:28	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 20:28	BML
Bromoform	<1	1	ug/l	8260	10/25/01 20:28	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 20:28	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 20:28	BML
Chlorobenzene	28	1	ug/l	8260	10/25/01 20:28	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 20:28	BML
benzene	1	1	ug/l	8260	10/25/01 20:28	BML
toluene	<1	1	ug/l	8260	10/25/01 20:28	BML
ethylbenzene	<1	1	ug/l	8260	10/25/01 20:28	BML
xylenes(Total)	2	1	ug/l	8260	10/25/01 20:28	BML
acetone	<10	10	ug/l	8260	10/25/01 20:28	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 20:28	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 20:28	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 20:28	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 001

PW-110 PUMP HOUSE GRAB 10/18/01 @1030

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 20:28	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 20:28	BML
Styrene	<1	1	ug/l	8260	10/25/01 20:28	BML
o-chlorotoluene	27	1	ug/l	8260	10/25/01 20:28	BML
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 20:28	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 20:28	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 20:28	BML
Surrogates			RANGE	8260	10/25/01 20:28	BML
Dibromofluoromethane	101		86-118%	8260	10/25/01 20:28	BML
Bromofluorobenzene	98		86-115%	8260	10/25/01 20:28	BML
Toluene-D8	98		88-110%	8260	10/25/01 20:28	BML

Volatile organic analyses performed under the operating guidelines method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 002
SAMPLE DESCRIPTION: MW-01S GRAB 10/18/01 @1115

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.6		SU	EPA 150.1	10/18/01 11:15	JEC
TEMPERATURE (field)	63.8		F	EPA 170.1	10/18/01 11:15	JEC
SPECIFIC CONDUCTANCE	456	1	uMHOS/CM	EPA 120.1	10/18/01 11:15	JEC
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	10/18/01 16:25	LMW
Volatile Organic Compounds						
chloromethane	<100	100	ug/l	8260	10/25/01 21:03	BML
bromomethane	<100	100	ug/l	8260	10/25/01 21:03	BML
vinyl chloride	<10	10	ug/l	8260	10/25/01 21:03	BML
chlorodifluoromethane	<100	100	ug/l	8260	10/25/01 21:03	BML
chloroethane	<100	100	ug/l	8260	10/25/01 21:03	BML
methylene chloride	<50	50	ug/l	8260	10/25/01 21:03	BML
trichlorofluoromethane	<10	10	ug/l	8260	10/25/01 21:03	BML
1,1-dichloroethylene	<10	10	ug/l	8260	10/25/01 21:03	BML
1,1-dichloroethane	<10	10	ug/l	8260	10/25/01 21:03	BML
trans-1,2-dichloroethylene	<10	10	ug/l	8260	10/25/01 21:03	BML
chloroform	<10	10	ug/l	8260	10/25/01 21:03	BML
1,2-dichloroethane	<10	10	ug/l	8260	10/25/01 21:03	BML
1,1,1-Trichloroethane	<10	10	ug/l	8260	10/25/01 21:03	BML
carbon tetrachloride	<10	10	ug/l	8260	10/25/01 21:03	BML
bromodichloromethane	<10	10	ug/l	8260	10/25/01 21:03	BML
1,2-dichloropropane	<10	10	ug/l	8260	10/25/01 21:03	BML
cis-1,3-dichloropropylene	<10	10	ug/l	8260	10/25/01 21:03	BML
Trichloroethylene	<10	10	ug/l	8260	10/25/01 21:03	BML
trans-1,3-dichloropropylene	<10	10	ug/l	8260	10/25/01 21:03	BML
1,1,2-Trichloroethane	<10	10	ug/l	8260	10/25/01 21:03	BML
Dibromochloromethane	<10	10	ug/l	8260	10/25/01 21:03	BML
Bromoform	<10	10	ug/l	8260	10/25/01 21:03	BML
Tetrachloroethylene	<10	10	ug/l	8260	10/25/01 21:03	BML
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8260	10/25/01 21:03	BML
Chlorobenzene	1700	10	ug/l	8260	10/25/01 21:03	BML
2-chloroethyl vinyl ether	<20	20	ug/l	8260	10/25/01 21:03	BML
benzene	<10	10	ug/l	8260	10/25/01 21:03	BML
toluene	<10	10	ug/l	8260	10/25/01 21:03	BML
ethylbenzene	<10	10	ug/l	8260	10/25/01 21:03	BML
xylenes(Total)	<10	10	ug/l	8260	10/25/01 21:03	BML
acetone	<100	100	ug/l	8260	10/25/01 21:03	BML
carbon disulfide	<50	50	ug/l	8260	10/25/01 21:03	BML
2-butanone(MEK)	<100	100	ug/l	8260	10/25/01 21:03	BML
vinyl acetate	<500	500	ug/l	8260	10/25/01 21:03	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 002

MW-01S GRAB 10/18/01 @1115

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<500	500	ug/l	8260	10/25/01 21:03	BML
2-hexanone	<500	500	ug/l	8260	10/25/01 21:03	BML
Styrene	<10	10	ug/l	8260	10/25/01 21:03	BML
o-chlorotoluene	<10	10	ug/l	8260	10/25/01 21:03	BML
1,2-Dichlorobenzene	<10	10	ug/l	8260	10/25/01 21:03	BML
1,3-Dichlorobenzene	<10	10	ug/l	8260	10/25/01 21:03	BML
1,4-Dichlorobenzene	<10	10	ug/l	8260	10/25/01 21:03	BML
Surrogates			RANGE	8260	10/25/01 21:03	BML
Bromofluoromethane	101		86-118%	8260	10/25/01 21:03	BML
Bromofluorobenzene	99		86-115%	8260	10/25/01 21:03	BML
Toluene-D8	97		88-110%	8260	10/25/01 21:03	BML

Volatile organic analyses performed under the operating guidelines method 8260.

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 003
SAMPLE DESCRIPTION: SW-130 GRAB 10/18/01 @1300

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.8		SU	EPA 150.1	10/18/01 13:00	JEC
TEMPERATURE (field)	66.0		F	EPA 170.1	10/18/01 13:00	JEC
SPECIFIC CONDUCTANCE	300	1	uMHOS/CM	EPA 120.1	10/18/01 13:00	JEC
Dissolved Oxygen	2.3	1.0	mg/l	EPA 360.1	10/18/01 16:25	LMW
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 21:37	BML
bromomethane	<10	10	ug/l	8260	10/25/01 21:37	BML
vinyl chloride	2	1	ug/l	8260	10/25/01 21:37	BML
chlorodifluoromethane	<10	10	ug/l	8260	10/25/01 21:37	BML
chloroethane	<10	10	ug/l	8260	10/25/01 21:37	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 21:37	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 21:37	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 21:37	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 21:37	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 21:37	BML
chloroform	<1	1	ug/l	8260	10/25/01 21:37	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 21:37	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 21:37	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 21:37	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 21:37	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 21:37	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 21:37	BML
Trichloroethylene	<1	1	ug/l	8260	10/25/01 21:37	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 21:37	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 21:37	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 21:37	BML
Bromoform	<1	1	ug/l	8260	10/25/01 21:37	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 21:37	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 21:37	BML
Chlorobenzene	12	1	ug/l	8260	10/25/01 21:37	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 21:37	BML
benzene	<1	1	ug/l	8260	10/25/01 21:37	BML
toluene	<1	1	ug/l	8260	10/25/01 21:37	BML
ethylbenzene	<1	1	ug/l	8260	10/25/01 21:37	BML
xylenes(Total)	<1	1	ug/l	8260	10/25/01 21:37	BML
acetone	<10	10	ug/l	8260	10/25/01 21:37	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 21:37	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 21:37	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 21:37	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 003

SW-130 GRAB 10/18/01 @1300

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 21:37	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 21:37	BML
Styrene	<1	1	ug/l	8260	10/25/01 21:37	BML
o-chlorotoluene	<1	1	ug/l	8260	10/25/01 21:37	BML
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 21:37	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 21:37	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 21:37	BML
Surrogates			RANGE	8260	10/25/01 21:37	BML
Dibromofluoromethane	101		86-118%	8260	10/25/01 21:37	BML
Bromofluorobenzene	98		86-115%	8260	10/25/01 21:37	BML
Toluene-D8	96		88-110%	8260	10/25/01 21:37	BML

Volatile organic analyses performed under the operating guidelines method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 004
SAMPLE DESCRIPTION: SW-110 GRAB 10/18/01 @1310

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.9		SU	EPA 150.1	10/18/01 13:10	JEC
TEMPERATURE (field)	65.2		F	EPA 170.1	10/18/01 13:10	JEC
SPECIFIC CONDUCTANCE	324	1	uMHOS/CM	EPA 120.1	10/18/01 13:10	JEC
Dissolved Oxygen	3.1	1.0	mg/l	EPA 360.1	10/18/01 16:25	LMW
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 22:12	BML
bromomethane	<10	10	ug/l	8260	10/25/01 22:12	BML
vinyl chloride	3	1	ug/l	8260	10/25/01 22:12	BML
chlorodifluoromethane	<10	10	ug/l	8260	10/25/01 22:12	BML
chloroethane	<10	10	ug/l	8260	10/25/01 22:12	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 22:12	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 22:12	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 22:12	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 22:12	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 22:12	BML
chloroform	<1	1	ug/l	8260	10/25/01 22:12	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 22:12	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 22:12	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 22:12	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 22:12	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 22:12	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 22:12	BML
Trichloroethylene	<1	1	ug/l	8260	10/25/01 22:12	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 22:12	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 22:12	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 22:12	BML
Bromoform	<1	1	ug/l	8260	10/25/01 22:12	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 22:12	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 22:12	BML
Chlorobenzene	2	1	ug/l	8260	10/25/01 22:12	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 22:12	BML
benzene	<1	1	ug/l	8260	10/25/01 22:12	BML
toluene	<1	1	ug/l	8260	10/25/01 22:12	BML
ethylbenzene	<1	1	ug/l	8260	10/25/01 22:12	BML
xylenes(Total)	<1	1	ug/l	8260	10/25/01 22:12	BML
acetone	<10	10	ug/l	8260	10/25/01 22:12	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 22:12	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 22:12	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 22:12	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 004

SW-110 GRAB 10/18/01 @1310

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 22:12	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 22:12	BML
Styrene	<1	1	ug/l	8260	10/25/01 22:12	BML
o-chlorotoluene	<1	1	ug/l	8260	10/25/01 22:12	BML
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 22:12	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 22:12	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 22:12	BML
Surrogates			RANGE	8260	10/25/01 22:12	BML
Dibromofluoromethane	101		86-118%	8260	10/25/01 22:12	BML
Bromofluorobenzene	100		86-115%	8260	10/25/01 22:12	BML
Toluene-D8	96		88-110%	8260	10/25/01 22:12	BML

Volatile organic analyses performed under the operating guidelines method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 005
SAMPLE DESCRIPTION: P-38S GRAB 10/18/01 @1447

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.5		SU	EPA 150.1	10/18/01 14:47	JEC
TEMPERATURE (field)	64		F	EPA 170.1	10/18/01 14:47	JEC
SPECIFIC CONDUCTANCE	298	1	uMHOS/CM	EPA 120.1	10/18/01 14:47	JEC
Dissolved Oxygen	2.7	1.0	mg/l	EPA 360.1	10/18/01 16:25	LMW
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 22:46	BML
bromomethane	<10	10	ug/l	8260	10/25/01 22:46	BML
vinyl chloride	<1	1	ug/l	8260	10/25/01 22:46	BML
[illegible]rodifluoromethane	<10	10	ug/l	8260	10/25/01 22:46	BML
chloroethane	<10	10	ug/l	8260	10/25/01 22:46	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 22:46	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 22:46	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 22:46	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 22:46	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 22:46	BML
chloroform	<1	1	ug/l	8260	10/25/01 22:46	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 22:46	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 22:46	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 22:46	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 22:46	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 22:46	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 22:46	BML
Trichloroethylene	<1	1	ug/l	8260	10/25/01 22:46	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 22:46	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 22:46	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 22:46	BML
Bromoform	<1	1	ug/l	8260	10/25/01 22:46	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 22:46	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 22:46	BML
Chlorobenzene	6	1	ug/l	8260	10/25/01 22:46	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 22:46	BML
benzene	<1	1	ug/l	8260	10/25/01 22:46	BML
toluene	<1	1	ug/l	8260	10/25/01 22:46	BML
[illegible]lbenzene	<1	1	ug/l	8260	10/25/01 22:46	BML
[illegible]enes(Total)	<1	1	ug/l	8260	10/25/01 22:46	BML
acetone	<10	10	ug/l	8260	10/25/01 22:46	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 22:46	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 22:46	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 22:46	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 005

P-38S GRAB 10/18/01 @1447

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 22:46	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 22:46	BML
Styrene	<1	1	ug/l	8260	10/25/01 22:46	BML
o-chlorotoluene	<1	1	ug/l	8260	10/25/01 22:46	BML
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 22:46	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 22:46	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 22:46	BML
Surrogates			RANGE	8260	10/25/01 22:46	BML
Dibromofluoromethane	100		86-118%	8260	10/25/01 22:46	BML
Bromofluorobenzene	99		86-115%	8260	10/25/01 22:46	BML
Toluene-D8	97		88-110%	8260	10/25/01 22:46	BML

Volatile organic analyses performed under the operating guidelines method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 006
SAMPLE DESCRIPTION: P-37S GRAB 10/18/01 @1520

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.0		SU	EPA 150.1	10/18/01 15:20	JEC
TEMPERATURE (field)	64		F	EPA 170.1	10/18/01 15:20	JEC
SPECIFIC CONDUCTANCE	413	1	uMHOS/CM	EPA 120.1	10/18/01 15:20	JEC
Dissolved Oxygen	5.1	1.0	mg/l	EPA 360.1	10/18/01 16:25	LMW
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 23:21	BML
bromomethane	<10	10	ug/l	8260	10/25/01 23:21	BML
vinyl chloride	<1	1	ug/l	8260	10/25/01 23:21	BML
bromodifluoromethane	<10	10	ug/l	8260	10/25/01 23:21	BML
chloroethane	<10	10	ug/l	8260	10/25/01 23:21	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 23:21	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 23:21	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 23:21	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 23:21	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 23:21	BML
chloroform	<1	1	ug/l	8260	10/25/01 23:21	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 23:21	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 23:21	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 23:21	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 23:21	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 23:21	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 23:21	BML
Trichloroethylene	<1	1	ug/l	8260	10/25/01 23:21	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 23:21	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 23:21	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 23:21	BML
Bromoform	<1	1	ug/l	8260	10/25/01 23:21	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 23:21	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 23:21	BML
Chlorobenzene	240	1	ug/l	8260	10/25/01 23:21	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 23:21	BML
benzene	6	1	ug/l	8260	10/25/01 23:21	BML
toluene	<1	1	ug/l	8260	10/25/01 23:21	BML
ethylbenzene	<1	1	ug/l	8260	10/25/01 23:21	BML
xylenes(Total)	<1	1	ug/l	8260	10/25/01 23:21	BML
acetone	<10	10	ug/l	8260	10/25/01 23:21	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 23:21	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 23:21	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 23:21	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 006

P-37S GRAB 10/18/01 @1520

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 23:21	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 23:21	BML
Styrene	<1	1	ug/l	8260	10/25/01 23:21	BML
o-chlorotoluene	<1	1	ug/l	8260	10/25/01 23:21	BML
1,2-Dichlorobenzene	2	1	ug/l	8260	10/25/01 23:21	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 23:21	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 23:21	BML
Surrogates			RANGE	8260	10/25/01 23:21	BML
Dibromofluoromethane	101		86-118%	8260	10/25/01 23:21	BML
Bromofluorobenzene	98		86-115%	8260	10/25/01 23:21	BML
Toluene-D8	96		88-110%	8260	10/25/01 23:21	BML

Volatile organic analyses performed under the operating guidelines method 8260.

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 007
SAMPLE DESCRIPTION: PW-130 PUMP HOUSE GRAB 10/18/01 @1523

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.9		SU	EPA 150.1	10/18/01 15:23	JEC
TEMPERATURE (field)	63		F	EPA 170.1	10/18/01 15:23	JEC
SPECIFIC CONDUCTANCE	322	1	uMHOS/CM	EPA 120.1	10/18/01 15:23	JEC
Dissolved Oxygen	2.2	1.0	mg/l	EPA 360.1	10/18/01 16:25	LMW
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 23:56	BML
bromomethane	<10	10	ug/l	8260	10/25/01 23:56	BML
vinyl chloride	6	1	ug/l	8260	10/25/01 23:56	BML
chlorodifluoromethane	<10	10	ug/l	8260	10/25/01 23:56	BML
chloroethane	<10	10	ug/l	8260	10/25/01 23:56	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 23:56	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 23:56	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 23:56	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 23:56	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 23:56	BML
chloroform	<1	1	ug/l	8260	10/25/01 23:56	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 23:56	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 23:56	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 23:56	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 23:56	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 23:56	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 23:56	BML
Trichloroethylene	<1	1	ug/l	8260	10/25/01 23:56	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 23:56	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 23:56	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 23:56	BML
Bromoform	<1	1	ug/l	8260	10/25/01 23:56	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 23:56	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 23:56	BML
Chlorobenzene	260	1	ug/l	8260	10/25/01 23:56	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 23:56	BML
benzene	13	1	ug/l	8260	10/25/01 23:56	BML
toluene	21	1	ug/l	8260	10/25/01 23:56	BML
ethylbenzene	1	1	ug/l	8260	10/25/01 23:56	BML
xylenes(Total)	8	1	ug/l	8260	10/25/01 23:56	BML
acetone	<10	10	ug/l	8260	10/25/01 23:56	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 23:56	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 23:56	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 23:56	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 007

PW-130 PUMP HOUSE GRAB 10/18/01 @1523

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 23:56	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 23:56	BML
Styrene	<1	1	ug/l	8260	10/25/01 23:56	BML
o-chlorotoluene	190	1	ug/l	8260	10/25/01 23:56	BML
1,2-Dichlorobenzene	91	1	ug/l	8260	10/25/01 23:56	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 23:56	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 23:56	BML
Surrogates			RANGE	8260	10/25/01 23:56	BML
Dibromofluoromethane	101		86-118%	8260	10/25/01 23:56	BML
Bromofluorobenzene	98		86-115%	8260	10/25/01 23:56	BML
Toluene-D8	99		88-110%	8260	10/25/01 23:56	BML

Volatile organic analyses performed under the operating guidelines method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 008
SAMPLE DESCRIPTION: PW-120 PUMP HOUSE GRAB 10/19/01 @0950

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.9		SU	EPA 150.1	10/19/01 9:50	JEC
TEMPERATURE (field)	56		F	EPA 170.1	10/19/01 9:50	JEC
SPECIFIC CONDUCTANCE	364	1	uMHOS/CM	EPA 120.1	10/19/01 9:50	JEC
Dissolved Oxygen	1.3	1.0	mg/l	EPA 360.1	10/19/01 20:05	VJA
Volatile Organic Compounds						
chloromethane	<100	100	ug/l	8260	10/31/01 11:30	BML
bromomethane	<100	100	ug/l	8260	10/31/01 11:30	BML
vinyl chloride	23	10	ug/l	8260	10/31/01 11:30	BML
chlorodifluoromethane	<100	100	ug/l	8260	10/31/01 11:30	BML
chloroethane	<100	100	ug/l	8260	10/31/01 11:30	BML
methylene chloride	<50	50	ug/l	8260	10/31/01 11:30	BML
trichlorofluoromethane	<10	10	ug/l	8260	10/31/01 11:30	BML
1,1-dichloroethylene	<10	10	ug/l	8260	10/31/01 11:30	BML
1,1-dichloroethane	<10	10	ug/l	8260	10/31/01 11:30	BML
trans-1,2-dichloroethylene	<10	10	ug/l	8260	10/31/01 11:30	BML
chloroform	<10	10	ug/l	8260	10/31/01 11:30	BML
1,2-dichloroethane	<10	10	ug/l	8260	10/31/01 11:30	BML
1,1,1-Trichloroethane	<10	10	ug/l	8260	10/31/01 11:30	BML
carbon tetrachloride	<10	10	ug/l	8260	10/31/01 11:30	BML
bromodichloromethane	<10	10	ug/l	8260	10/31/01 11:30	BML
1,2-dichloropropane	<10	10	ug/l	8260	10/31/01 11:30	BML
cis-1,3-dichloropropylene	<10	10	ug/l	8260	10/31/01 11:30	BML
Trichloroethylene	29	10	ug/l	8260	10/31/01 11:30	BML
trans-1,3-dichloropropylene	<10	10	ug/l	8260	10/31/01 11:30	BML
1,1,2-Trichloroethane	<10	10	ug/l	8260	10/31/01 11:30	BML
Dibromochloromethane	<10	10	ug/l	8260	10/31/01 11:30	BML
Bromoform	<10	10	ug/l	8260	10/31/01 11:30	BML
Tetrachloroethylene	16	10	ug/l	8260	10/31/01 11:30	BML
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8260	10/31/01 11:30	BML
Chlorobenzene	500	10	ug/l	8260	10/31/01 11:30	BML
2-chloroethyl vinyl ether	<20	20	ug/l	8260	10/31/01 11:30	BML
benzene	<10	10	ug/l	8260	10/31/01 11:30	BML
toluene	15	10	ug/l	8260	10/31/01 11:30	BML
ethylbenzene	<10	10	ug/l	8260	10/31/01 11:30	BML
xylenes(Total)	<10	10	ug/l	8260	10/31/01 11:30	BML
acetone	<100	100	ug/l	8260	10/31/01 11:30	BML
carbon disulfide	<50	50	ug/l	8260	10/31/01 11:30	BML
2-butanone(MEK)	<100	100	ug/l	8260	10/31/01 11:30	BML
vinyl acetate	<500	500	ug/l	8260	10/31/01 11:30	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 008

PW-120 PUMP HOUSE GRAB 10/19/01 @0950

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<500	500	ug/l	8260	10/31/01 11:30	BML
2-hexanone	<500	500	ug/l	8260	10/31/01 11:30	BML
Styrene	<10	10	ug/l	8260	10/31/01 11:30	BML
o-chlorotoluene	69	10	ug/l	8260	10/31/01 11:30	BML
1,2-Dichlorobenzene	1400	10	ug/l	8260	10/31/01 11:30	BML
1,3-Dichlorobenzene	<10	10	ug/l	8260	10/31/01 11:30	BML
1,4-Dichlorobenzene	<10	10	ug/l	8260	10/31/01 11:30	BML
Surrogates			RANGE	8260	10/31/01 11:30	BML
Dibromofluoromethane	101		86-118%	8260	10/31/01 11:30	BML
Bromofluorobenzene	98		86-115%	8260	10/31/01 11:30	BML
Toluene-D8	98		88-110%	8260	10/31/01 11:30	BML

Volatile organic analyses performed under the operating guidelines method 8260.

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 009
SAMPLE DESCRIPTION: P-36S GRAB 10/19/01 @1005

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.2		SU	EPA 150.1	10/19/01 10:05	JEC
TEMPERATURE (field)	59		F	EPA 170.1	10/19/01 10:05	JEC
SPECIFIC CONDUCTANCE	628	1	uMHOS/CM	EPA 120.1	10/19/01 10:05	JEC
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	10/19/01 20:05	VJA
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/26/01 1:07	BML
bromomethane	<10	10	ug/l	8260	10/26/01 1:07	BML
vinyl chloride	<1	1	ug/l	8260	10/26/01 1:07	BML
chlorodifluoromethane	<10	10	ug/l	8260	10/26/01 1:07	BML
chloroethane	<10	10	ug/l	8260	10/26/01 1:07	BML
methylene chloride	<5	5	ug/l	8260	10/26/01 1:07	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/26/01 1:07	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/26/01 1:07	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/26/01 1:07	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/26/01 1:07	BML
chloroform	<1	1	ug/l	8260	10/26/01 1:07	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/26/01 1:07	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/26/01 1:07	BML
carbon tetrachloride	<1	1	ug/l	8260	10/26/01 1:07	BML
bromodichloromethane	<1	1	ug/l	8260	10/26/01 1:07	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/26/01 1:07	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/26/01 1:07	BML
Trichloroethylene	<1	1	ug/l	8260	10/26/01 1:07	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/26/01 1:07	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/26/01 1:07	BML
Dibromochloromethane	<1	1	ug/l	8260	10/26/01 1:07	BML
Bromoform	<1	1	ug/l	8260	10/26/01 1:07	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/26/01 1:07	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/26/01 1:07	BML
Chlorobenzene	170	1	ug/l	8260	10/26/01 1:07	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/26/01 1:07	BML
benzene	12	1	ug/l	8260	10/26/01 1:07	BML
toluene	<1	1	ug/l	8260	10/26/01 1:07	BML
ethylbenzene	<1	1	ug/l	8260	10/26/01 1:07	BML
xylenes(Total)	<1	1	ug/l	8260	10/26/01 1:07	BML
acetone	<10	10	ug/l	8260	10/26/01 1:07	BML
carbon disulfide	<5	5	ug/l	8260	10/26/01 1:07	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/26/01 1:07	BML
vinyl acetate	<50	50	ug/l	8260	10/26/01 1:07	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 009

P-36S GRAB 10/19/01 @1005

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/26/01 1:07	BML
2-hexanone	<50	50	ug/l	8260	10/26/01 1:07	BML
Styrene	<1	1	ug/l	8260	10/26/01 1:07	BML
o-chlorotoluene	<1	1	ug/l	8260	10/26/01 1:07	BML
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 1:07	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 1:07	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 1:07	BML
Surrogates			RANGE	8260	10/26/01 1:07	BML
Dibromofluoromethane	101		86-118%	8260	10/26/01 1:07	BML
Bromofluorobenzene	97		86-115%	8260	10/26/01 1:07	BML
Toluene-D8	99		88-110%	8260	10/26/01 1:07	BML

Volatile organic analyses performed under the operating guidelines method 8260.

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 010
SAMPLE DESCRIPTION: P-35S GRAB 10/19/01 @1055

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.0		SU	EPA 150.1	10/19/01 10:55	JEC
TEMPERATURE (field)	64		F	EPA 170.1	10/19/01 10:55	JEC
SPECIFIC CONDUCTANCE	540	1	uMHOS/CM	EPA 120.1	10/19/01 10:55	JEC
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	10/19/01 20:05	VJA
Volatile Organic Compounds						
chloromethane	<100	100	ug/l	8260	10/26/01 1:42	BML
bromomethane	<100	100	ug/l	8260	10/26/01 1:42	BML
vinyl chloride	440	10	ug/l	8260	10/26/01 1:42	BML
chlorodifluoromethane	<100	100	ug/l	8260	10/26/01 1:42	BML
chloroethane	<100	100	ug/l	8260	10/26/01 1:42	BML
methylene chloride	<50	50	ug/l	8260	10/26/01 1:42	BML
trichlorofluoromethane	<10	10	ug/l	8260	10/26/01 1:42	BML
1,1-dichloroethylene	<10	10	ug/l	8260	10/26/01 1:42	BML
1,1-dichloroethane	<10	10	ug/l	8260	10/26/01 1:42	BML
trans-1,2-dichloroethylene	18	10	ug/l	8260	10/26/01 1:42	BML
chloroform	<10	10	ug/l	8260	10/26/01 1:42	BML
1,2-dichloroethane	<10	10	ug/l	8260	10/26/01 1:42	BML
1,1,1-Trichloroethane	<10	10	ug/l	8260	10/26/01 1:42	BML
carbon tetrachloride	<10	10	ug/l	8260	10/26/01 1:42	BML
bromodichloromethane	<10	10	ug/l	8260	10/26/01 1:42	BML
1,2-dichloropropane	<10	10	ug/l	8260	10/26/01 1:42	BML
cis-1,3-dichloropropylene	<10	10	ug/l	8260	10/26/01 1:42	BML
Trichloroethylene	<10	10	ug/l	8260	10/26/01 1:42	BML
trans-1,3-dichloropropylene	<10	10	ug/l	8260	10/26/01 1:42	BML
1,1,2-Trichloroethane	<10	10	ug/l	8260	10/26/01 1:42	BML
Dibromochloromethane	<10	10	ug/l	8260	10/26/01 1:42	BML
Bromoform	<10	10	ug/l	8260	10/26/01 1:42	BML
Tetrachloroethylene	<10	10	ug/l	8260	10/26/01 1:42	BML
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8260	10/26/01 1:42	BML
Chlorobenzene	11000	10	ug/l	8260	10/26/01 1:42	BML
2-chloroethyl vinyl ether	<20	20	ug/l	8260	10/26/01 1:42	BML
benzene	36	10	ug/l	8260	10/26/01 1:42	BML
toluene	81	10	ug/l	8260	10/26/01 1:42	BML
ethylbenzene	13	10	ug/l	8260	10/26/01 1:42	BML
xylenes(Total)	34	10	ug/l	8260	10/26/01 1:42	BML
acetone	<100	100	ug/l	8260	10/26/01 1:42	BML
carbon disulfide	<50	50	ug/l	8260	10/26/01 1:42	BML
2-butanone(MEK)	<100	100	ug/l	8260	10/26/01 1:42	BML
vinyl acetate	<500	500	ug/l	8260	10/26/01 1:42	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 010

P-35S GRAB 10/19/01 @1055

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<500	500	ug/l	8260	10/26/01 1:42	BML
2-hexanone	<500	500	ug/l	8260	10/26/01 1:42	BML
Styrene	<10	10	ug/l	8260	10/26/01 1:42	BML
o-chlorotoluene	310	10	ug/l	8260	10/26/01 1:42	BML
1,2-Dichlorobenzene	9000	10	ug/l	8260	10/26/01 1:42	BML
1,3-Dichlorobenzene	<10	10	ug/l	8260	10/26/01 1:42	BML
1,4-Dichlorobenzene	62	10	ug/l	8260	10/26/01 1:42	BML
Surrogates			RANGE	8260	10/26/01 1:42	BML
Dibromofluoromethane	101		86-118%	8260	10/26/01 1:42	BML
Bromofluorobenzene	99		86-115%	8260	10/26/01 1:42	BML
Toluene-D8	100		88-110%	8260	10/26/01 1:42	BML

Volatile organic analyses performed under the operating guidelines method 8260.

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 011
SAMPLE DESCRIPTION: SW-120 GRAB 10/19/01 @1110

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.0		SU	EPA 150.1	10/19/01 11:10	JEC
TEMPERATURE (field)	59		F	EPA 170.1	10/19/01 11:10	JEC
SPECIFIC CONDUCTANCE	323	1	uMHOS/CM	EPA 120.1	10/19/01 11:10	JEC
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	10/19/01 20:05	VJA
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/26/01 2:18	BML
bromomethane	<10	10	ug/l	8260	10/26/01 2:18	BML
vinyl chloride	14	1	ug/l	8260	10/26/01 2:18	BML
chlorodifluoromethane	<10	10	ug/l	8260	10/26/01 2:18	BML
chloroethane	<10	10	ug/l	8260	10/26/01 2:18	BML
methylene chloride	<5	5	ug/l	8260	10/26/01 2:18	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/26/01 2:18	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/26/01 2:18	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/26/01 2:18	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/26/01 2:18	BML
chloroform	<1	1	ug/l	8260	10/26/01 2:18	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/26/01 2:18	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/26/01 2:18	BML
carbon tetrachloride	<1	1	ug/l	8260	10/26/01 2:18	BML
bromodichloromethane	<1	1	ug/l	8260	10/26/01 2:18	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/26/01 2:18	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/26/01 2:18	BML
Trichloroethylene	<1	1	ug/l	8260	10/26/01 2:18	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/26/01 2:18	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/26/01 2:18	BML
Dibromochloromethane	<1	1	ug/l	8260	10/26/01 2:18	BML
Bromoform	<1	1	ug/l	8260	10/26/01 2:18	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/26/01 2:18	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/26/01 2:18	BML
Chlorobenzene	54	1	ug/l	8260	10/26/01 2:18	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/26/01 2:18	BML
benzene	1	1	ug/l	8260	10/26/01 2:18	BML
toluene	<1	1	ug/l	8260	10/26/01 2:18	BML
ethylbenzene	<1	1	ug/l	8260	10/26/01 2:18	BML
xylenes(Total)	<1	1	ug/l	8260	10/26/01 2:18	BML
acetone	<10	10	ug/l	8260	10/26/01 2:18	BML
carbon disulfide	<5	5	ug/l	8260	10/26/01 2:18	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/26/01 2:18	BML
vinyl acetate	<50	50	ug/l	8260	10/26/01 2:18	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 011

SW-120 GRAB 10/19/01 @1110

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/26/01 2:18	BML
2-hexanone	<50	50	ug/l	8260	10/26/01 2:18	BML
Styrene	<1	1	ug/l	8260	10/26/01 2:18	BML
o-chlorotoluene	<1	1	ug/l	8260	10/26/01 2:18	BML
1,2-Dichlorobenzene	2	1	ug/l	8260	10/26/01 2:18	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 2:18	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 2:18	BML
Surrogates			RANGE	8260	10/26/01 2:18	BML
Dibromofluoromethane	101		86-118%	8260	10/26/01 2:18	BML
Bromofluorobenzene	97		86-115%	8260	10/26/01 2:18	BML
Toluene-D8	100		88-110%	8260	10/26/01 2:18	BML

Volatile organic analyses performed under the operating guidelines method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 012
SAMPLE DESCRIPTION: MW-2S GRAB 10/19/01 @1205

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.9		SU	EPA 150.1	10/19/01 12:05	JEC
TEMPERATURE (field)	64		F	EPA 170.1	10/19/01 12:05	JEC
SPECIFIC CONDUCTANCE	503	1	uMHOS/CM	EPA 120.1	10/19/01 12:05	JEC
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	10/19/01 20:05	VJA
Volatile Organic Compounds						
chloromethane	<100	100	ug/l	8260	10/26/01 2:54	BML
bromomethane	<100	100	ug/l	8260	10/26/01 2:54	BML
vinyl chloride	280	10	ug/l	8260	10/26/01 2:54	BML
chlorodifluoromethane	<100	100	ug/l	8260	10/26/01 2:54	BML
chloroethane	<100	100	ug/l	8260	10/26/01 2:54	BML
methylene chloride	<50	50	ug/l	8260	10/26/01 2:54	BML
trichlorofluoromethane	<10	10	ug/l	8260	10/26/01 2:54	BML
1,1-dichloroethylene	<10	10	ug/l	8260	10/26/01 2:54	BML
1,1-dichloroethane	<10	10	ug/l	8260	10/26/01 2:54	BML
trans-1,2-dichloroethylene	40	10	ug/l	8260	10/26/01 2:54	BML
chloroform	<10	10	ug/l	8260	10/26/01 2:54	BML
1,2-dichloroethane	<10	10	ug/l	8260	10/26/01 2:54	BML
1,1,1-Trichloroethane	<10	10	ug/l	8260	10/26/01 2:54	BML
carbon tetrachloride	<10	10	ug/l	8260	10/26/01 2:54	BML
bromodichloromethane	<10	10	ug/l	8260	10/26/01 2:54	BML
1,2-dichloropropane	530	10	ug/l	8260	10/26/01 2:54	BML
cis-1,3-dichloropropylene	<10	10	ug/l	8260	10/26/01 2:54	BML
Trichloroethylene	<10	10	ug/l	8260	10/26/01 2:54	BML
trans-1,3-dichloropropylene	<10	10	ug/l	8260	10/26/01 2:54	BML
1,1,2-Trichloroethane	<10	10	ug/l	8260	10/26/01 2:54	BML
Dibromochloromethane	<10	10	ug/l	8260	10/26/01 2:54	BML
Bromoform	<10	10	ug/l	8260	10/26/01 2:54	BML
Tetrachloroethylene	<10	10	ug/l	8260	10/26/01 2:54	BML
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8260	10/26/01 2:54	BML
Chlorobenzene	12000	10	ug/l	8260	10/26/01 2:54	BML
2-chloroethyl vinyl ether	<20	20	ug/l	8260	10/26/01 2:54	BML
benzene	46	10	ug/l	8260	10/26/01 2:54	BML
toluene	120	10	ug/l	8260	10/26/01 2:54	BML
ethylbenzene	14	10	ug/l	8260	10/26/01 2:54	BML
xylenes(Total)	33	10	ug/l	8260	10/26/01 2:54	BML
acetone	<100	100	ug/l	8260	10/26/01 2:54	BML
carbon disulfide	<50	50	ug/l	8260	10/26/01 2:54	BML
2-butanone(MEK)	<100	100	ug/l	8260	10/26/01 2:54	BML
vinyl acetate	<500	500	ug/l	8260	10/26/01 2:54	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 012

MW-2S GRAB 10/19/01 @1205

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<500	500	ug/l	8260	10/26/01 2:54	BML
2-hexanone	<500	500	ug/l	8260	10/26/01 2:54	BML
Styrene	<10	10	ug/l	8260	10/26/01 2:54	BML
o-chlorotoluene	170	10	ug/l	8260	10/26/01 2:54	BML
1,2-Dichlorobenzene	1800	10	ug/l	8260	10/26/01 2:54	BML
1,3-Dichlorobenzene	<10	10	ug/l	8260	10/26/01 2:54	BML
1,4-Dichlorobenzene	30	10	ug/l	8260	10/26/01 2:54	BML
Surrogates			RANGE	8260	10/26/01 2:54	BML
Dibromofluoromethane	109		86-118%	8260	10/26/01 2:54	BML
[illegible]mofluorobenzene	91		86-115%	8260	10/26/01 2:54	BML
[illegible]uene-D8	99		88-110%	8260	10/26/01 2:54	BML

Volatile organic analyses performed under the operating guidelines method 8260.

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 013
SAMPLE DESCRIPTION: MW-12S GRAB 10/19/01 @1300

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.1		SU	EPA 150.1	10/19/01 13:00	JEC
TEMPERATURE (field)	66		F	EPA 170.1	10/19/01 13:00	JEC
SPECIFIC CONDUCTANCE	304	1	uMHOS/CM	EPA 120.1	10/19/01 13:00	JEC
Dissolved Oxygen	1.3	1.0	mg/l	EPA 360.1	10/19/01 20:05	VJA
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/26/01 3:29	BML
bromomethane	<10	10	ug/l	8260	10/26/01 3:29	BML
vinyl chloride	<1	1	ug/l	8260	10/26/01 3:29	BML
chlorodifluoromethane	<10	10	ug/l	8260	10/26/01 3:29	BML
chloroethane	<10	10	ug/l	8260	10/26/01 3:29	BML
methylene chloride	<5	5	ug/l	8260	10/26/01 3:29	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/26/01 3:29	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/26/01 3:29	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/26/01 3:29	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/26/01 3:29	BML
chloroform	<1	1	ug/l	8260	10/26/01 3:29	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/26/01 3:29	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/26/01 3:29	BML
carbon tetrachloride	<1	1	ug/l	8260	10/26/01 3:29	BML
bromodichloromethane	<1	1	ug/l	8260	10/26/01 3:29	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/26/01 3:29	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/26/01 3:29	BML
Trichloroethylene	<1	1	ug/l	8260	10/26/01 3:29	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/26/01 3:29	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/26/01 3:29	BML
Dibromochloromethane	<1	1	ug/l	8260	10/26/01 3:29	BML
Bromoform	<1	1	ug/l	8260	10/26/01 3:29	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/26/01 3:29	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/26/01 3:29	BML
Chlorobenzene	3	1	ug/l	8260	10/26/01 3:29	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/26/01 3:29	BML
benzene	<1	1	ug/l	8260	10/26/01 3:29	BML
toluene	<1	1	ug/l	8260	10/26/01 3:29	BML
ethylbenzene	<1	1	ug/l	8260	10/26/01 3:29	BML
xylenes(Total)	<1	1	ug/l	8260	10/26/01 3:29	BML
acetone	<10	10	ug/l	8260	10/26/01 3:29	BML
carbon disulfide	<5	5	ug/l	8260	10/26/01 3:29	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/26/01 3:29	BML
vinyl acetate	<50	50	ug/l	8260	10/26/01 3:29	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 013

MW-12S GRAB 10/19/01 @1300

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/26/01 3:29	BML
2-hexanone	<50	50	ug/l	8260	10/26/01 3:29	BML
Styrene	<1	1	ug/l	8260	10/26/01 3:29	BML
o-chlorotoluene	<1	1	ug/l	8260	10/26/01 3:29	BML
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 3:29	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 3:29	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 3:29	BML
Surrogates			RANGE	8260	10/26/01 3:29	BML
Dibromofluoromethane	101		86-118%	8260	10/26/01 3:29	BML
Bromofluorobenzene	99		86-115%	8260	10/26/01 3:29	BML
Toluene-D8	98		88-110%	8260	10/26/01 3:29	BML

Volatile organic analyses performed under the operating guidelines method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 014
SAMPLE DESCRIPTION: MW-21S GRAB 10/19/01 @1420

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.9		SU	EPA 150.1	10/19/01 14:20	JEC
TEMPERATURE (field)	66		F	EPA 170.1	10/19/01 14:20	JEC
SPECIFIC CONDUCTANCE	248	1	uMHOS/CM	EPA 120.1	10/19/01 14:20	JEC
Dissolved Oxygen	1.4	1.0	mg/l	EPA 360.1	10/19/01 20:05	VJA
Volatile Organic Compounds						
chloromethane	<500	500	ug/l	8260	10/26/01 4:04	BML
bromomethane	<500	500	ug/l	8260	10/26/01 4:04	BML
vinyl chloride	<50	50	ug/l	8260	10/26/01 4:04	BML
chlorodifluoromethane	<500	500	ug/l	8260	10/26/01 4:04	BML
chloroethane	<500	500	ug/l	8260	10/26/01 4:04	BML
methylene chloride	<300	300	ug/l	8260	10/26/01 4:04	BML
trichlorofluoromethane	<50	50	ug/l	8260	10/26/01 4:04	BML
1,1-dichloroethylene	<50	50	ug/l	8260	10/26/01 4:04	BML
1,1-dichloroethane	<50	50	ug/l	8260	10/26/01 4:04	BML
trans-1,2-dichloroethylene	<50	50	ug/l	8260	10/26/01 4:04	BML
chloroform	<50	50	ug/l	8260	10/26/01 4:04	BML
1,2-dichloroethane	<50	50	ug/l	8260	10/26/01 4:04	BML
1,1,1-Trichloroethane	<50	50	ug/l	8260	10/26/01 4:04	BML
carbon tetrachloride	<50	50	ug/l	8260	10/26/01 4:04	BML
bromodichloromethane	<50	50	ug/l	8260	10/26/01 4:04	BML
1,2-dichloropropane	<50	50	ug/l	8260	10/26/01 4:04	BML
cis-1,3-dichloropropylene	<50	50	ug/l	8260	10/26/01 4:04	BML
Trichloroethylene	<50	50	ug/l	8260	10/26/01 4:04	BML
trans-1,3-dichloropropylene	<50	50	ug/l	8260	10/26/01 4:04	BML
1,1,2-Trichloroethane	<50	50	ug/l	8260	10/26/01 4:04	BML
Dibromochloromethane	<50	50	ug/l	8260	10/26/01 4:04	BML
Bromoform	<50	50	ug/l	8260	10/26/01 4:04	BML
Tetrachloroethylene	<50	50	ug/l	8260	10/26/01 4:04	BML
1,1,2,2-Tetrachloroethane	<50	50	ug/l	8260	10/26/01 4:04	BML
Chlorobenzene	<50	50	ug/l	8260	10/26/01 4:04	BML
2-chloroethyl vinyl ether	<100	100	ug/l	8260	10/26/01 4:04	BML
benzene	<50	50	ug/l	8260	10/26/01 4:04	BML
toluene	270	50	ug/l	8260	10/26/01 4:04	BML
ethylbenzene	55	50	ug/l	8260	10/26/01 4:04	BML
xylenes(Total)	210	50	ug/l	8260	10/26/01 4:04	BML
acetone	<500	500	ug/l	8260	10/26/01 4:04	BML
carbon disulfide	<300	300	ug/l	8260	10/26/01 4:04	BML
2-butanone(MEK)	<500	500	ug/l	8260	10/26/01 4:04	BML
vinyl acetate	<2500	2500	ug/l	8260	10/26/01 4:04	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: _____
R.I. Analytical

Sample #: 014

MW-21S GRAB 10/19/01 @1420

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<2500	2500	ug/l	8260	10/26/01 4:04	BML
2-hexanone	<2500	2500	ug/l	8260	10/26/01 4:04	BML
Styrene	<50	50	ug/l	8260	10/26/01 4:04	BML
o-chlorotoluene	12000	50	ug/l	8260	10/26/01 4:04	BML
1,2-Dichlorobenzene	<50	50	ug/l	8260	10/26/01 4:04	BML
1,3-Dichlorobenzene	<50	50	ug/l	8260	10/26/01 4:04	BML
1,4-Dichlorobenzene	<50	50	ug/l	8260	10/26/01 4:04	BML
Surrogates			RANGE	8260	10/26/01 4:04	BML
Dibromofluoromethane	100		86-118%	8260	10/26/01 4:04	BML
Bromofluorobenzene	97		86-115%	8260	10/26/01 4:04	BML
Toluene-D8	98		88-110%	8260	10/26/01 4:04	BML

Volatile organic analyses performed under the operating guidelines method 8260.

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 015
SAMPLE DESCRIPTION: MW-4S GRAB 10/19/01 @1455

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.6		SU	EPA 150.1	10/19/01 14:45	JEC
TEMPERATURE (field)	227		F	EPA 170.1	10/19/01 14:45	JEC
SPECIFIC CONDUCTANCE	68	1	uMHOS/CM	EPA 120.1	10/19/01 14:45	JEC
Dissolved Oxygen	1.3	1.0	mg/l	EPA 360.1	10/19/01 20:05	VJA
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/26/01 4:39	BML
bromomethane	<10	10	ug/l	8260	10/26/01 4:39	BML
vinyl chloride	<1	1	ug/l	8260	10/26/01 4:39	BML
chlorodifluoromethane	<10	10	ug/l	8260	10/26/01 4:39	BML
chloroethane	<10	10	ug/l	8260	10/26/01 4:39	BML
methylene chloride	<5	5	ug/l	8260	10/26/01 4:39	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/26/01 4:39	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/26/01 4:39	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/26/01 4:39	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/26/01 4:39	BML
chloroform	<1	1	ug/l	8260	10/26/01 4:39	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/26/01 4:39	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/26/01 4:39	BML
carbon tetrachloride	<1	1	ug/l	8260	10/26/01 4:39	BML
bromodichloromethane	<1	1	ug/l	8260	10/26/01 4:39	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/26/01 4:39	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/26/01 4:39	BML
Trichloroethylene	6	1	ug/l	8260	10/26/01 4:39	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/26/01 4:39	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/26/01 4:39	BML
Dibromochloromethane	<1	1	ug/l	8260	10/26/01 4:39	BML
Bromoform	<1	1	ug/l	8260	10/26/01 4:39	BML
Tetrachloroethylene	4	1	ug/l	8260	10/26/01 4:39	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/26/01 4:39	BML
Chlorobenzene	5	1	ug/l	8260	10/26/01 4:39	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/26/01 4:39	BML
benzene	<1	1	ug/l	8260	10/26/01 4:39	BML
toluene	<1	1	ug/l	8260	10/26/01 4:39	BML
ethylbenzene	<1	1	ug/l	8260	10/26/01 4:39	BML
xylenes(Total)	1	1	ug/l	8260	10/26/01 4:39	BML
acetone	<10	10	ug/l	8260	10/26/01 4:39	BML
carbon disulfide	<5	5	ug/l	8260	10/26/01 4:39	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/26/01 4:39	BML
vinyl acetate	<50	50	ug/l	8260	10/26/01 4:39	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 015

MW-4S GRAB 10/19/01 @1455

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/26/01 4:39	BML
2-hexanone	<50	50	ug/l	8260	10/26/01 4:39	BML
Styrene	<1	1	ug/l	8260	10/26/01 4:39	BML
o-chlorotoluene	20	1	ug/l	8260	10/26/01 4:39	BML
1,2-Dichlorobenzene	2	1	ug/l	8260	10/26/01 4:39	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 4:39	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/26/01 4:39	BML
Surrogates			RANGE	8260	10/26/01 4:39	BML
romofluoromethane	101		86-118%	8260	10/26/01 4:39	BML
romofluorobenzene	99		86-115%	8260	10/26/01 4:39	BML
Toluene-D8	97		88-110%	8260	10/26/01 4:39	BML

Volatile organic analyses performed under the operating guidelines method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 016
SAMPLE DESCRIPTION: TRIP BLANK GRAB 10/18/01 @0830

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 16:57	BML
bromomethane	<10	10	ug/l	8260	10/25/01 16:57	BML
vinyl chloride	<1	1	ug/l	8260	10/25/01 16:57	BML
dichlorodifluoromethane	<10	10	ug/l	8260	10/25/01 16:57	BML
chloroethane	<10	10	ug/l	8260	10/25/01 16:57	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 16:57	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 16:57	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 16:57	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 16:57	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 16:57	BML
chloroform	<1	1	ug/l	8260	10/25/01 16:57	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 16:57	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 16:57	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 16:57	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 16:57	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 16:57	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 16:57	BML
Trichloroethylene	<1	1	ug/l	8260	10/25/01 16:57	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 16:57	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 16:57	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 16:57	BML
Bromoform	<1	1	ug/l	8260	10/25/01 16:57	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 16:57	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 16:57	BML
Chlorobenzene	<1	1	ug/l	8260	10/25/01 16:57	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 16:57	BML
benzene	<1	1	ug/l	8260	10/25/01 16:57	BML
toluene	<1	1	ug/l	8260	10/25/01 16:57	BML
ethylbenzene	<1	1	ug/l	8260	10/25/01 16:57	BML
xylenes(Total)	<1	1	ug/l	8260	10/25/01 16:57	BML
acetone	<10	10	ug/l	8260	10/25/01 16:57	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 16:57	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 16:57	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 16:57	BML
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 16:57	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 16:57	BML
Styrene	<1	1	ug/l	8260	10/25/01 16:57	BML
o-chlorotoluene	<1	1	ug/l	8260	10/25/01 16:57	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 016

TRIP BLANK GRAB 10/18/01 @0830

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 16:57	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 16:57	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 16:57	BML
Surrogates			RANGE	8260	10/25/01 16:57	BML
Dibromofluoromethane	101		86-118%	8260	10/25/01 16:57	BML
4-Bromofluorobenzene	99		86-115%	8260	10/25/01 16:57	BML
Toluene-D8	99		88-110%	8260	10/25/01 16:57	BML

Volatile organic analyses performed under the operating guidelines
thod 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 017
SAMPLE DESCRIPTION: TRIP BLANK GRAB 10/19/01 @0800

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 17:33	BML
bromomethane	<10	10	ug/l	8260	10/25/01 17:33	BML
vinyl chloride	<1	1	ug/l	8260	10/25/01 17:33	BML
dichlorodifluoromethane	<10	10	ug/l	8260	10/25/01 17:33	BML
chloroethane	<10	10	ug/l	8260	10/25/01 17:33	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 17:33	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 17:33	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 17:33	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 17:33	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 17:33	BML
chloroform	<1	1	ug/l	8260	10/25/01 17:33	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 17:33	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 17:33	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 17:33	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 17:33	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 17:33	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 17:33	BML
Trichloroethylene	<1	1	ug/l	8260	10/25/01 17:33	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 17:33	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 17:33	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 17:33	BML
Bromoform	<1	1	ug/l	8260	10/25/01 17:33	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 17:33	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 17:33	BML
Chlorobenzene	<1	1	ug/l	8260	10/25/01 17:33	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 17:33	BML
benzene	<1	1	ug/l	8260	10/25/01 17:33	BML
toluene	<1	1	ug/l	8260	10/25/01 17:33	BML
ethylbenzene	<1	1	ug/l	8260	10/25/01 17:33	BML
xylenes(Total)	<1	1	ug/l	8260	10/25/01 17:33	BML
acetone	<10	10	ug/l	8260	10/25/01 17:33	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 17:33	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 17:33	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 17:33	BML
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 17:33	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 17:33	BML
Styrene	<1	1	ug/l	8260	10/25/01 17:33	BML
o-chlorotoluene	<1	1	ug/l	8260	10/25/01 17:33	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 017

TRIP BLANK GRAB 10/19/01 @0800

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 17:33	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 17:33	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 17:33	BML
Surrogates			RANGE	8260	10/25/01 17:33	BML
Dibromofluoromethane	100		86-118%	8260	10/25/01 17:33	BML
4-Bromofluorobenzene	99		86-115%	8260	10/25/01 17:33	BML
Toluene-D8	98		88-110%	8260	10/25/01 17:33	BML

Volatile organic analyses performed under the operating guidelines
thod 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: R.I. Analytical

Sample #: 018
SAMPLE DESCRIPTION: EQUIPMENT BLANK GRAB 10/18/01 @1005

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 18:08	BML
bromomethane	<10	10	ug/l	8260	10/25/01 18:08	BML
vinyl chloride	<1	1	ug/l	8260	10/25/01 18:08	BML
dichlorodifluoromethane	<10	10	ug/l	8260	10/25/01 18:08	BML
chloroethane	<10	10	ug/l	8260	10/25/01 18:08	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 18:08	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 18:08	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 18:08	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 18:08	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 18:08	BML
chloroform	<1	1	ug/l	8260	10/25/01 18:08	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 18:08	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 18:08	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 18:08	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 18:08	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 18:08	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 18:08	BML
Trichloroethylene	<1	1	ug/l	8260	10/25/01 18:08	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 18:08	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 18:08	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 18:08	BML
Bromoform	<1	1	ug/l	8260	10/25/01 18:08	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 18:08	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 18:08	BML
Chlorobenzene	<1	1	ug/l	8260	10/25/01 18:08	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 18:08	BML
benzene	<1	1	ug/l	8260	10/25/01 18:08	BML
toluene	<1	1	ug/l	8260	10/25/01 18:08	BML
ethylbenzene	<1	1	ug/l	8260	10/25/01 18:08	BML
xylenes(Total)	<1	1	ug/l	8260	10/25/01 18:08	BML
acetone	<10	10	ug/l	8260	10/25/01 18:08	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 18:08	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 18:08	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 18:08	BML
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 18:08	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 18:08	BML
Styrene	<1	1	ug/l	8260	10/25/01 18:08	BML
o-chlorotoluene	<1	1	ug/l	8260	10/25/01 18:08	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 018

EQUIPMENT BLANK GRAB 10/18/01 @1005

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 18:08	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 18:08	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 18:08	BML
Surrogates			RANGE	8260	10/25/01 18:08	BML
Dibromofluoromethane	102		86-118%	8260	10/25/01 18:08	BML
4-Bromofluorobenzene	100		86-115%	8260	10/25/01 18:08	BML
Toluene-D8	99		88-110%	8260	10/25/01 18:08	BML

Volatile organic analyses performed under the operating guidelines
thod 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by:
R.I. Analytical

Sample #: 019
SAMPLE DESCRIPTION: EQUIPMENT BLANK GRAB 10/19/01 @0945

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8260	10/25/01 18:43	BML
bromomethane	<10	10	ug/l	8260	10/25/01 18:43	BML
vinyl chloride	<1	1	ug/l	8260	10/25/01 18:43	BML
dichlorodifluoromethane	<10	10	ug/l	8260	10/25/01 18:43	BML
chloroethane	<10	10	ug/l	8260	10/25/01 18:43	BML
methylene chloride	<5	5	ug/l	8260	10/25/01 18:43	BML
trichlorofluoromethane	<1	1	ug/l	8260	10/25/01 18:43	BML
1,1-dichloroethylene	<1	1	ug/l	8260	10/25/01 18:43	BML
1,1-dichloroethane	<1	1	ug/l	8260	10/25/01 18:43	BML
trans-1,2-dichloroethylene	<1	1	ug/l	8260	10/25/01 18:43	BML
chloroform	<1	1	ug/l	8260	10/25/01 18:43	BML
1,2-dichloroethane	<1	1	ug/l	8260	10/25/01 18:43	BML
1,1,1-Trichloroethane	<1	1	ug/l	8260	10/25/01 18:43	BML
carbon tetrachloride	<1	1	ug/l	8260	10/25/01 18:43	BML
bromodichloromethane	<1	1	ug/l	8260	10/25/01 18:43	BML
1,2-dichloropropane	<1	1	ug/l	8260	10/25/01 18:43	BML
cis-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 18:43	BML
Trichloroethylene	<1	1	ug/l	8260	10/25/01 18:43	BML
trans-1,3-dichloropropylene	<1	1	ug/l	8260	10/25/01 18:43	BML
1,1,2-Trichloroethane	<1	1	ug/l	8260	10/25/01 18:43	BML
Dibromochloromethane	<1	1	ug/l	8260	10/25/01 18:43	BML
Bromoform	<1	1	ug/l	8260	10/25/01 18:43	BML
Tetrachloroethylene	<1	1	ug/l	8260	10/25/01 18:43	BML
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	10/25/01 18:43	BML
Chlorobenzene	<1	1	ug/l	8260	10/25/01 18:43	BML
2-chloroethyl vinyl ether	<2	2	ug/l	8260	10/25/01 18:43	BML
benzene	<1	1	ug/l	8260	10/25/01 18:43	BML
toluene	<1	1	ug/l	8260	10/25/01 18:43	BML
ethylbenzene	<1	1	ug/l	8260	10/25/01 18:43	BML
xylenes(Total)	<1	1	ug/l	8260	10/25/01 18:43	BML
acetone	<10	10	ug/l	8260	10/25/01 18:43	BML
carbon disulfide	<5	5	ug/l	8260	10/25/01 18:43	BML
2-butanone(MEK)	<10	10	ug/l	8260	10/25/01 18:43	BML
vinyl acetate	<50	50	ug/l	8260	10/25/01 18:43	BML
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	10/25/01 18:43	BML
2-hexanone	<50	50	ug/l	8260	10/25/01 18:43	BML
Styrene	<1	1	ug/l	8260	10/25/01 18:43	BML
o-chlorotoluene	<1	1	ug/l	8260	10/25/01 18:43	BML

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Date Received: 10/19/01
Work Order # 0110-12796

Approved by: _____
R.I. Analytical

Sample #: 019

EQUIPMENT BLANK GRAB 10/19/01 @0945

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 18:43	BML
1,3-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 18:43	BML
1,4-Dichlorobenzene	<1	1	ug/l	8260	10/25/01 18:43	BML
Surrogates			RANGE	8260	10/25/01 18:43	BML
Dibromofluoromethane	103		86-118%	8260	10/25/01 18:43	BML
4-Bromofluorobenzene	98		86-115%	8260	10/25/01 18:43	BML
Toluene-D8	99		88-110%	8260	10/25/01 18:43	BML

Volatile organic analyses performed under the operating guidelines
thod 8260.

Whi[illegible] Original (Accompanies Samples) Yellow [illegible] Collector Pink Copy – Customer's Copy

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue
Warwick, RI 02888
Phone: (401) 737-8500
Fax: (401) 738-1970

950 Boylston Street, Unit 102
Newton Highlands, MA 02461
Phone: (617) 965-5133
Fax: (617) 965-5624

CHAIN OF CUSTODY RECORD

Page 1 of 2

Container Type Codes:		Preservative Codes:		Matrix Codes:	
P=Plastic	V=Vial	NP=Non preserved	S=Sulfuric	GW=Groundwater	S=Soil
G=Glass	St=Sterile	I=Cooled 4°C	H=HCL	WW=Wastewater	Sl=Sludge
AG=Amber Glass		N=Nitric	SH=NaOH	DW=Drinking Water	A=Air
O=Other (describe)		M=Methanol	SB=NAHSO4	O=Other (descibe	B=Bulk/Solid

Date Collected	Time Collected	Sample ID	G=Grab C=Comp.	Containers # + (code)	Preservative (code)	Matrix (code)	Analysis Request
10·18·01	10:30	PW-110 Pump House	G	3-V	H	GW	8240 including O-Chlorotoluene (pH, temp, S.C, DO*)
	11:15	MW-01S					
	1300	SW-130					
	1310	SW-110					
	1447	P-38S					
	1520	P-37S					
	1523	PW-130 Pump House					
10·19·01	0950	PW-120 " "					
	1005	P-36S					
	1055	P-35S					

Client Information

Company Name: Ciba Geigy
Address: Rt 37 West PO BOX 71
City / State / Zip: Tom River, NJ 08754-0071
Phone: (903) 914-2737 Fax: (903) 914-2909
Contact: Barry Cohen

Project Information

Project Name / Location: Ciba Geigy Site on Mill St. Cranston RI
P.O. Number:
Project Number:
Report To:
Phone:
Fax:
Sampled by: J. Chraft, T. Michaud
Reference Proposal:

Relinquished by:	Date	Time	Received by:	Date	Time
J. Chraft	10·19·01	17:10	[illegible]	10/19/01	1710

Turn Around Time:
- [x] Normal
- [ ] 5 business days Surcharges may apply
- [ ] Rush _____ (business days)

Project Comments:
* pH, Temp, S.C, D.O taken in field. Field Notes & Results attached

** QC to include: Matrix Spike Matrix Spike Duplicate Duplicate

RIAL USE ONLY:
- [ ] Pick-Up Only
- [x] RIAL Sampled
- [x] Shipped on Ice

RIAL W.O. # 10-12796

Whit[illegible] Original (Accompanies Samples) Yellow C[illegible] Collector Pink Copy – Customer's Copy

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue
Warwick, RI 02888
Phone: (401) 737-8500
Fax: (401) 738-1970

950 Boylston Street, Unit 102
Newton Highlands, MA 02461
Phone: (617) 965-5133
Fax: (617) 965-5624

CHAIN OF CUSTODY RECORD

Container Type Codes:		Preservative Codes:		Matrix Codes:	
P=Plastic	V=Vial	NP=Non preserved	S=Sulfuric	GW=Groundwater	S=Soil
G=Glass	St=Sterile	I=Cooled 4°C	H=HCL	WW=Wastewater	Sl=Sludge
AG=Amber Glass		N=Nitric	SH=NaOH	DW=Drinking Water	A=Air
O=Other (describe)		M=Methanol	SB=NAHSO4	O=Other (descibe	B=Bulk/Solid

Date Collected	Time Collected	Sample ID	G=Grab C=Comp.	Containers # + (code)	Preservative (code)	Matrix (code)	Analysis Request
10·19·01	11:10	SW-120	G	3V	H	GW	8240 including O-Chlorotoluene
	12:05	MW-2S					(pH, temp, S.C, DO*)
	1300	MW-12S					
	1420	MW-21S **		6V			
	1445	MW-4S		3V			
10·18·01	0830	Trip Blank	G	1V	H	DI	8240 including O-Chlorotoluene
10·19·01	0800						
10·18·01	1005	Equipment Blank					
10·19·01	0945						

Client Information

Company Name: CIBA GEIGY
Address: Rt. 37 WEST P.O. BOX 71
City / State / Zip: TOMS RIVER, NEW JERSEY 08754-0071
Phone: (903) 914-2737 Fax: (903) 914-2909
Contact: BARRY COHEN

Project Information

Project Name / Location: CIBA GEIGY SITE ON MILL ST., CRANSTON
P.O. Number:
Project Number:
Report To:
Phone:
Fax:
Sampled by: J. CHRAFT
Reference Proposal:

Relinquished by:	Date	Time	Received by:	Date	Time
J. Chraft	10·19·01	17:10	Leslie A Cox	10/19/01	1710

Turn Around Time:
- ☒ Normal
- ☐ 5 business days Surcharges may apply
- ☐ Rush _____ (business days)

Project Comments:
** QC TO INCLUDE: MATRIX SPIKE
MATRIX SPIKE DUPLICATE
DUPLICATE

* pH, TEMP, S.C. DO TAKEN IN FIELD. FIELD NOTES AND RESULTS ATTACHED

RIAL USE ONLY:
- ☐ Pick-Up Only
- ☑ RIAL Sampled
- ☑ Shipped on Ice

RIAL W.O. # 10-12746

APPENDIX C

TIME-SERIES

FOR

UPGRADIENT WELLS

Table 3
UPGRADIENT WELLS
Cumulative Results for Chemicals Of Concern
(Units in ppb)

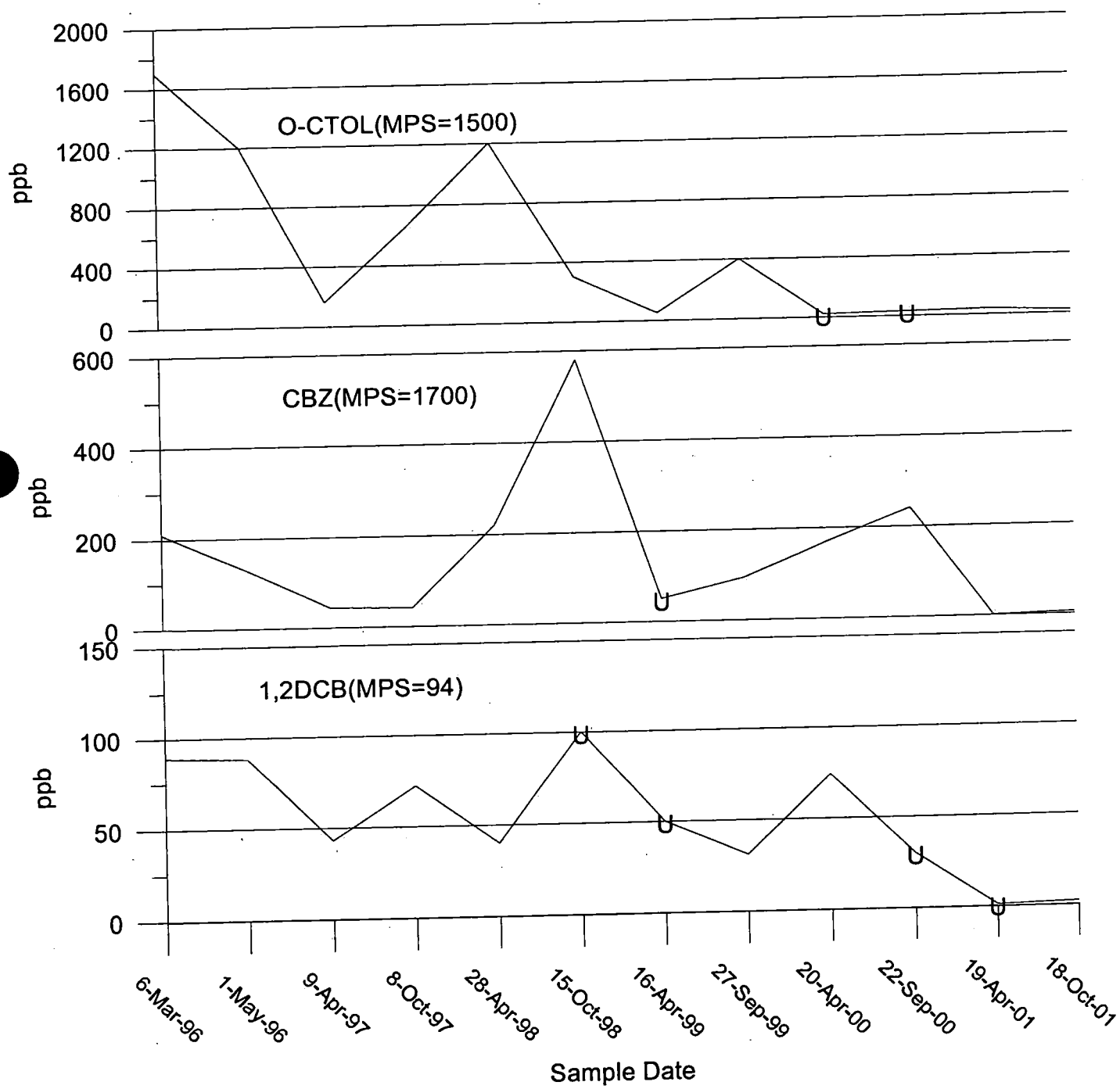
Well No.	Date Sampled	1,2-Dichloro-benzene	Chloro-benzene	o-Chloro-toluene	Toluene	Xylenes
MPS	→	94	1700	1500	1700	76
MW-004S	6-Mar-96	89	210	1700	2100	300
MW-004S	1-May-96	88	130	1200	1500	160
MW-004S	9-Apr-97	43	44	160	88	100
MW-004S	8-Oct-97	72	41	660	370	480
MW-004S	28-Apr-98	40	220	1200	2700	130
MW-004S	15-Oct-98	100 U	580	300	100 U	100 U
MW-004S	16-Apr-99	50 U	50 U	50	50 U	730
MW-004S	27-Sep-99	31	93	400	20 U	79
MW-004S	20-Apr-00	74	170	20 U	84	20 U
MW-004S	22-Sep-00	30 U	240	30 U	30 U	30 U
MW-004S	19-Apr-01	1 U	1	36	1 U	2
MW-004S	18-Oct-01	2	5	20	1 U	1
MW-012S	5-Mar-96	4.3 U	2.4 J	2 U	2.8 U	75
MW-012S	2-May-96	4.3 U	1.5 J	2 U	2.8 U	42
MW-012S	10-Apr-97	1 U	1 U	1 U	1 U	1 U
MW-012S	8-Oct-97	1 U	1 U	1 U	1 U	12
MW-012S	28-Apr-98	1 U	1 U	1 U	1 U	65
MW-012S	15-Oct-98	10 U	10 U	10 U	10 U	87
MW-012S	16-Apr-99	10 U	12	10 U	10 U	24
MW-012S	27-Sep-99	58	1 U	1 U	1 U	6
MW-012S	20-Apr-00	1 U	1 U	1 U	1 U	1
MW-012S	22-Sep-00	1 U	2	1 U	1 U	1
MW-012S	18-Apr-01	1 U	1 U	1 U	1 U	25
MW-012S	18-Oct-01	1 U	3	1 U	1 U	1 U
MW-021S	6-Mar-96	43 U	30 U	480	12 J	34 U
MW-021S	1-May-96	22 U	5 J	820	15	17 U
MW-021S	10-Apr-97	1 U	1 U	120	1	6
MW-021S	27-Oct-97	30	49	24000	20000	1600
MW-021S	28-Apr-98	1 U	1 U	54	1 U	1 U
MW-021S	15-Oct-98	100 U	100 U	7900	2500	580
MW-021S	15-Apr-99	50 U	50 U	9000	50 U	520
MW-021S	27-Sep-99	40 U	40 U	8100	40 U	110
MW-021S	20-Apr-00	40 U	40 U	11000	40 U	40 U
MW-021S	22-Sep-00	500 U	500 U	16000	500 U	500 U
MW-021S	19-Apr-01	10 U	10 U	440	10 U	10 U
MW-021S	18-Oct-01	50 U	50 U	12000	270	210

MPS = Media Protection Standard
U = Nondetect with detection limit given
J = Estimated value

Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-004S
Upgradient Well

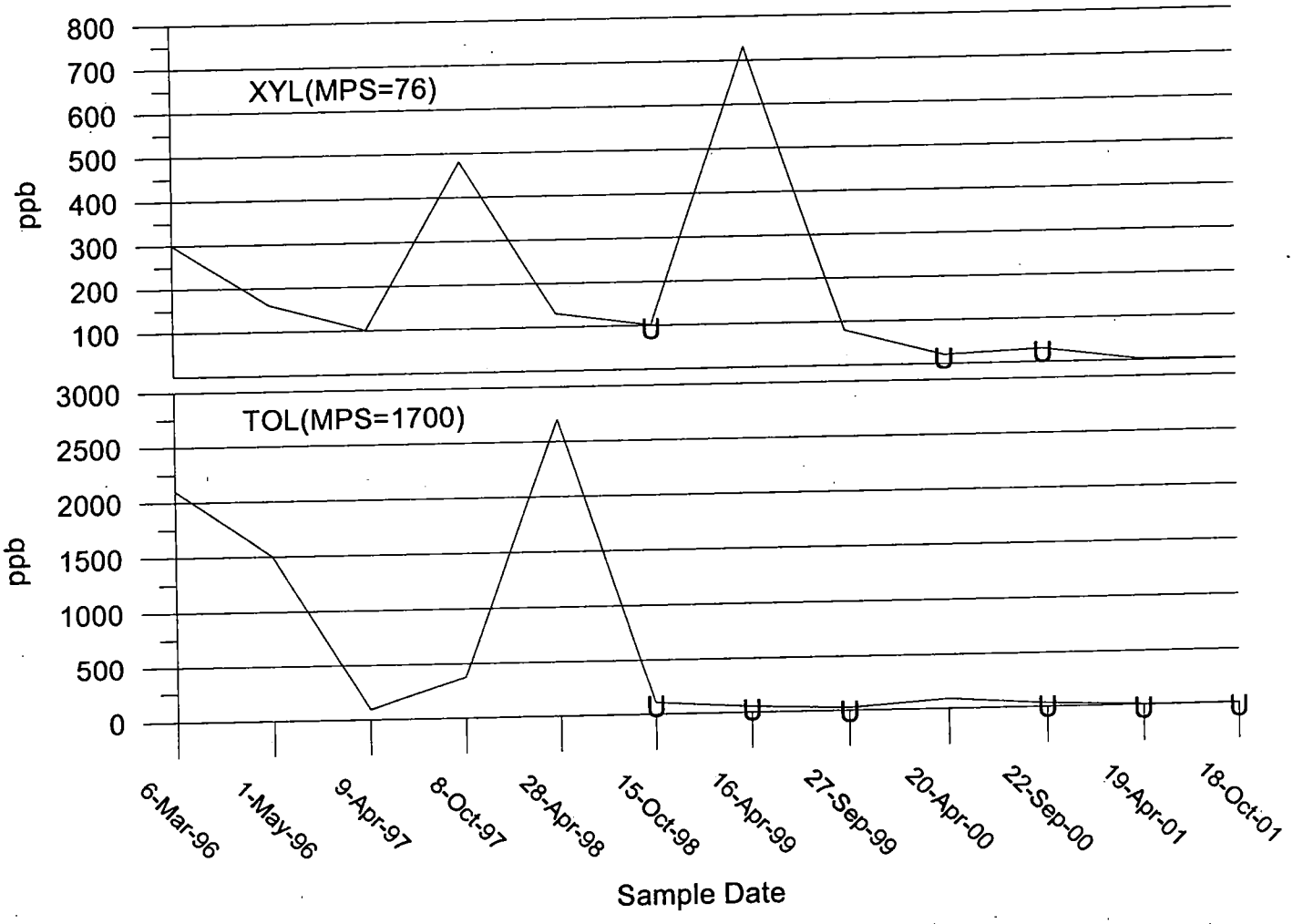
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-004S
Upgradient Well

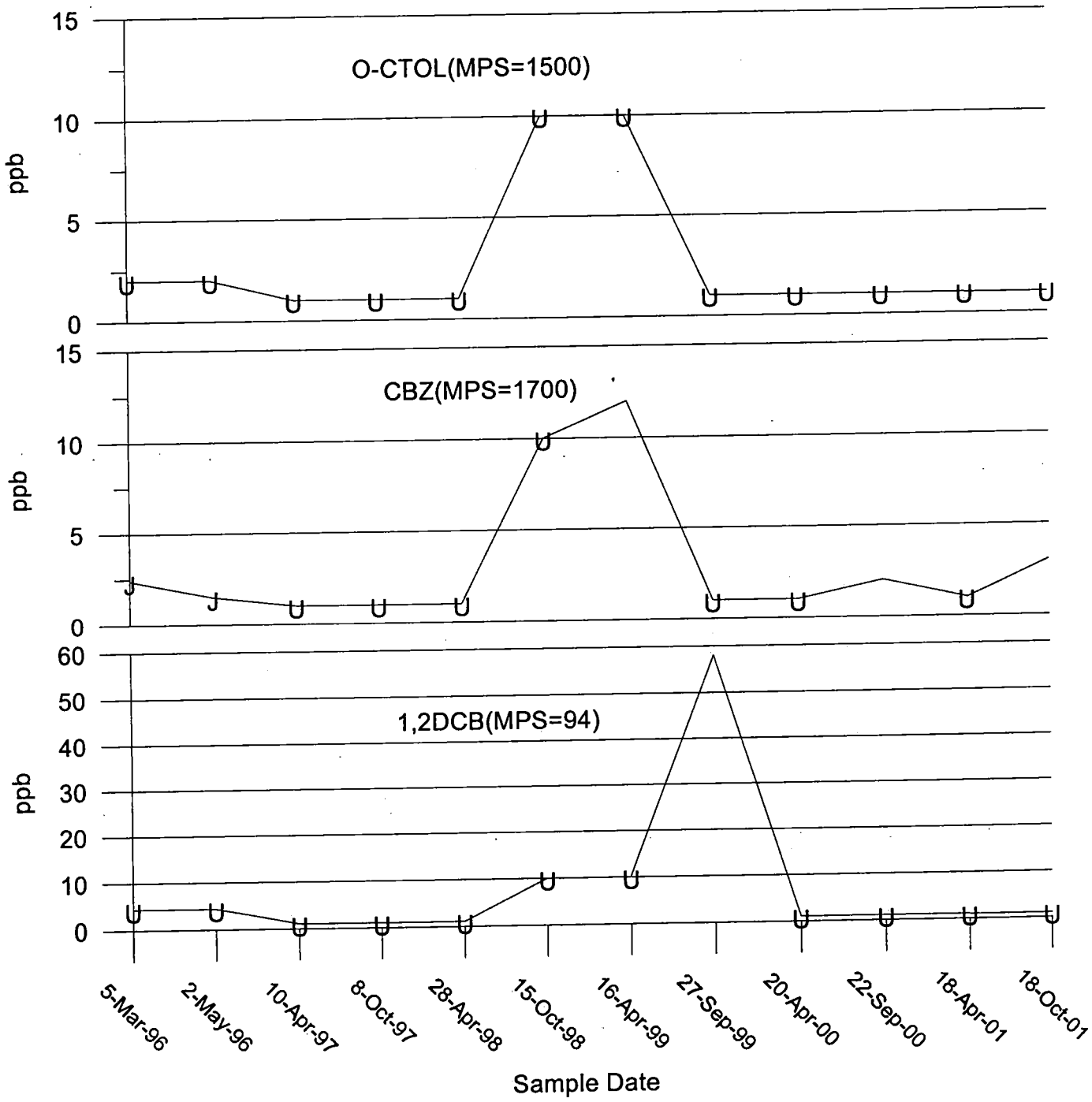
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-012S
Upgradient Well

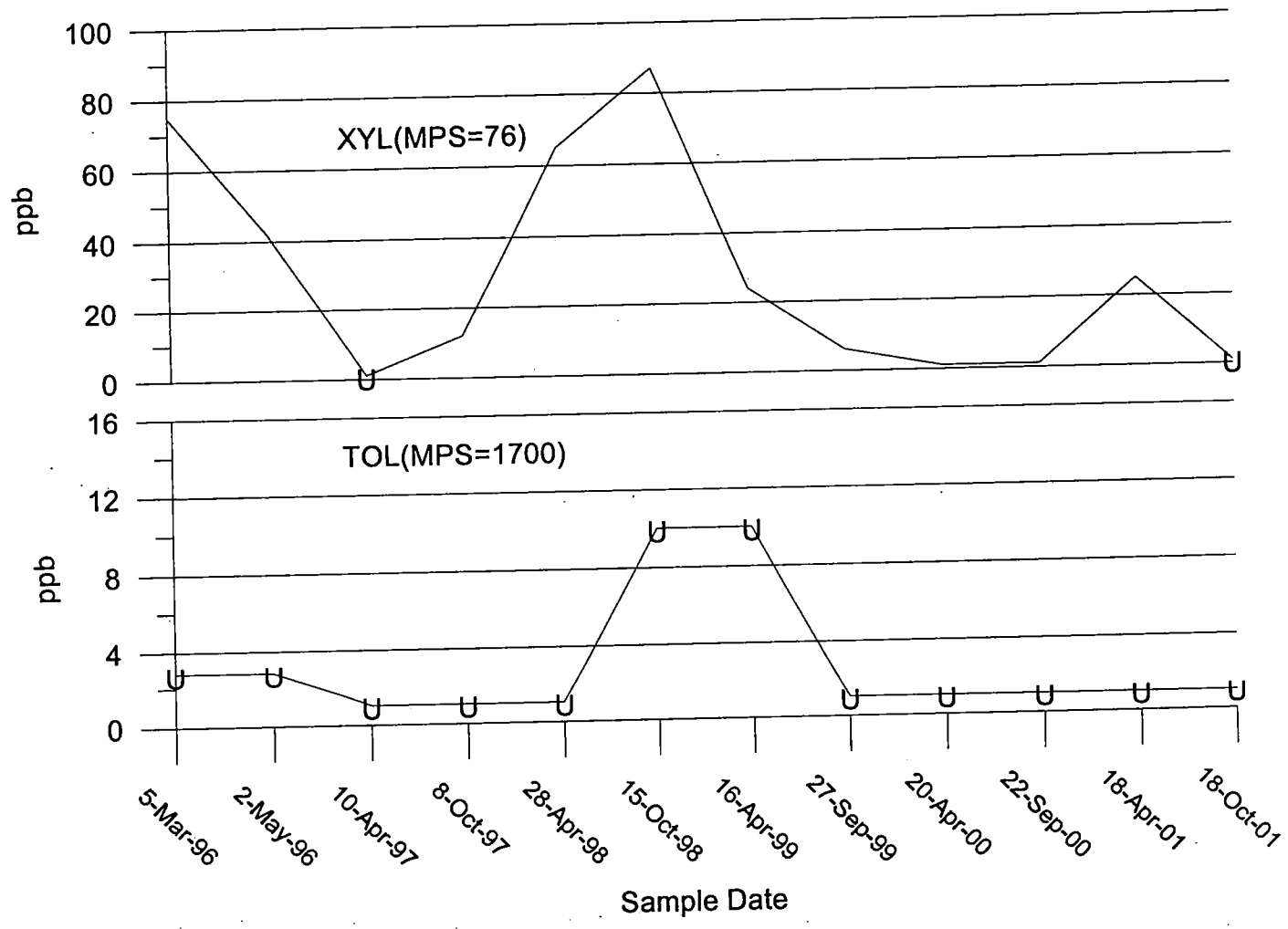
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-012S
Upgradient Well

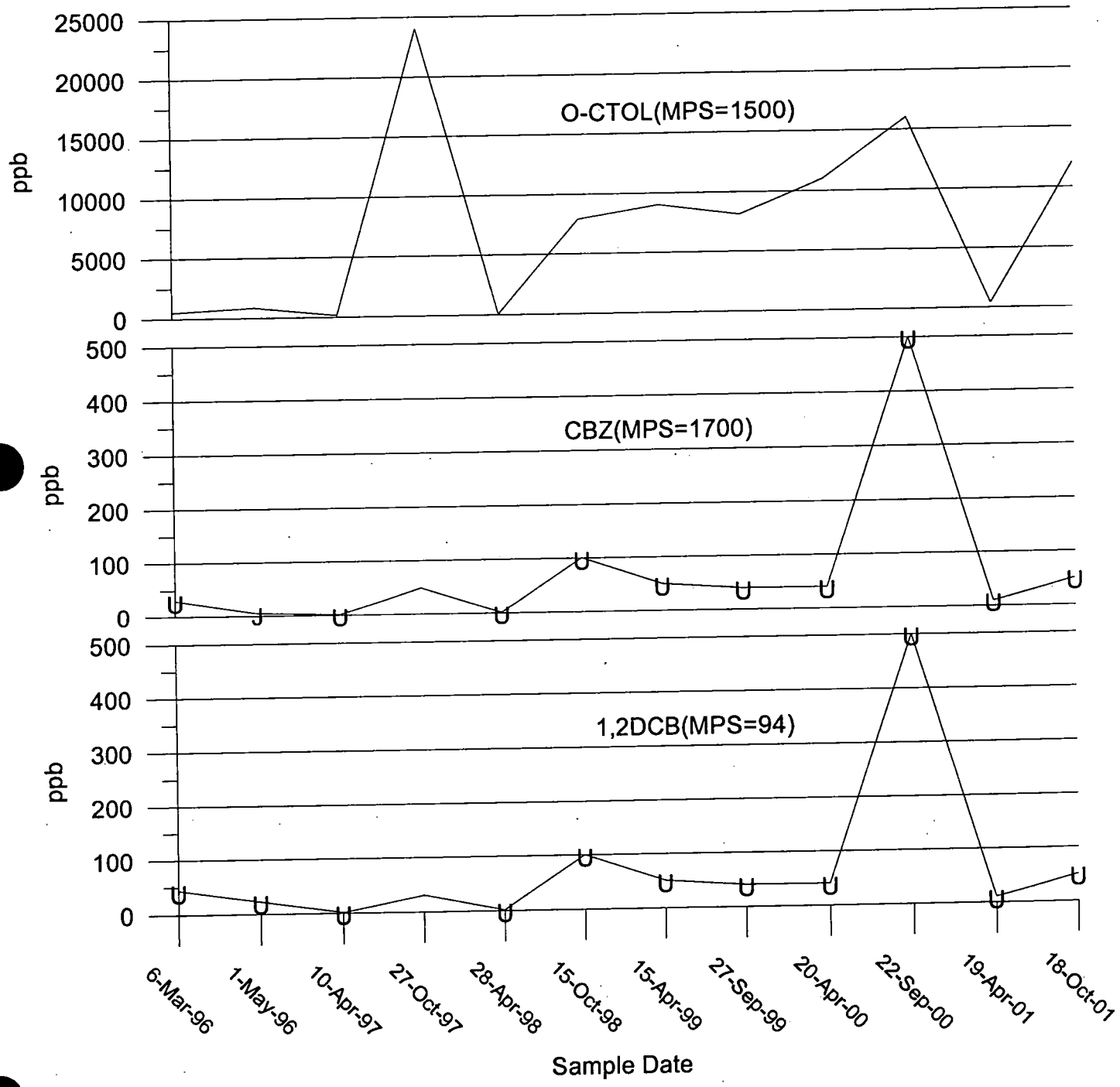
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-021S
Upgradient Well

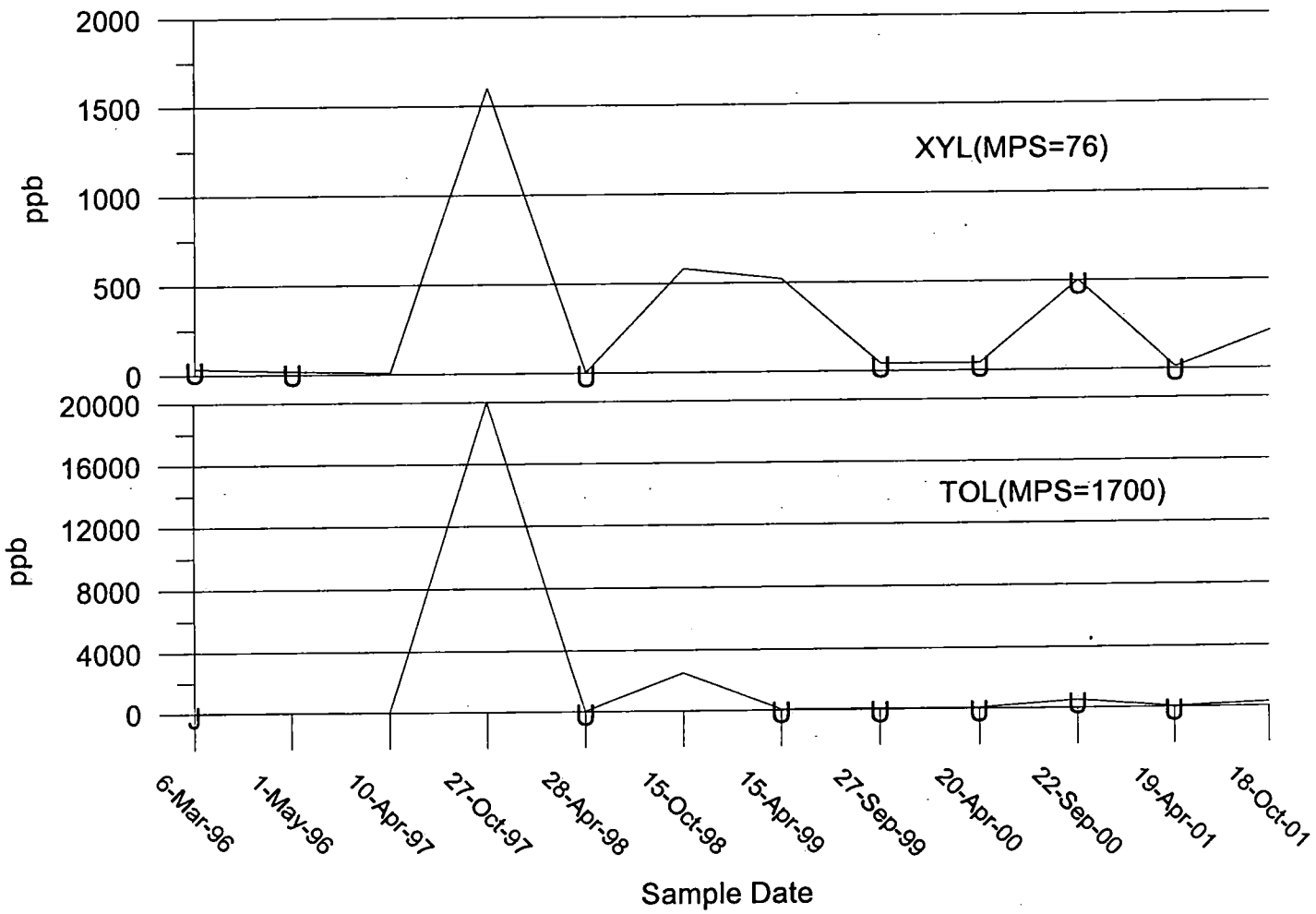
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-021S
Upgradient Well

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



APPENDIX D

TIME-SERIES GRAPHS

FOR

BULKHEAD WELLS

Table 4
BULKHEAD WELLS
Cumulative Results for Chemicals Of Concern
(Units in ppb)

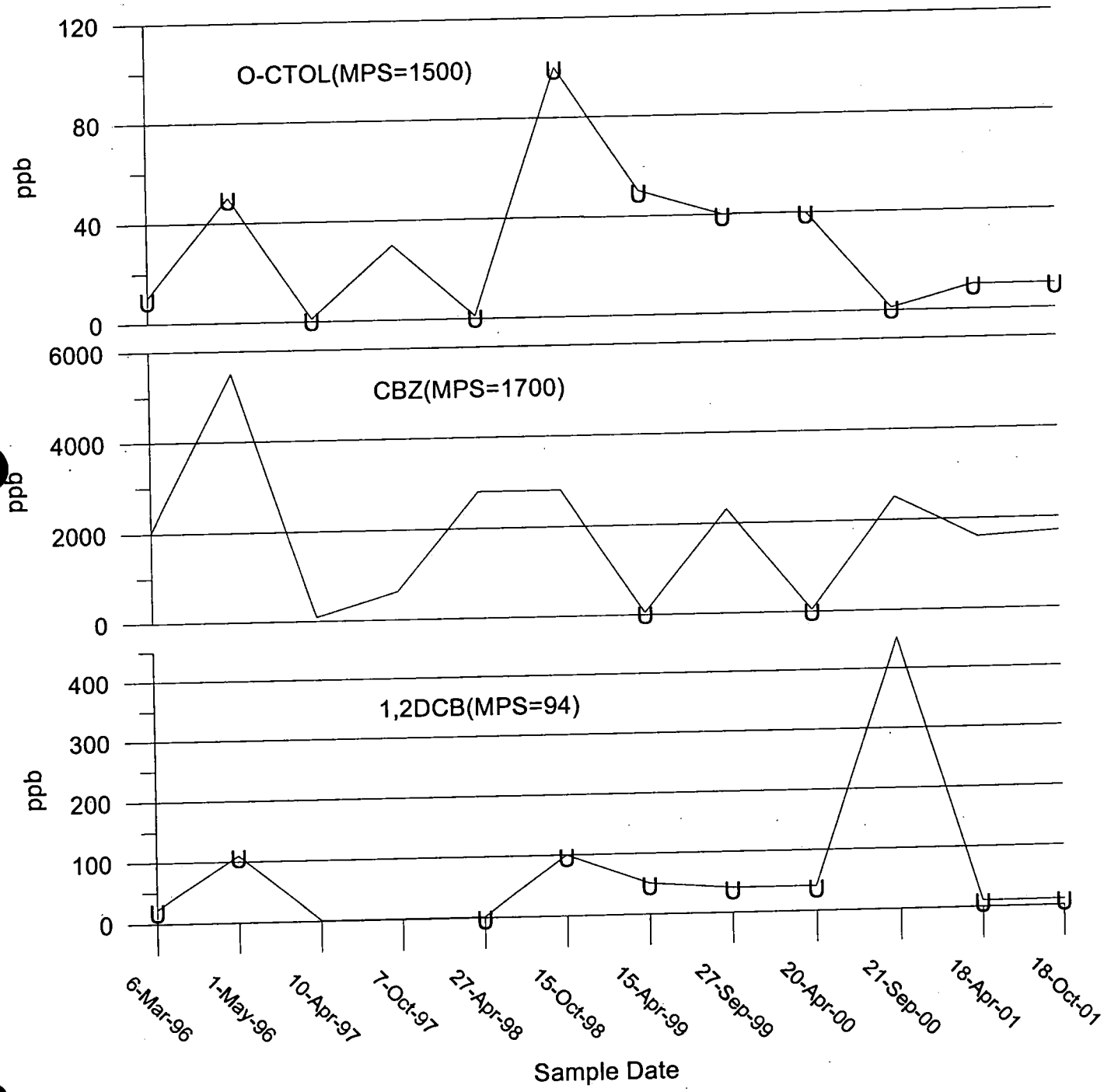
Well No.	Date Sampled	1,2-Dichloro-benzene	Chloro-benzene	o-Chloro-toluene	Toluene	Xylenes
MPS	→	94	1700	1500	1700	76
MW-001S	6-Mar-96	22 U	2000	10 U	16	18
MW-001S	1-May-96	110 U	5500	50 U	30 J	85 U
MW-001S	10-Apr-97	1	93	1 U	9	7
MW-001S	7-Oct-97	1	640	30	23	2
MW-001S	27-Apr-98	1 U	2800	1 U	1	2
MW-001S	15-Oct-98	100 U	2800	100 U	100 U	100 U
MW-001S	15-Apr-99	50 U	50	50 U	50 U	50 U
MW-001S	27-Sep-99	40 U	2300	40 U	40 U	40 U
MW-001S	20-Apr-00	40 U	40 U	40 U	40 U	40 U
MW-001S	21-Sep-00	450	2500	1 U	1 U	1 U
MW-001S	18-Apr-01	10 U	1600	10 U	10 U	10 U
MW-001S	18-Oct-01	10 U	1700	10 U	10 U	10 U
MW-002S	5-Mar-96	340	3200	50 U	200	85 U
MW-002S	30-Apr-96	44 J	2500	50 U	52 J	85 U
MW-002S	8-Apr-97	20	64	1 U	46	18
MW-002S	7-Oct-97	90	440	100	97	31
MW-002S	27-Apr-98	22	500	1 U	88	28
MW-002S	15-Oct-98	28	5200	1 U	92	34
MW-002S	15-Apr-99	140	2260	10 U	420	33
MW-002S	27-Sep-99	43	2800	40 U	40 U	40 U
MW-002S	20-Apr-00	1340	12000	150	830	120
MW-002S	21-Sep-00	930	9400	500 U	500 U	500 U
MW-002S	18-Apr-01	50 U	1400	50 U	95	50 U
MW-002S	18-Oct-01	1800	12000	170	120	33
P-035S	8-Apr-97	22	74	1 U	4	12
P-035S	7-Oct-97	240	710	2	10	12
P-035S	27-Apr-98	42	360	1 U	2	10
P-035S	15-Oct-98	140	2100	10 U	130	80
P-035S	15-Apr-99	20	480	10 U	10 U	10 U
P-035S	27-Sep-99	40 U	40 U	40 U	40 U	40 U
P-035S	20-Apr-00	4580	77000	300	160	56
P-035S	21-Sep-00	6600	11000	500 U	500 U	500 U
P-035S	18-Apr-01	2000	2100	67	50 U	50 U
P-035S	18-Oct-01	9000	11000	310	81	34
P-036S	6-Mar-96	22 U	440	10 U	14 U	17 U
P-036S	1-May-96	22 U	460	30	14 U	17 U
P-036S	8-Apr-97	1 U	72	1 U	1 U	2
P-036S	7-Oct-97	1 U	35	9	2	1 U
P-036S	27-Apr-98	1 U	260	1 U	1 U	1 U
P-036S	15-Oct-98	1 U	230	1 U	1 U	1
P-036S	15-Apr-99	10 U	200	10 U	10 U	10 U
P-036S	27-Sep-99	10 U	450	10 U	10 U	10 U
P-036S	20-Apr-00	1 U	290	1 U	1 U	1 U
P-036S	21-Sep-00	30 U	300	30 U	30 U	30 U
P-036S	18-Apr-01	10 U	280	10 U	10 U	10 U
P-036S	18-Oct-01	1 U	170	1 U	1 U	1 U
P-037S	9-Apr-97	2 U	54	16	1 U	1
P-037S	8-Oct-97	2	50	13	1 U	1 U
P-037S	28-Apr-98	2	420	8	1 U	1 U
P-037S	15-Oct-98	30 U	540	30 U	30 U	30 U
P-037S	15-Apr-99	10 U	210	10 U	10 U	10 U
P-037S	27-Sep-99	10 U	660	10 U	10 U	10 U
P-037S	20-Apr-00	1 U	460	5	1 U	1 U
P-037S	21-Sep-00	30 U	370	30 U	30 U	30 U
P-037S	18-Apr-01	10 U	330	10 U	10 U	10 U
P-037S	18-Oct-01	2	240	1 U	1 U	1 U
P-038S	6-Mar-96	4.3 U	2.4 J	2 U	1.3 J	3.4 U
P-038S	1-May-96	4.3 U	1.2 J	2 U	2.8 U	3.4 U
P-038S	9-Apr-97	1 U	1 U	1 U	1 U	1 U
P-038S	8-Oct-97	1 U	1 U	1 U	1 U	1 U
P-038S	28-Apr-98	1 U	1 U	1 U	1 U	1 U
P-038S	15-Oct-98	1 U	2	1 U	1 U	1 U
P-038S	15-Apr-99	1 U	1 U	1 U	1 U	1 U
P-038S	27-Sep-99	1 U	1	1 U	1 U	1 U
P-038S	20-Apr-00	1 U	1 U	1 U	1 U	1 U
P-038S	21-Sep-00	1 U	1	1 U	1 U	1 U
P-038S	18-Apr-01	1 U	1 U	1 U	1 U	1 U
P-038S	18-Oct-01	1 U	6	1 U	1 U	1 U

MPS = Media Protection Standard
U = Nondetect with detection limit given
J = Estimated value

Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-001S
Along Bulkhead

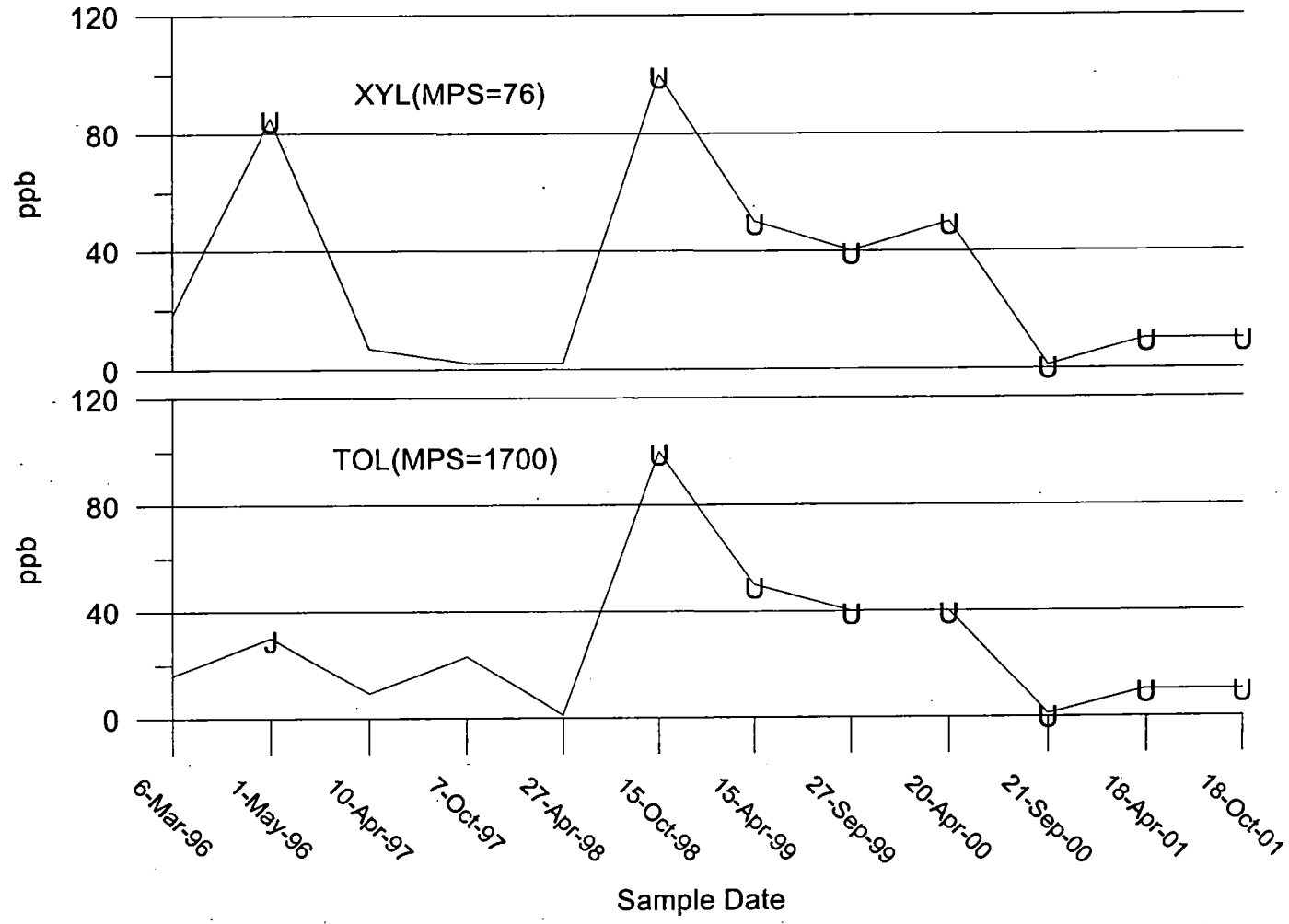
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-001S
Along Bulkhead

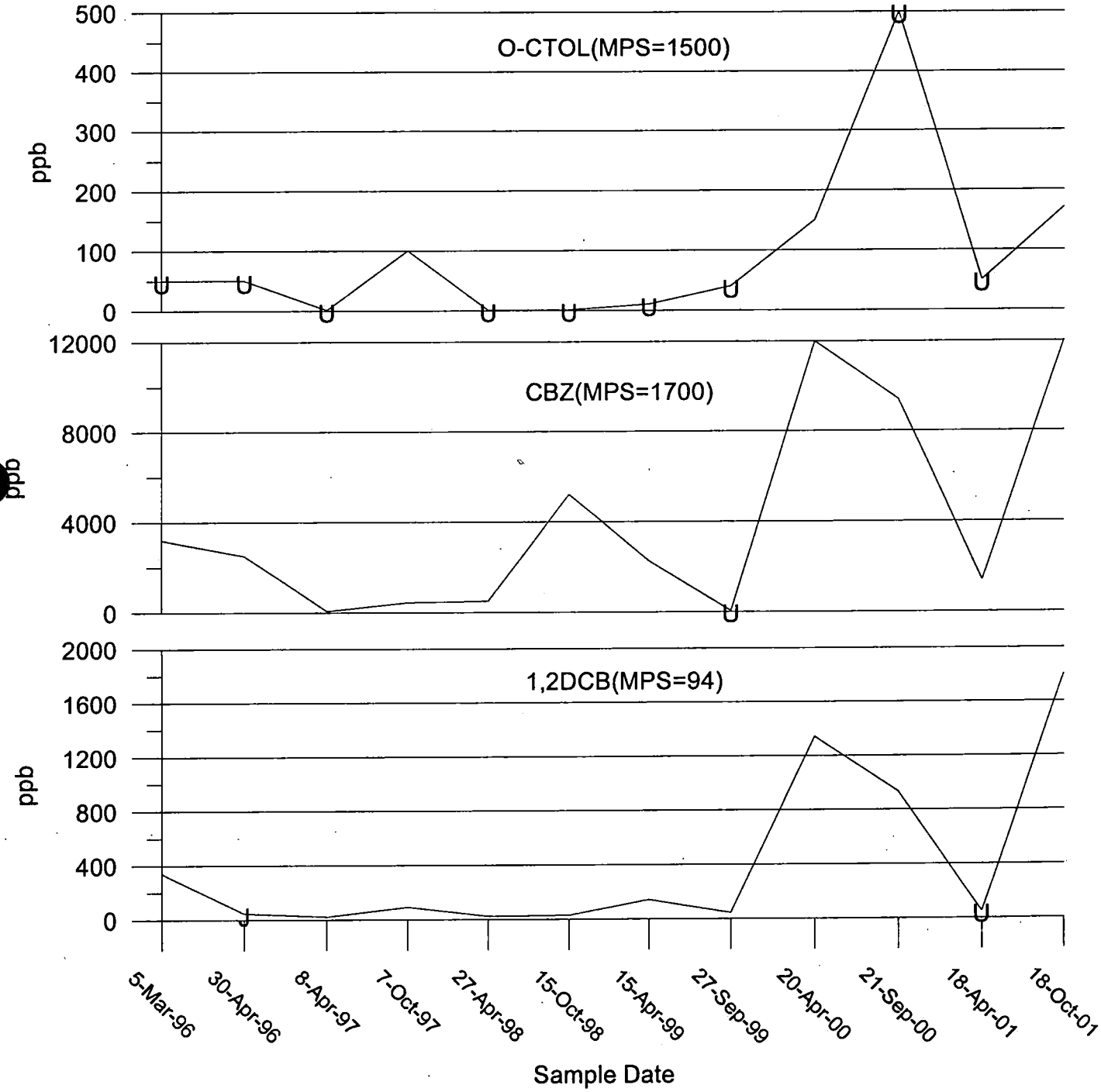
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-002S
Along Bulkhead

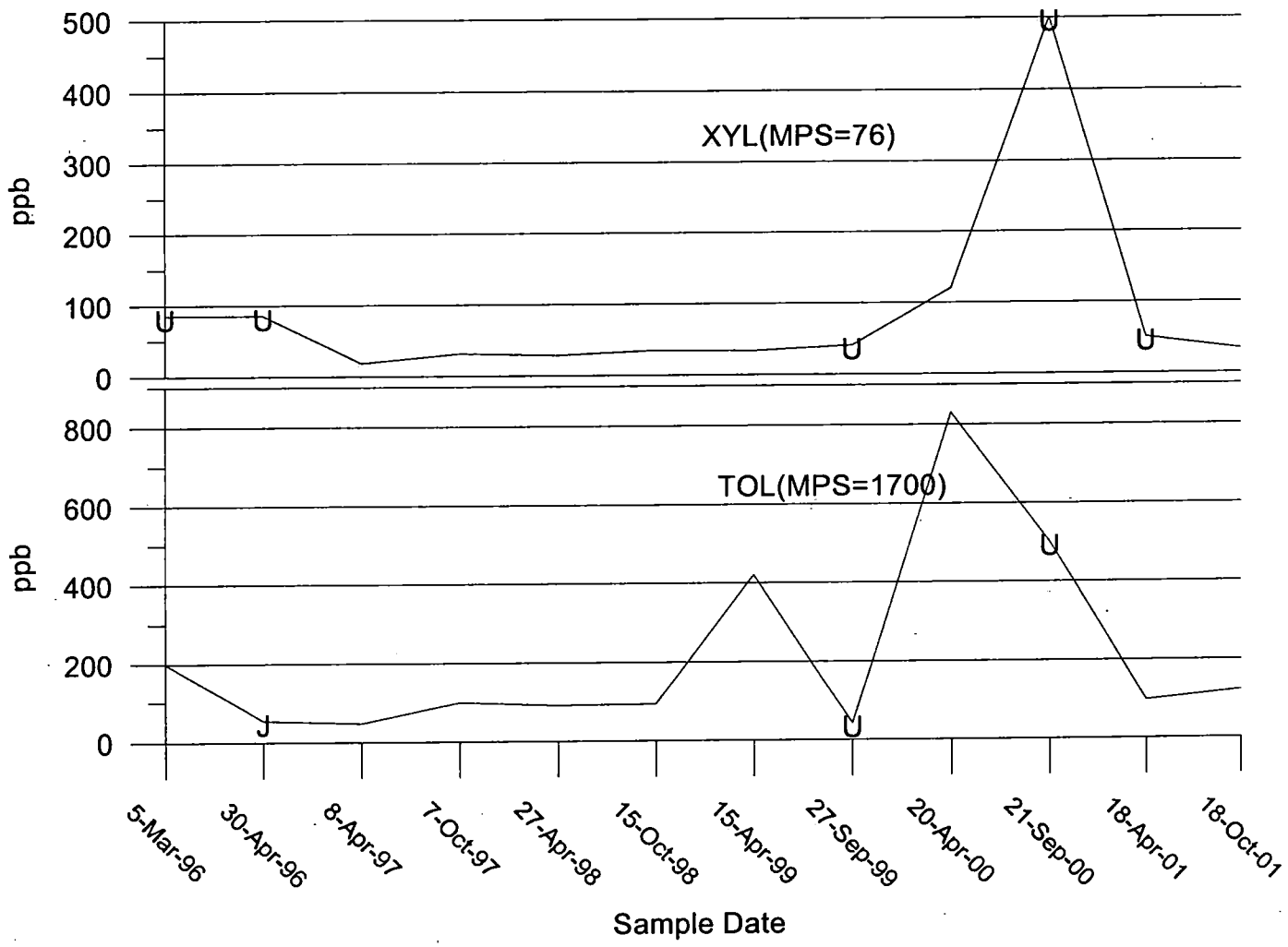
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-002S
Along Bulkhead

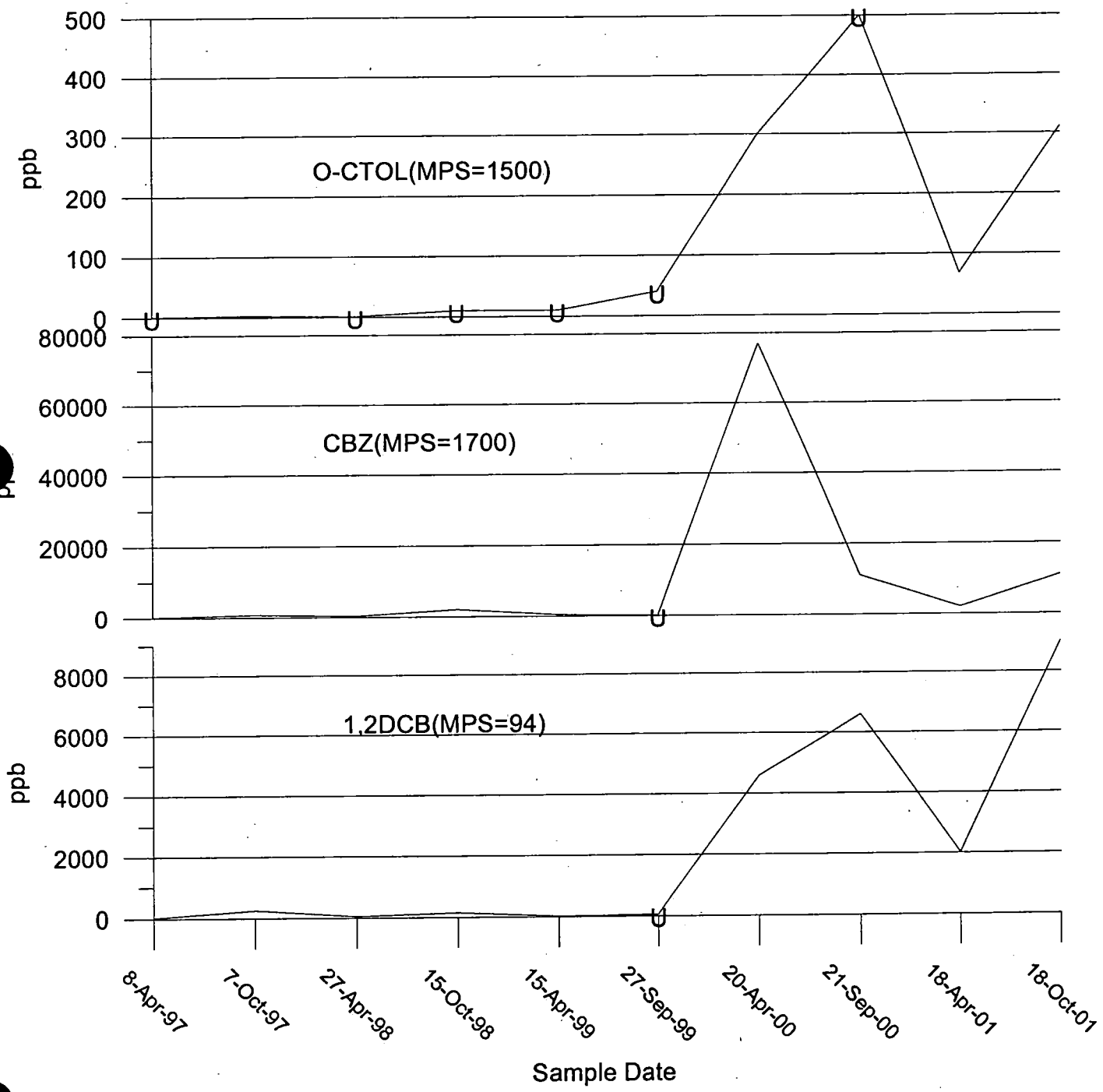
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-035S
Along Bulkhead

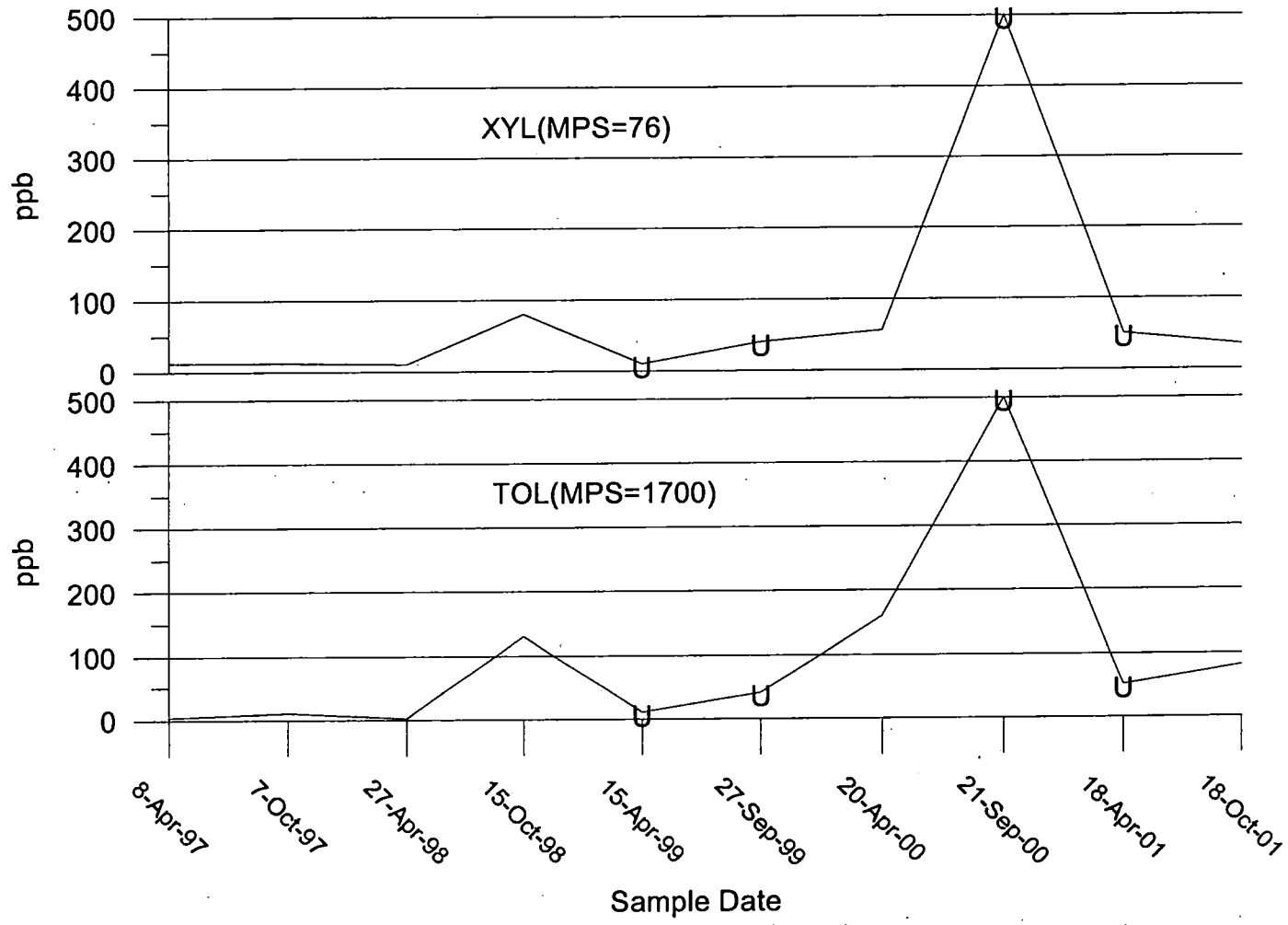
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-035S
Along Bulkhead

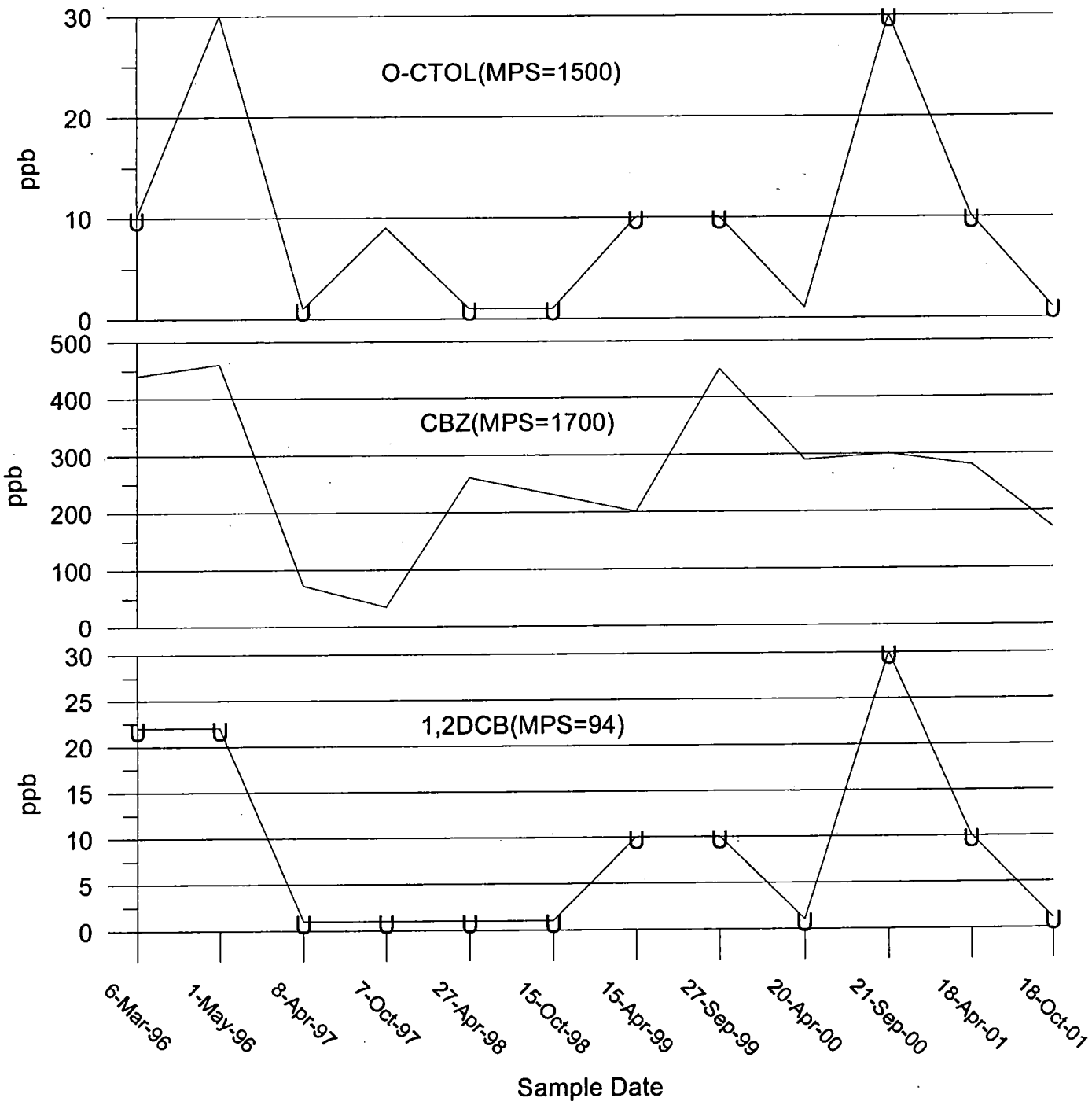
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-036S
Along Bulkhead

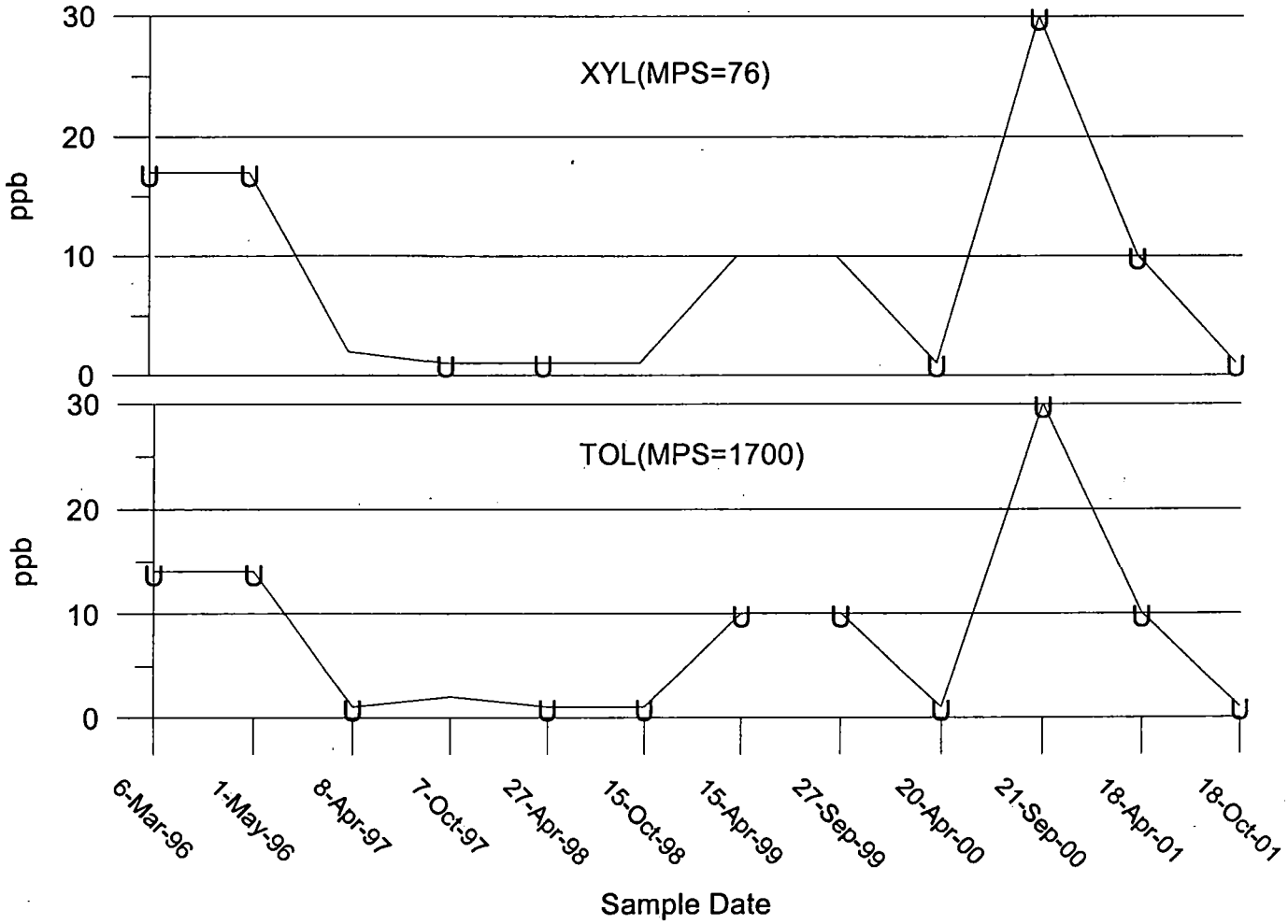
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-036S
Along Bulkhead

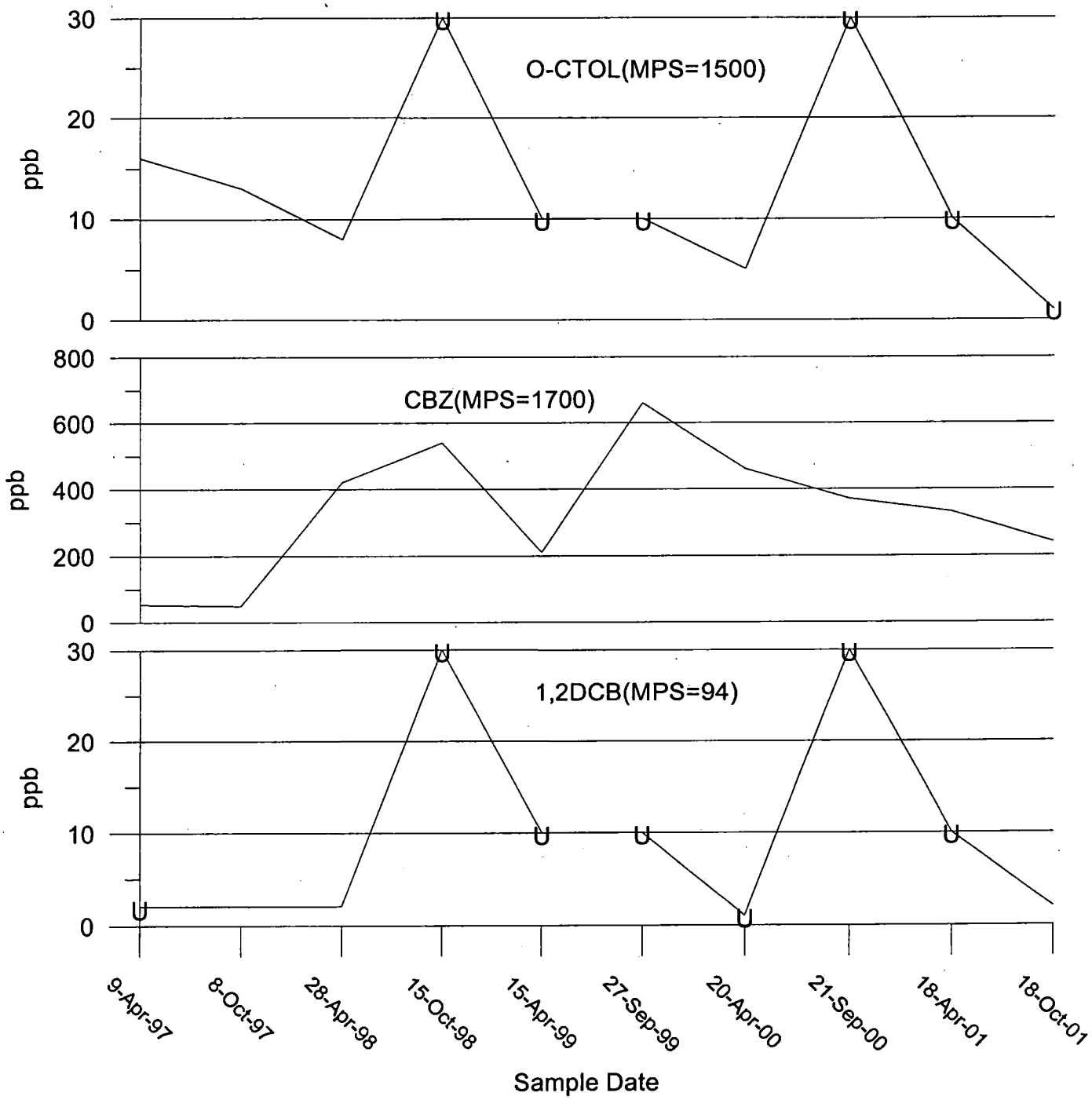
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-037S
Along Bulkhead

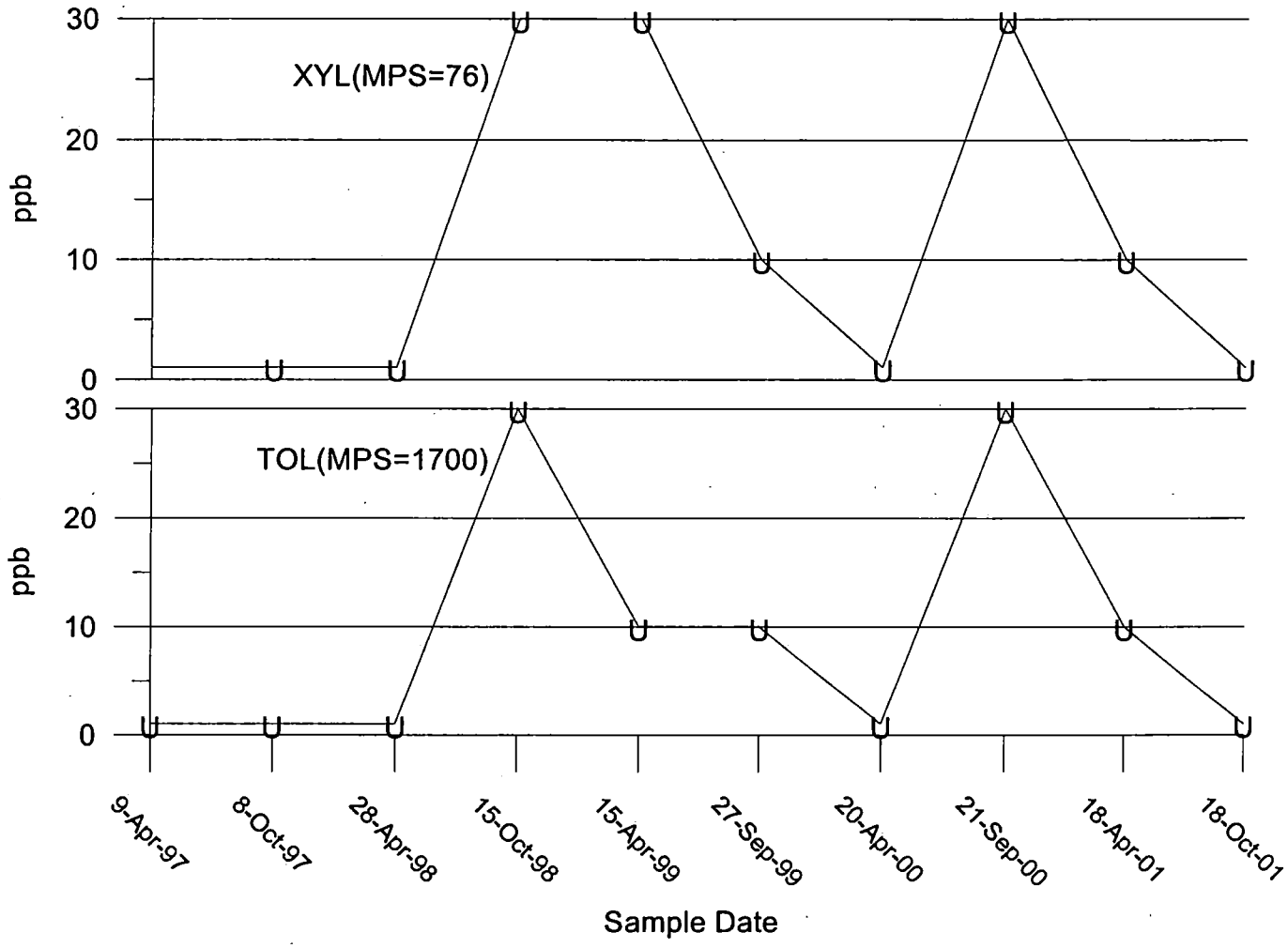
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-037S
Along Bulkhead

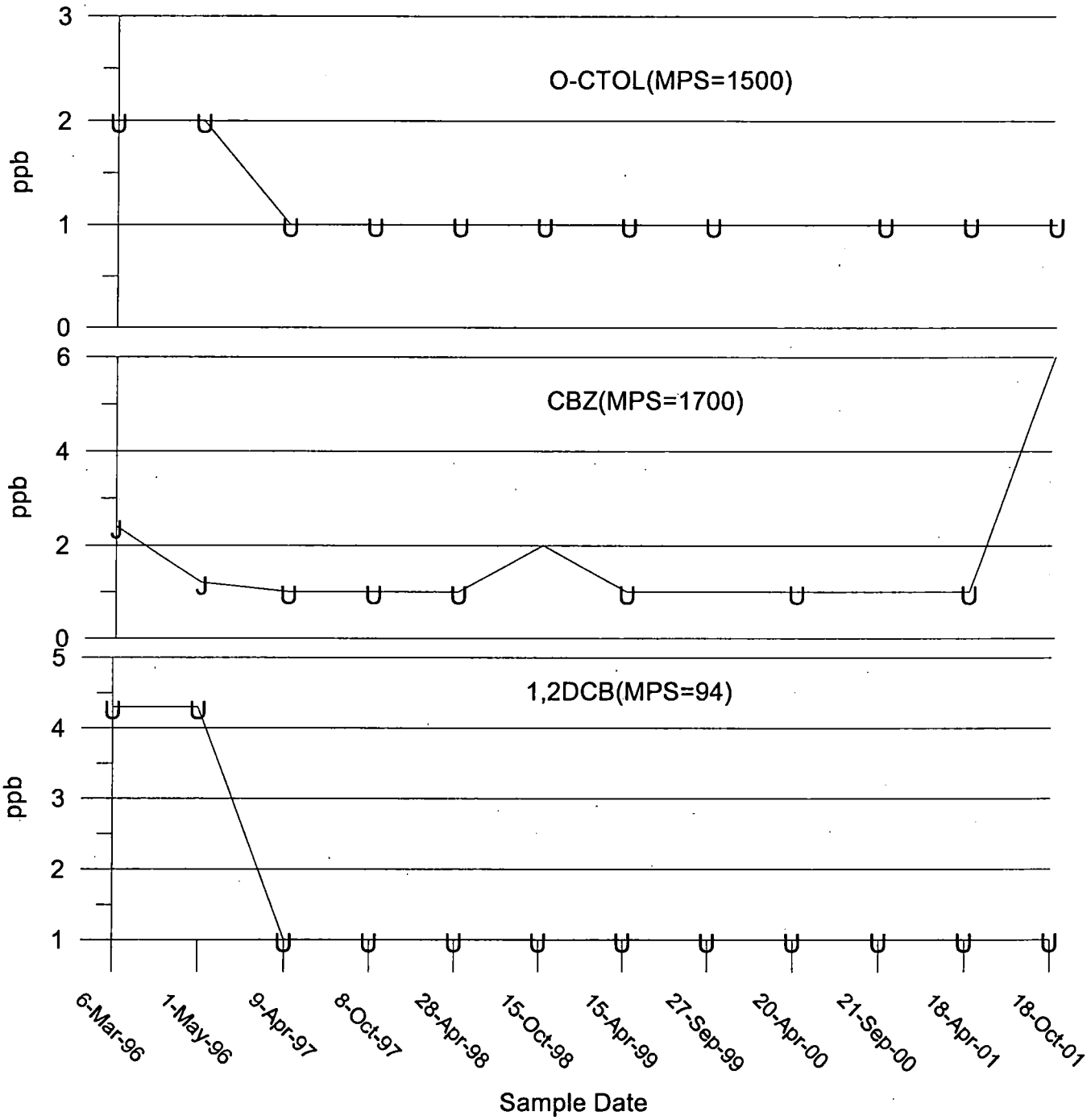
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-038S
Along Bulkhead

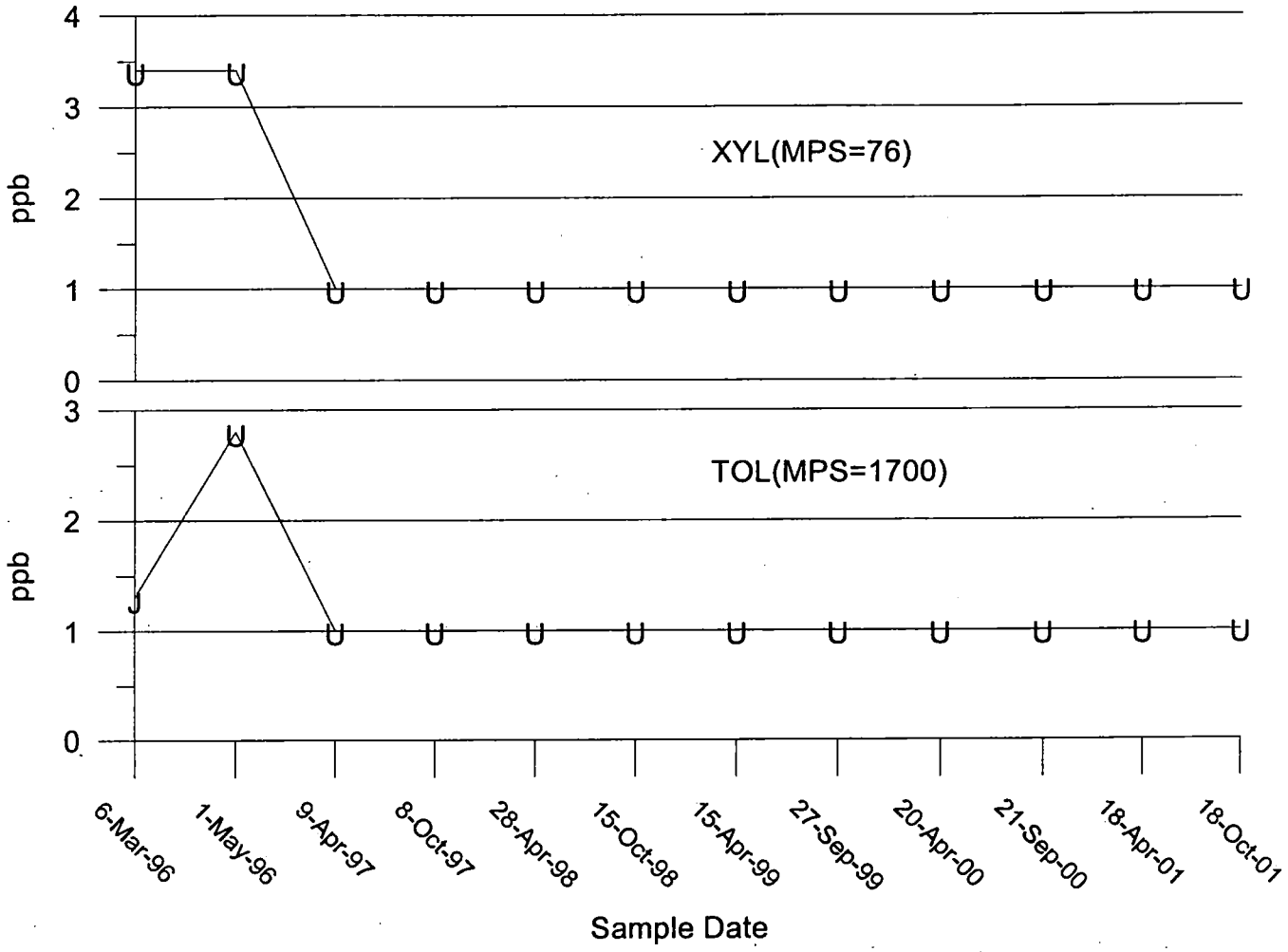
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-038S
Along Bulkhead

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



APPENDIX E

TIME-SERIES GRAPHS

FOR

IN-RIVER WELLS

Table 5
IN-RIVER WELLS
Cumulative Results for Chemicals Of Concern
(Units in ppb)

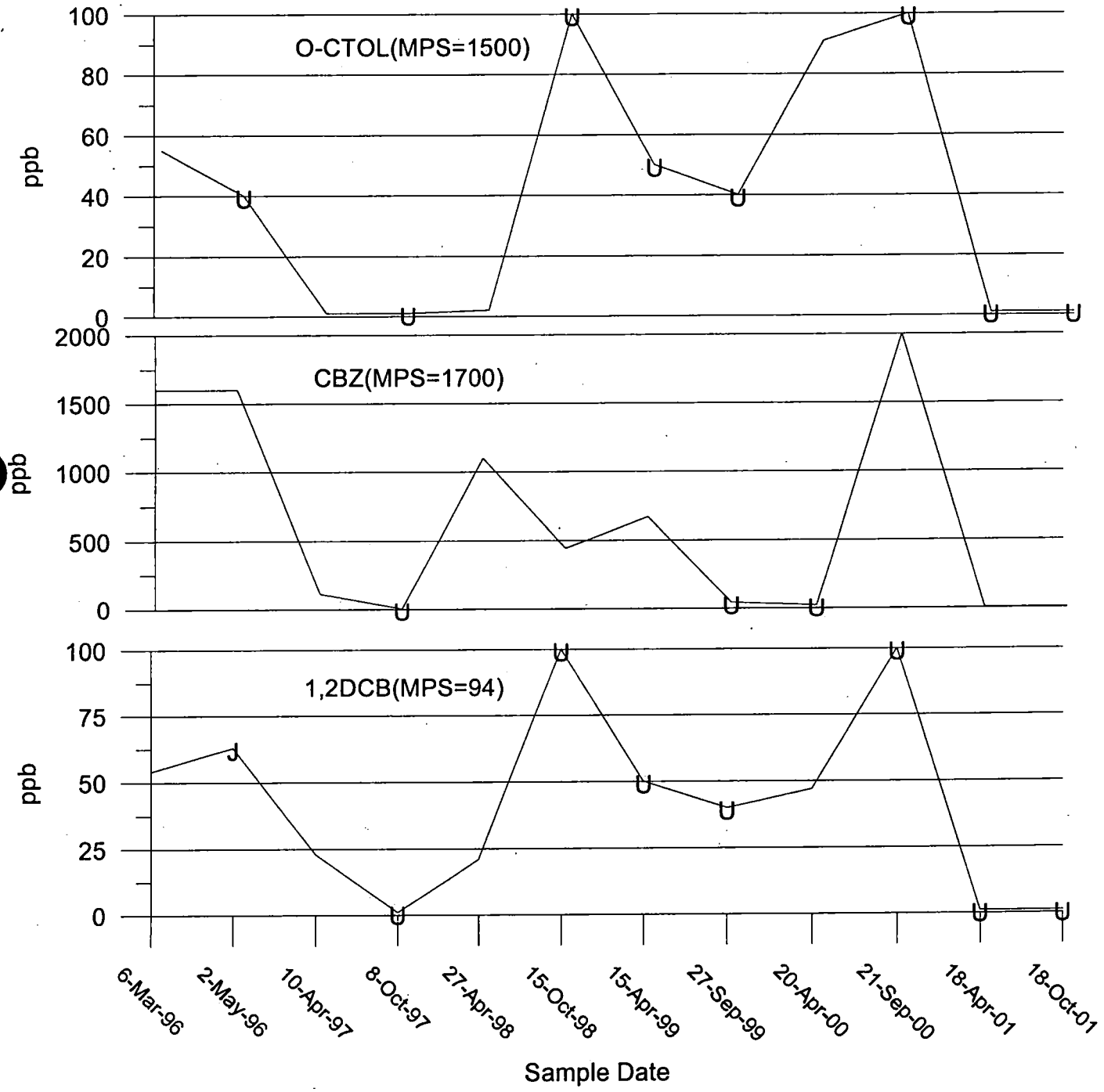
Well No.	Date Sampled	1,2-Dichloro-benzene	Chloro-benzene	o-Chloro-toluene	Toluene	Xylenes
MPS	→	94	1700	1500	1700	76
SW-110	6-Mar-96	54	1600	55	460	34 U
SW-110	2-May-96	63 J	1600	40 U	220	68 U
SW-110	10-Apr-97	23	110	1	62	8
SW-110	8-Oct-97	1 U	1 U	1 U	1 U	1 U
SW-110	27-Apr-98	21	1100	2	170	6
SW-110	15-Oct-98	100 U	440	100 U	100 U	100 U
SW-110	15-Apr-99	50 U	670	50 U	50 U	50 U
SW-110	27-Sep-99	40 U	2500	40 U	220	40 U
SW-110	20-Apr-00	47	20 U	91	380	20 U
SW-110	21-Sep-00	100 U	2000	100 U	820	100 U
SW-110	18-Apr-01	1 U	3	1 U	1 U	1 U
SW-110	18-Oct-01	1 U	2	1 U	1 U	1 U
SW-120	5-Mar-96	4.3 U	63	2 U	2.8 U	3.4 U
SW-120	30-Apr-96	4.3 U	70	2 U	2.8 U	3.4 U
SW-120	8-Apr-97	1 U	43	1 U	1 U	1 U
SW-120	7-Oct-97	1	39	39	31	2
SW-120	27-Apr-98	1 U	54	1 U	1 U	1 U
SW-120	15-Oct-98	1 U	36	1 U	1 U	1 U
SW-120	15-Apr-99	10 U	92	10 U	10 U	10 U
SW-120	27-Sep-99	10 U	68	10 U	10 U	10 U
SW-120	20-Apr-00	1 U	67	1 U	1 U	1 U
SW-120	21-Sep-00	9100	1800	500 U	500 U	500 U
SW-120	18-Apr-01	1 U	58	1 U	1 U	1 U
SW-120	18-Oct-01	2	54	1 U	1 U	1 U
SW-130	6-Mar-96	4.3 U	3 U	6.5	2.8 U	3.4 U
SW-130	1-May-96	4.3 U	3 U	12	2.8 U	3.4 U
SW-130	9-Apr-97	1 U	1	12	1 U	1 U
SW-130	7-Oct-97	1 U	1 U	2	1 U	1 U
SW-130	27-Apr-98	1 U	27	14	1 U	1 U
SW-130	15-Oct-98	1 U	1 U	1	1 U	1 U
SW-130	15-Apr-99	1 U	5	5	1 U	1 U
SW-130	27-Sep-99	1 U	1	2	1 U	1 U
SW-130	20-Apr-00	1	10	30	1 U	1
SW-130	21-Sep-00	5 U	5 U	5 U	5 U	5 U
SW-130	19-Apr-01	1 U	1 U	1 U	1 U	1 U
SW-130	18-Oct-01	1 U	12	1 U	1 U	1 U

MPS = Media Protection Standard
U = Nondetect with detection limit given
J = Estimated value

Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-110
In-River Wells

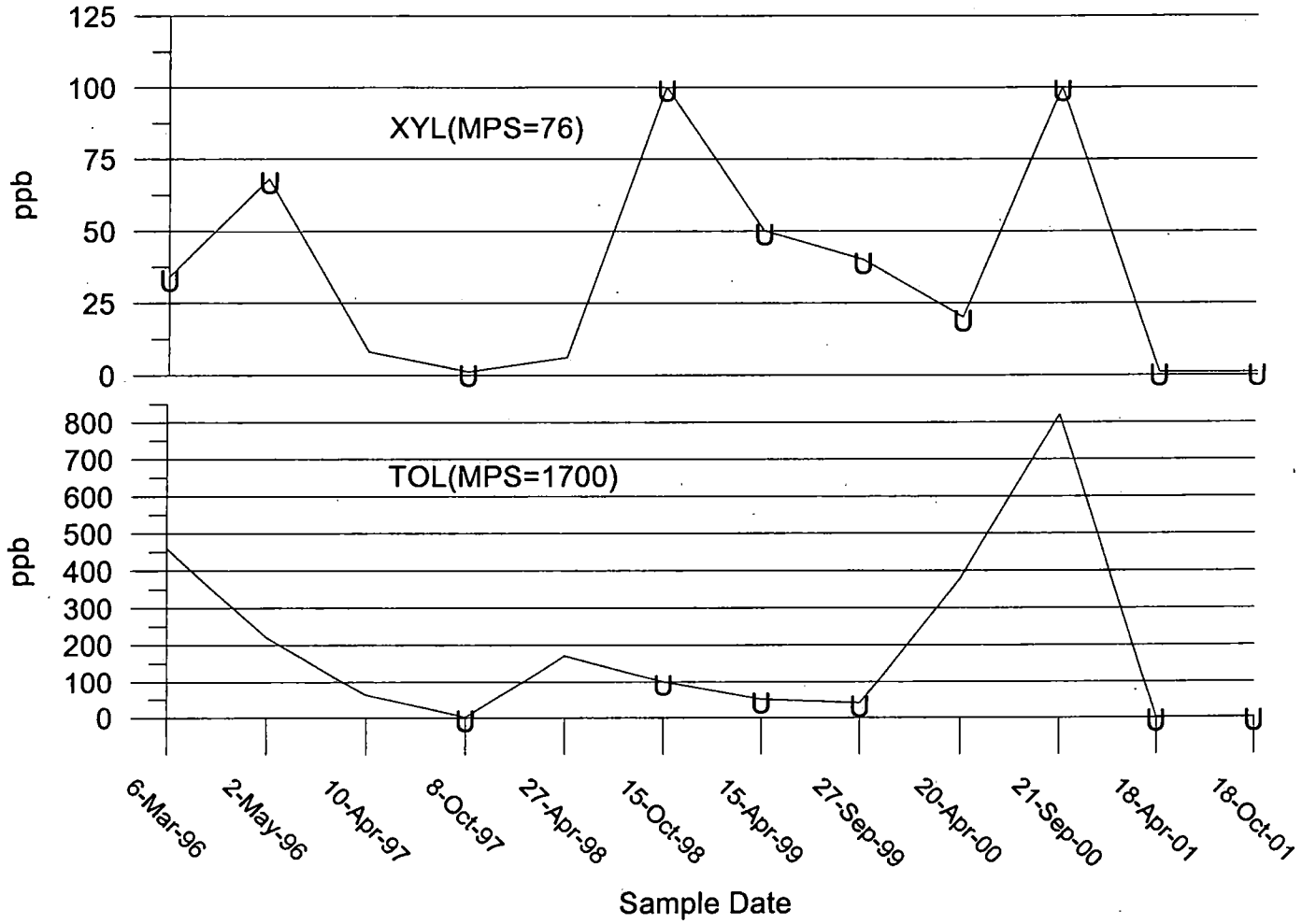
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-110
In-River Well

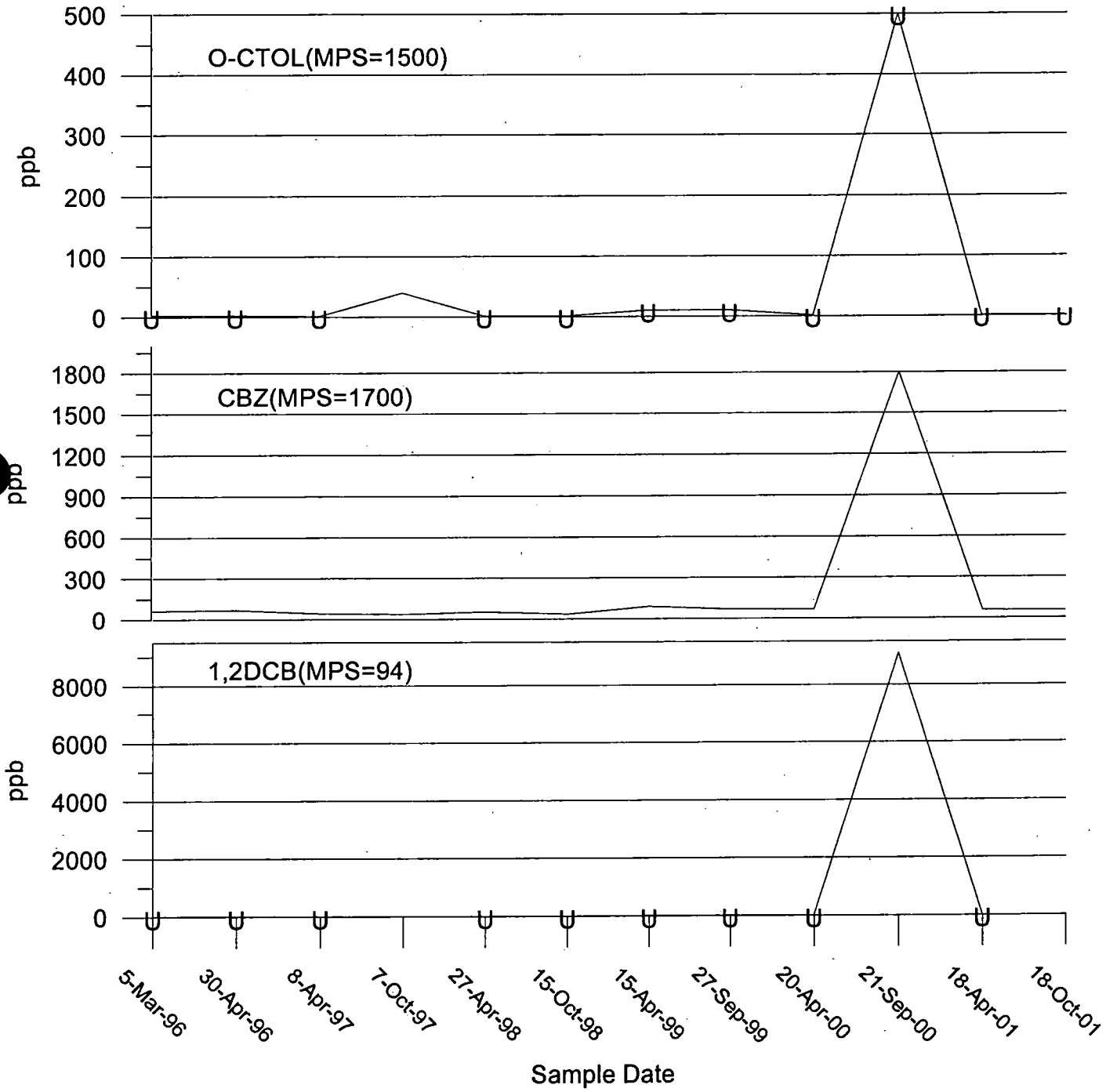
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-120
In-River Well

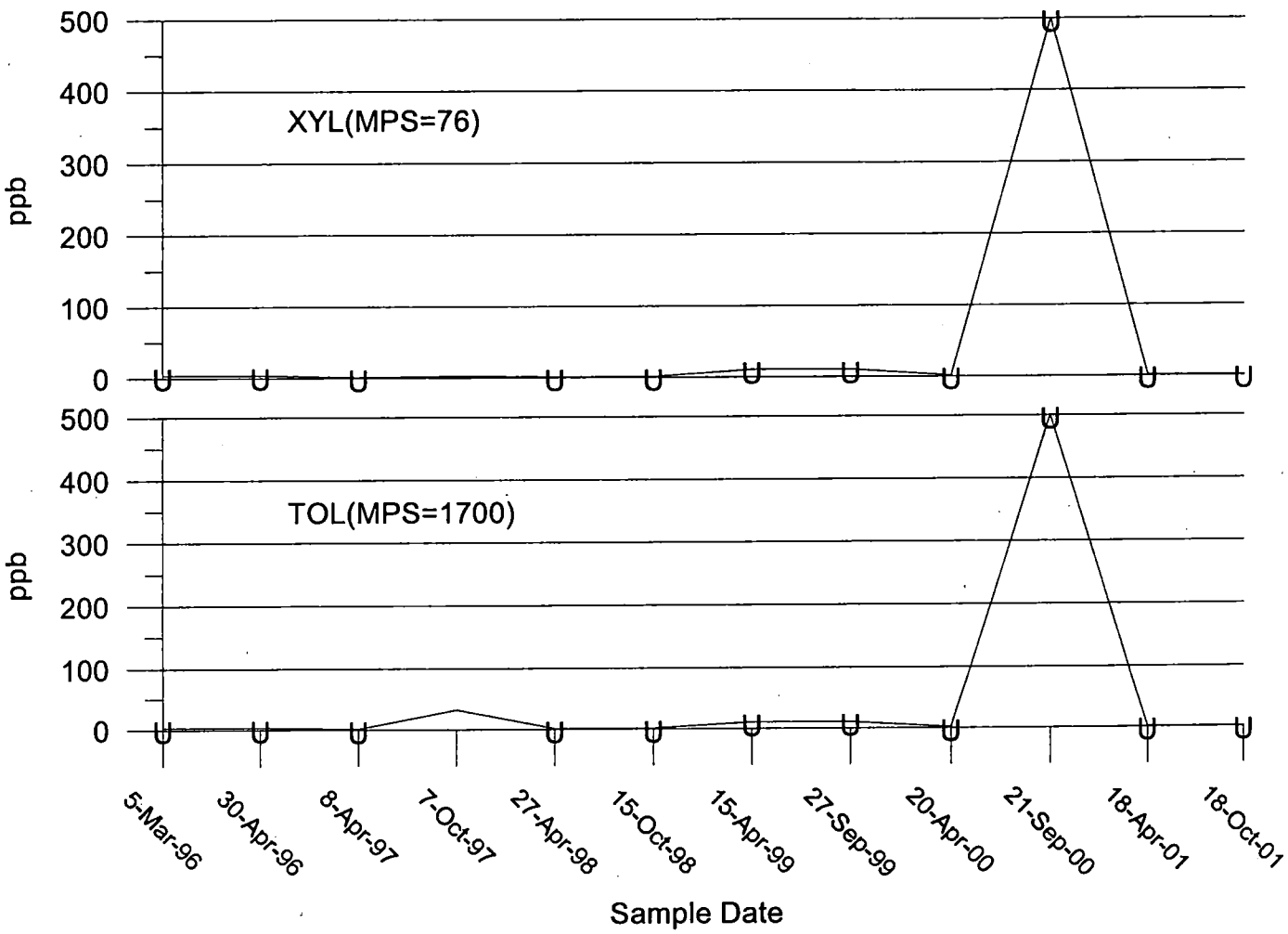
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-120
In-River Well

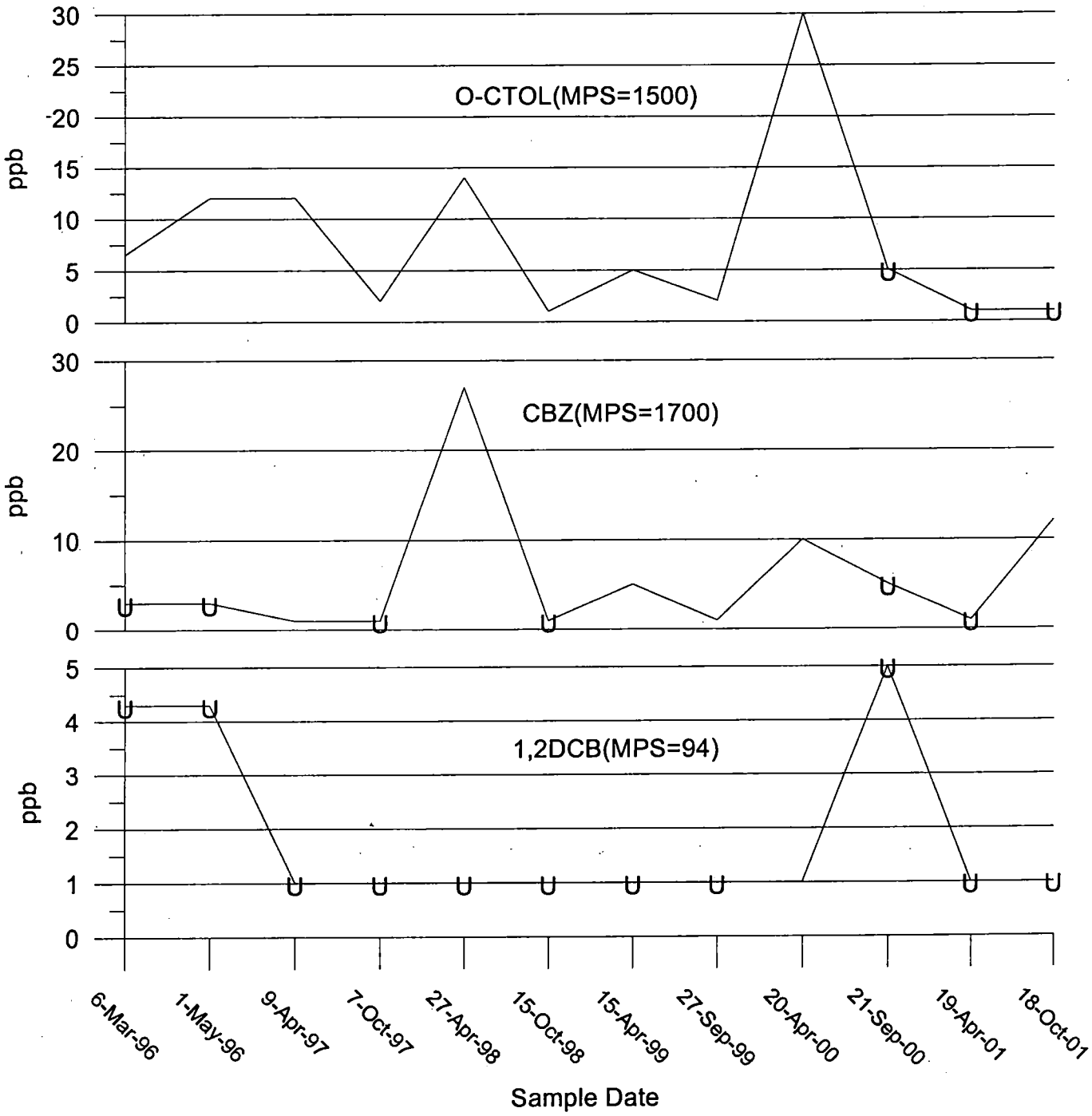
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



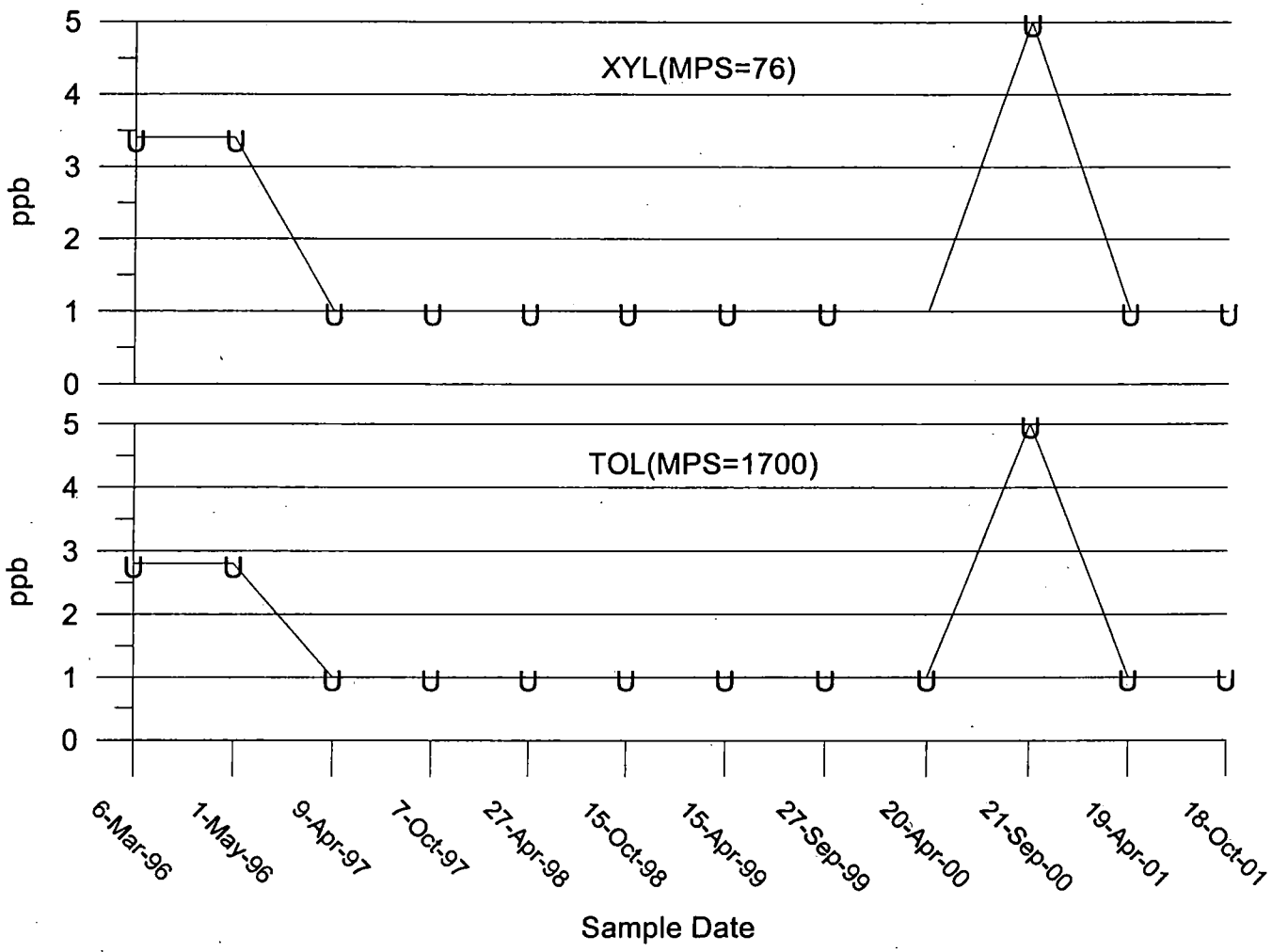
Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-130
In-River Well

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-130
In-River Well

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.