The electronic version of this file/report should have the file name:

Type of document . Site Number . Year-Month . File *Year-Year* or Report name . pdf

letter._____ ._____-___.CorrespondenceFile_____.pdf

example: *letter . Site Number . Year-Month . CorrespondanceFileYear-Year . pdf*

report. 932030B . 2007- 12. 2007 Annual GW Report .pdf

example: *report . Site Number . Year-Month . ReportName . pdf*

if a non-foilable site: add ".nf.pdf" at end of file name

Project Site numbers will be proceeded by the following:

Municipal Brownfields - B
Superfund - HW
Spills - SP
ERP - E
VCP - V
BCP - C

SR

2007 ANNUAL GROUNDWATER MONITORING PROGRAM EVALUATION REPORT

AKZO NOBEL POLYMER CHEMICALS LLC
2153 LOCKPORT-OLCOTT ROAD
BURT, NEW YORK

PRINTED ON:

DECEMBER 21, 2007

2007 ANNUAL GROUNDWATER MONITORING PROGRAM EVALUATION REPORT

AKZO NOBEL POLYMER CHEMICALS LLC
2153 LOCKPORT-OLCOTT ROAD
BURT, NEW YORK

DECEMBER 2007
REF. NO. 044016-04 (10)

Prepared by:
Conestoga-Rovers & Associates

2055 Niagara Falls Blvd.
Suite Three
Niagara Falls, NY 14304

Office: 716·297·6150
Fax: 716·297·2265

TABLE OF CONTENTS

LIST OF FIGURES
(Following Text)

LIST OF APPENDICES

1.0 INTRODUCTION

Akzo Nobel Polymer Chemicals, LLC (Akzo Nobel) has a Part 373 Permit, Number 9-02928-00001/0003, which required a Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) and a RCRA Facility Investigation (RFI) to determine the nature and extent of contamination associated with the Site (Site). These studies were conducted from 1994 to 2002. Based on the findings of the RFI, groundwater impacts were identified at the Site. A Corrective Measures Study (CMS) was conducted to evaluate remedial alternatives. Monitored Natural Attenuation (MNA) and institutional controls were selected as the final corrective measures for the Site. Akzo Nobel's Part 3 Permit was renewed in December 2005. The Permit authorized Akzo Nobel to implement corrective action measures to address the groundwater contamination at the Site.

The remedial goals of the corrective action are:

i) eliminate the future risk to human health posed by the contaminated soil and remaining source materials present within the industrialized area of the Facility;

ii) eliminate the future risk to human health posed by the contaminated overburden groundwater present beneath the industrialized area of the Facility; and

iii) control migration of the contaminated groundwater.

The remedial criteria of the correction action are:

i) maintain a long-term Groundwater Monitoring Program (GMP) to ensure that the concentration of contaminants continues to decline in the central area of the Facility; and

ii) continue groundwater monitoring in the perimeter wells to ensure that there is no off-Site contaminant migration.

The GMP and the effectiveness of the MNA as the selected remedy for the Site will be evaluated annually. The GMP Evaluation Report will evaluate the contaminant concentration trends and natural attenuation parameters to determine if the remedy is effective in meeting the remedial goals and permit criteria. If an annual review shows that any well or wells consistently has results of non-detect for all parameters for at last four sampling events, Akzo Nobel may request that the New York State Department of Environmental Conservation (NYSDEC) allow Akzo Nobel to modify this GMP to reduce the sampling frequency for those wells.

If concentrations of Site contaminants are observed to be increasing at any of the source area wells or contaminants are detected at any of the perimeter wells at concentrations above the 6 New York Code of Rules and Regulations (NYCRR) Part 703.5 Standards, Akzo Nobel will develop and implement an Interim Corrective Measures (ICM) as required by Module II Section 1(a)(ii).

As required in the GMP, this annual report evaluates the performance of the remedial system at the Site. This performance evaluation includes:

i) a comparison of quarterly 2007 monitoring data to determine remediation trends; and

ii) an evaluation of water level data to determine overburden and bedrock groundwater flow.

Figure 1 presents a Site Plan and Figure 2 presents the monitoring well locations. This is the second annual report prepared for the Site, and summarizes data collected for the First, Second, Third, and Fourth Quarters of 2007.

2.0 GROUNDWATER QUALITY DATA

The existing monitoring well network consists of 17 groundwater monitoring wells. All monitoring wells were sampled on a quarterly basis. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), general chemistry, and specific field parameters. The TCL VOCs were analyzed by United States Environmental Protection Agency (USEPA) SW-846 Method 8260. Analyzing for the TCL VOC list of parameters indicates if the contaminants identified at the Site were decreasing in concentration as well as if daughter-products were being produced, providing an indication of degradation of contaminants by natural attenuation. Additionally, the following natural attenuation parameters were analyzed to assess whether conditions continue to be favorable for continued degradation or if enhancement of the natural attenuation may be necessary:

i) dissolved oxygen (field measurement);

ii) iron (II) (field measurement);

iii) dissolved iron (USEPA Method SW-846 200.7 Series);

iv) manganese, dissolved (USEPA Method SW-846 200.7 Series);

v) nitrate (USEPA Method SW-846 300.0);

vi) nitrite (USEPA Method SW-846 354.1);

vii) sulfate (USEPA Method SW-846 300.0); and

viii) methane (Method RSK 175).

Analytical reports are summarized in Appendix A. Appendix D contains field measurement data.

3.0 COMPARISON OF 2007 TCL VOCs IN GROUNDWATER WITH NYCRR 703.5 GROUNDWATER STANDARDS

The analytical results comparing TCL VOCs in groundwater with NYCRR 703.5 Groundwater Standards obtained in 2007 for the 17 extraction wells are summarized briefly below.

Well	*Comparison of TCL VOCs in Groundwater with NYCRR 703.5 Groundwater Standards*	
MW-1	1,2 Dichloroethane (1.0 µg/L versus permit limit of 0.6 µg/L)	10/30/07
MW-1B	No results above action limits.	
MW-2	Benzene (33 µg/L [33 µg/L duplicate]versus action limit of 1 µg/L)	04/19/07
	Benzene (7.8 µg/L versus action limit of 1 µg/L)	06/07/07
	Benzene (5.7 µg/L [6.4 µg/L duplicate] versus action limit of 1 µg/L)	08/13/07
	Chloroethane (600 µg/L[560 µg/L duplicate] versus action limit of 5 µg/L)	04/19/07
	Chloroethane (56 µg/L versus action limit of 5 µg/L)	06/07/07
	Chloroethane (74 µg/L [78 µg/L duplicate] versus action limit of 5 µg/L)	08/14/07
	Chloroethane (73 µg/L [73 µg/L duplicate] versus action limit of 5 µg/L)	10/31/07
	1,1 Dichloroethane (11 µg/L [11 µg/L duplicate] versus action limit of 5 µg/L)	04/19/07
	Toluene (150 µg/L [140 µg/L duplicate] versus action limit of 5 µg/L)	04/19/07
	Toluene (5.9 µg/L versus action limit of 5 µg/L)	06/07/07
	Xylene (13 µg/L [13 µg/L duplicate] versus action limit of 5µg/L)	04/19/07
MW-3*	No results above action limits	
MW-3B*	No results above action limits	
MW-4*	No results above action limits	
MW-4B*	No results above action limits	
MW-5	Acetone (450 µg/L versus action limit of 50 µg/L)	08/14/07
	Acetone (170 µg/L versus action limit of 50 µg/L)	10/31/07
MW-6	No results above action limits	
MW-7	No results above action limits	
MW-8	No results above action limits	
MW-9*	1,1,1-Trichloroethane (38 µg/L versus action limit of 5 µg/L)	04/20/07
	1,1,1-Trichloroethane (34 µg/L [33 µg/L duplicate] versus action limit of 5 µg/L)	06/06/07
	1,1,1-Trichloroethane (40 µg/L versus action limit of 5 µg/L)	08/14/07
	1,1,1-Trichloroethane (32 µg/L versus action limit of 5 µg/L)	10/31/07
MW-9B*	No results above action limits	
MW-10*	No results above action limits	
MW-10B*	No results above action limits	
MW-11	1,1,1 – Trichloroethane (16 µg/L versus action limit of 5 µg/L)	04/23/07

Well	*Comparison of TCL VOCs in Groundwater with NYCRR 703.5 Groundwater Standards*
MW-11B	No results above action limits

Notes:

* Denotes downgradient boundary well

µg/L micrograms per liter

A summary of the analytical reports for 2007 can be found in Appendix A.

A comparison of 2006 TCL VOCs in groundwater data with NYCRR 703.5 groundwater standards can be found in Appendix F.

With the exception of MW-9, none of the specified boundary wells exceeded 6 NYCRR Part 703.5 standards during this sampling period. 1,1,1-Trichloroethane was detected in MW-9 above the 6 NYCRR Part 703.5 action limit of 5 µg/L during all quarterly sampling events. A new well cluster designated MW-11 and MW-11B, downgradient of MW-9, depicted on Figure 2, was installed in February 2007 and was sampled during all 2007 quarterly sampling programs. With one exception (16 µg/L 1,1,1-Trichloroethane in MW-11 on April 23, 2007) all sampling results for MW-11 and MW-11B were below NYCRR 703.5 New York State groundwater standards. Performance at downgradient boundary wells, including MW-9, will continue to be tracked through scheduled monitoring programs.

Interior monitoring well MW-2 has historically had concentrations of several groundwater monitoring constituents above 6NYCRR Part 703.5 standards. Data for 2007, summarized below, continues to illustrate a pronounced decrease in measured concentrations for the 2007 data.

MW-2 ANALYTICAL RESULTS HIGHER THAN 6 NYCRR PART 703.5 STANDARDS

Parameter	*Action Limits for 6NYCRR part 703.5 (µg/L)*	*First Quarter 2007 (µg/L)*	*Second Quarter 2007 (µg/L)*	*Third Quarter 2007 (µg/L)*	*Fourth Quarter 2007 (µg/L)*
1,1-Dichloroethane	5	11 (11-Duplicate)	ND at associated value	ND at associated value for sample and duplicate	ND at associated value for sample and duplicate

Benzene	1	33 (33-Duplicate)	7.8	5.7 (6.4 duplicate)	ND at associated value for sample and duplicate
Chloroethane	5	600 (560-Duplicate)	5.6	74 (78 duplicate)	73 (73 duplicate)
Toluene	5	150 (140-Duplicate)	5.9	ND at associated value for sample and duplicate	ND at associated value for sample and duplicate
Xylene (Total)	5	13 (13-Duplicate)	3.7 (less than action limit of 5µg/L)	ND at associated value for sample and duplicate	ND at associated value for sample and duplicate

Note:
ND - Not Detected

4.0 MONITORED NATURAL ATTENUATION EVALUATION

Based on the findings of the RFI conducted from 1994 to 2002, groundwater impacts were identified at the Site. A CMS was conducted to evaluate remedial alternatives. MNA and institutional controls were subsequently selected as the final corrective measures for the Site.

Site groundwater MNA data were evaluated to determine whether conditions suitable for reductive dechlorination exist at the Site.

Several indicators of anaerobic conditions were measured during the groundwater sampling at the Site. Dissolved oxygen is a direct measurement of oxygen in the groundwater. Oxidation-Reduction Potential (ORP) was also measured. Methane gas was analyzed. Dissolved metals such as iron and manganese were also measured.

1,1,1-trichloroethane (1,1,1-TCA), chloroethane, and benzene have been detected above regulatory criteria at the Site. 1,1,1-TCA degrades under anaerobic conditions by reductive dechlorination to form chloroethane. During this reductive dechlorination, bacteria with the necessary enzymes are able to utilize the chlorinated compounds as an electron acceptor. 1,1,1-TCA can also be degraded aerobically although bacteria that perform this degradation pathway are rare. Chloroethane itself can be further degraded under anaerobic conditions to ethane and under aerobic conditions through 1-chloroethanol to acetaldehyde. Benzene can be degraded under aerobic conditions and also under anaerobic sulfate reducing conditions. In both cases the benzene is degraded to carbon dioxide and water.

1,1,1-TCA present in the source area continues to be degraded to chloroethane. The chloroethane will either continue to degrade under anaerobic conditions in the source area or will be degraded aerobically as it migrates towards the Site boundary. Similarly, benzene present in the source area appears to have been degraded in the source area will be degraded faster as it migrates to the aerobic area west of the source area. Therefore further migration of these chemicals from the source area to the boundary should speed their degradation. 1,1,1-TCA is already present in the aerobic boundary area. The data do not indicate that quantifiable aerobic biodegradation of 1,1,1-TCA is occurring in this area (MW-9), although 1,1,1-TCA was not detected above 6NYCRR Part 703.5 groundwater standards during the last three quarters of 2007 in the newly installed well cluster MW-11 and MW-11B, downgradient of MW-9.

A detailed report evaluating Site MNA can be found in Appendix E.

5.0 GROUNDWATER HYDRAULICS

Appendix B presents the overburden groundwater contours for 2007 and Appendix C presents the bedrock groundwater contours for 2007. Based on the assessment of 2007 groundwater monitoring data, the direction of overburden groundwater flow was generally west-northwest. The direction of bedrock groundwater flow was generally west-southwest.

An upward gradient was observed at the MW-1/MW-1B cluster. A downward vertical gradient was observed at the MW-3/MW-3B, MW-4/MW-4B, MW-9/MW-9B and MW-11/MW-11B clusters. The downward vertical gradient observed on the western boundary of the Site may be the result of a nearby bedrock groundwater discharge area (Eighteen Mile Creek northwest of the Site).

The Site monitoring wells were initially surveyed in 2006 with a reference elevation of 100.00'. The wells were resurveyed in the spring of 2007 in State Plane NY West NAD83, Vertical Datum NAVD88. Water level measurements used to assess groundwater hydraulics for 2007 are found in Appendix G.

6.0 CONCLUSIONS

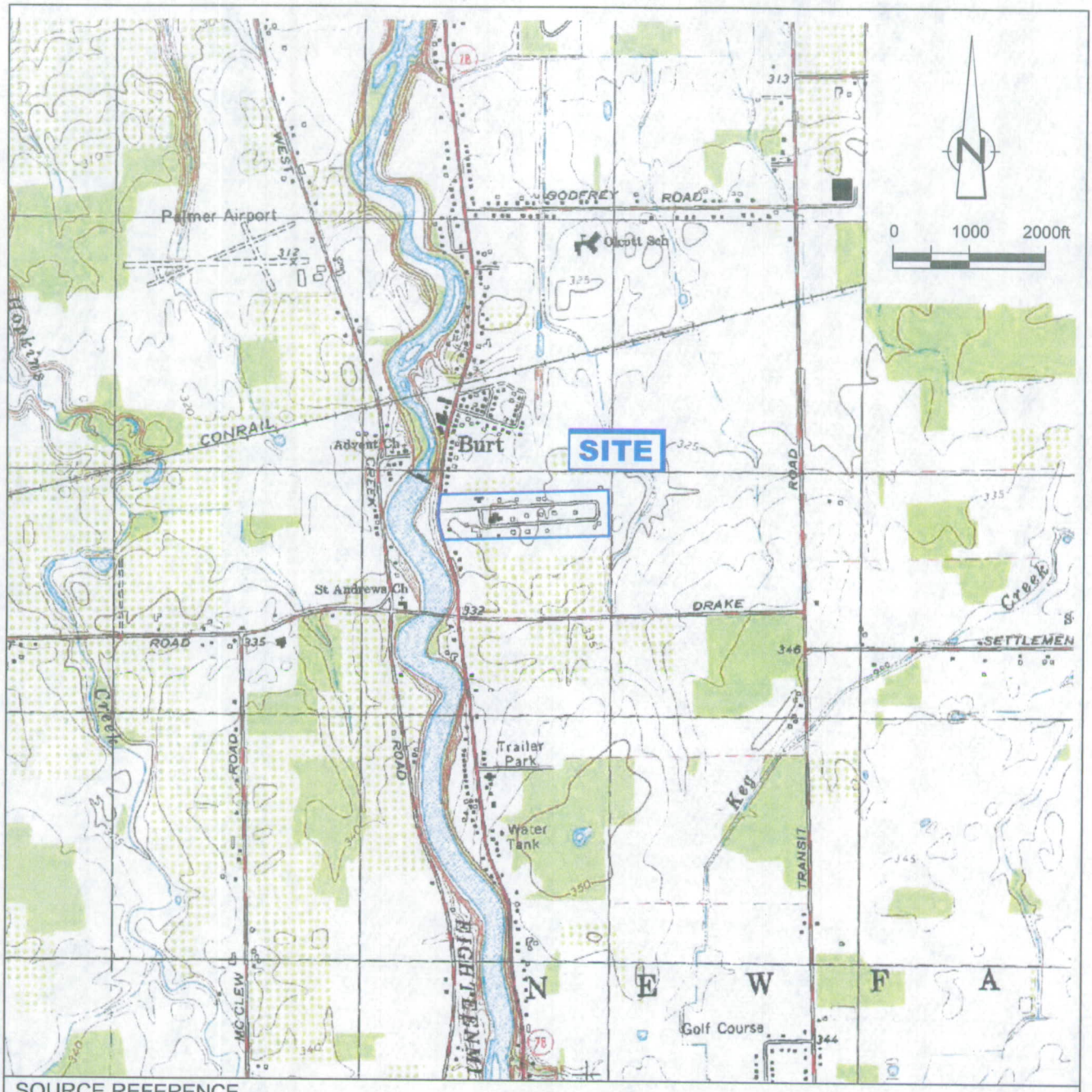
Quarterly reports issued for the First, Second, Third, and Fourth Quarters of 2007 included a summary of quarterly groundwater monitoring field activities, a summary of the analytical data compared to the New York State Groundwater Standards in 6NYCRR 703.5, groundwater contour maps for both the overburden groundwater and bedrock groundwater, and an interpretation of the data.

A review of the 2007 data has concluded that:

- concentrations of TCL VOC analytes in groundwater collected from the Site monitoring well network in most cases were either not detected or detected below NYCRR 703.5 Groundwater Standards;
- due to the slightly elevated levels of 1,1,1-trichloroethane above NYCRR 703.5 Groundwater Standards observed in MW-9 in all 2006 quarterly sampling programs, a new well cluster designated MW-11 and MW-11B was installed in February 2007 downgradient of MW-9, as depicted in Figure 2;
- the direction of overburden groundwater flow was generally west-northwest. The direction of bedrock groundwater flow was generally west-southwest.

  An upward gradient was observed at the MW-1/MW-1B cluster. A downward vertical gradient was observed at the MW-3/MW-3B, MW-4/MW-4B, MW-9/MW-9B and MW-11/MW-11B clusters. The downward vertical gradient observed on the western boundary of the Site may be the result of a nearby bedrock groundwater discharge area (Eighteen Mile Creek northwest of the Site);
- 1,1,1-TCA present in the source area continues to be degraded to chloroethane. The chloroethane will either continue to degrade under anaerobic conditions in the source area or will be degraded aerobically as it migrates towards the Site boundary. Benzene present in the source area appears to have been degraded under the anaerobic conditions present, however any benzene not degraded in the source areas will be degraded faster as it migrates to the aerobic area west of the source area. Therefore further migration of these chemicals from the source area to the boundary should speed their degradation. 1,1,1-TCA is already present in the aerobic boundary area. The data do not indicate that quantifiable aerobic biodegradation of 1,1,1-TCA is occurring in this area (MW-9), although 1,1,1-TCA was not detected above 6NYCRR Part 703.5 groundwater standards during the last three quarters of 2007 in the newly installed well cluster MW-11 and MW-11B, downgradient of MW-9; and
- the remedial goals of the corrective action that continue to be addressed are:

- eliminate the future risk to human health posed by the contaminated soil and remaining source materials present within the industrialized area of the Facility;
- eliminate the future risk to human health posed by the contaminated overburden groundwater present beneath the industrialized area of the Facility; and
- control migration of the contaminated groundwater.



SOURCE REFERENCE

TRC SITE LOCATION MAP PJ.#19045
TOPOGRAPHIC QUADRANGLE: NEWFANE, NY, 1978

figure 1

SITE LOCATION MAP
AKZO NOBEL POLYMER CHEMICALS LLC
Burt, New York

44016-00(010)GN-NF001 NOV 29/2007

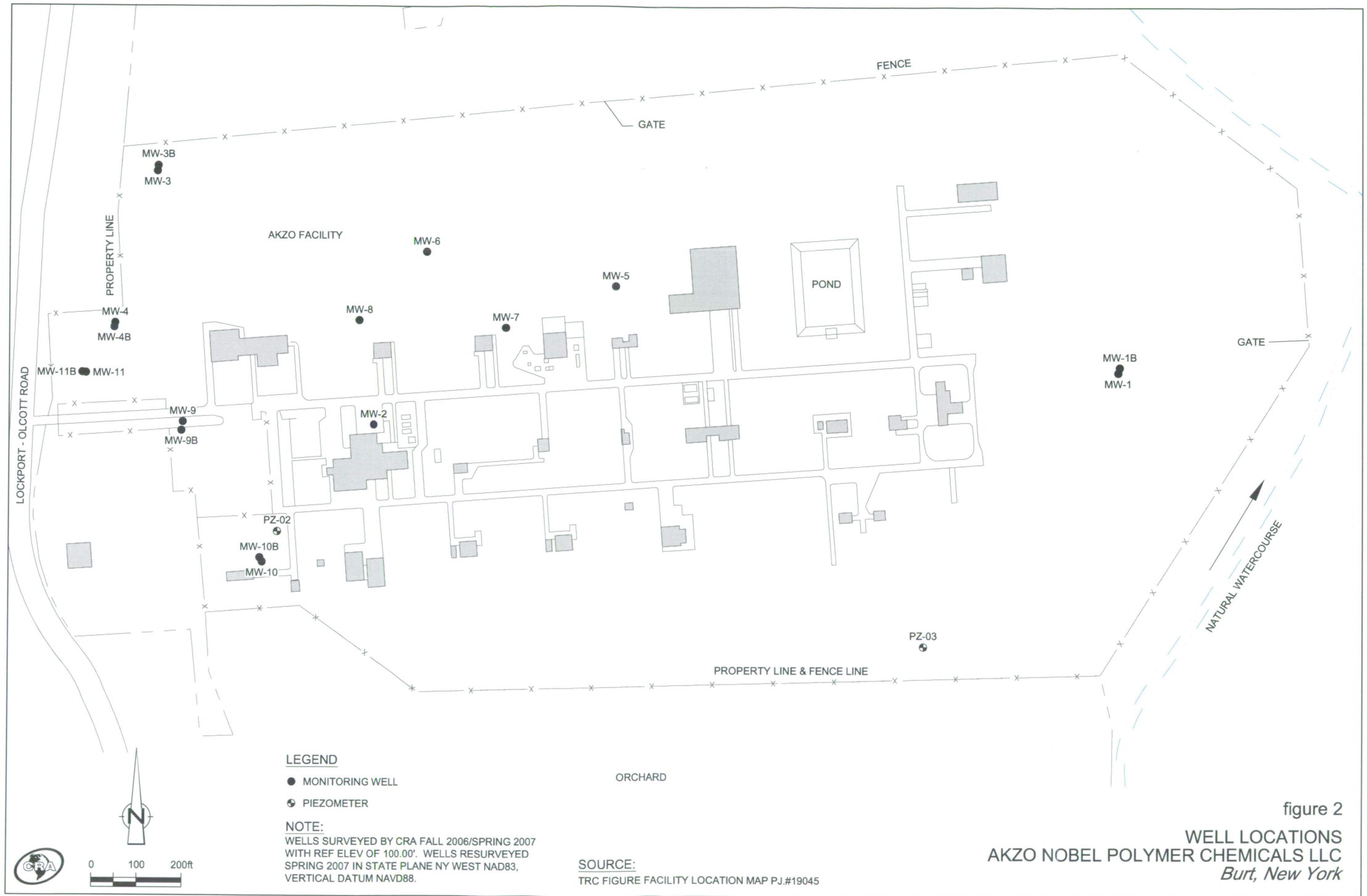


figure 2

WELL LOCATIONS
AKZO NOBEL POLYMER CHEMICALS LLC
Burt, New York

44016-00(010)GN-NF002 NOV 29/2007

A

APPENDIX A

ANALYTICAL REPORTS - 2007

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER MONITORING
BURT, NEW YORK

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. For Analytes Samples	MW-1 WG-44016-041907-001 4/19/2007	MW-1B WG-44016-041907-002 4/19/2007	MW-2 WG-44016-041907-005 4/19/2007	MW-2 WG-44016-041907-006 4/19/2007 Duplicate	MW-3 WG-44016-042007-014 4/20/2007	MW-3B WG-44016-042307-016 4/23/2007	MW-4 WG-44016-042007-013 4/20/2007
Volatile Organic Compounds									
1,1,1-Trichloroethane	µg/L	5	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	0.27 U	0.27 U	11	11	0.27 U	0.27 U	0.27 U
1,1-Dichloroethene	µg/L	5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	µg/L	0.6	0.71 J	0.46 U	0.88 J	0.95 J	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	1.3 U	2.9 J	1.3 U	2.0 J	1.3 U	1.3 U	1.3 U
Benzene	µg/L	1	0.35 U	0.35 U	33	33	0.35 U	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 U	0.32 U	4.8	4.6	0.32 U	0.32 U	0.32 U
Chloroethane	µg/L	5	0.32 U	0.32 U	600	560	0.32 U	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	3.8	3.8	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.90 J	0.99 J	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	µg/L	5	0.51 U	0.51 U	150	140	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	13	13	0.93 U	0.93 U	0.93 U
Dissolved Gas									
Methane	µg/L	-	30	1.7	5400	--	1.0 U	47	1.0 U

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER MONITORING
BURT, NEW YORK

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. For Analytes Samples	MW-1 WG-44016-041907-001 4/19/2007	MW-1B WG-44016-041907-002 4/19/2007	MW-2 WG-44016-041907-005 4/19/2007	MW-2 WG-44016-041907-006 4/19/2007 Duplicate	MW-3 WG-44016-042007-014 4/20/2007	MW-3B WG-44016-042307-016 4/23/2007	MW-4 WG-44016-042007-013 4/20/2007
Metals									
Iron (Dissolved)	µg/L	-	50.0 U	50.0 U	6350	--	50.0 U	50.0 U	50.0 U
Manganese (Dissolved)	µg/L	-	11.7	238	2120	--	22.9	29.0	6.5
Wet Chemistry									
Nitrate (as N)	mg/L		0.050 U	0.050 U	0.050 U	--	0.050 U	0.050 U	0.050 U
Nitrite (as N)	mg/L	-	0.050 U	0.050 U	0.050 U	--	0.050 U	0.050 U	0.050 U
Sulfate	mg/L		34.7	1330	0.58 U	--	167	39.5	32.7

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER MONITORING
BURT, NEW YORK

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. For Analytes Samples	MW-4B WG-44016-042007-012 4/20/2007	MW-5 WG-44016-042007-015 4/20/2007	MW-6 WG-44016-041907-004 4/19/2007	MW-7 WG-44016-042007-011 4/20/2007	MW-8 WG-44016-041907-003 4/19/2007	MW-9 WG-44016-042007-010 4/20/2007	MW-9B WG-44016-042007-009 4/20/2007
Volatile Organic Compounds									
1,1,1-Trichloroethane	µg/L	5	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	38	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	1.5	1.7	0.27 U
1,1-Dichloroethene	µg/L	5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	1.5	0.29 U
1,2-Dichloroethane	µg/L	0.6	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	1.3 U	5.4	1.3 U	10	1.3 U	8.3	1.3 U
Benzene	µg/L	1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 U	0.32 U	1.1	0.59 J	1.8	0.32 U	0.32 U
Chloroethane	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.55 J	0.36 U
Toluene	µg/L	5	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
Dissolved Gas									
Methane	µg/L	-	2.7	1.0 U	440	290 J	91	4.8	5.8

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER MONITORING
BURT, NEW YORK

Parameters	Units	Sample Location: / Sample ID: / Sample Date: Action Limits 6NYCRR Part 703.5 Stds. For Analytes Samples	MW-4B WG-44016-042007-012 4/20/2007	MW-5 WG-44016-042007-015 4/20/2007	MW-6 WG-44016-041907-004 4/19/2007	MW-7 WG-44016-042007-011 4/20/2007	MW-8 WG-44016-041907-003 4/19/2007	MW-9 WG-44016-042007-010 4/20/2007	MW-9B WG-44016-042007-009 4/20/2007
Metals									
Iron (Dissolved)	µg/L	-	50.0 U	50.0 U	50.0 U	4180	1620	50.0 U	50.0 U
Manganese (Dissolved)	µg/L	-	96.9	4.9	558	1860	1050	94.4	37.4
Wet Chemistry									
Nitrate (as N)	mg/L		0.52	6.3	0.050 U	0.050 U	0.050 U	6.8	0.050 U
Nitrite (as N)	mg/L		0.11	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
Sulfate	mg/L		955	55.6	47.7	111	83.0	71.4	733

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER MONITORING
BURT, NEW YORK

Sample Location:		Action Limits	MW-10	MW-10B	MW-11	MW-11B
Sample ID:		6NYCRR Part 703.5	WG-44016-042007-007	WG-44016-042007-008	WG-44016-042307-018	WG-44016-042307-017
Sample Date:		Stds. For Analytes	4/20/2007	4/20/2007	4/23/2007	4/23/2007
Parameters	Units	Samples				
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	5	0.26 U	0.26 U	16	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	0.27 U	1.2	1.3	0.27 U
1,1-Dichloroethene	µg/L	5	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	µg/L	0.6	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	1.3 U	1.3 U	16 U	32
Benzene	µg/L	1	0.35 U	0.35 U	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U
Chloroethane	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	µg/L	5	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	0.93 U	0.93 U
Dissolved Gas						
Methane	µg/L	-	1.0 U	6.5	3.3	13

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER MONITORING
BURT, NEW YORK

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. For Analytes Samples	MW-10 WG-44016-042007-007 4/20/2007	MW-10B WG-44016-042007-008 4/20/2007	MW-11 WG-44016-042307-018 4/23/2007	MW-11B WG-44016-042307-017 4/23/2007
Metals						
Iron (Dissolved)	µg/L	-	50.0 U	50.0 U	50.0 U	50.0 U
Manganese (Dissolved)	µg/L	-	3.0 U	32.4	66.7	13.7
Wet Chemistry						
Nitrate (as N)	mg/L		10.8	0.050 U	2.2	0.050 U
Nitrite (as N)	mg/L		0.050 U	0.050 U	0.050 U	0.050 U
Sulfate	mg/L		52.5	114	64.3	332

Notes:
J Estimated.
U Non-detect at associated value.
[ ] Above 6NYCRR Part 703.5 standards.

ANALYTICAL RESULTS SUMMARY
SECOND QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples	Sample Location: MW-1 Sample ID: WG-44016-0607-012 Sample Date: 6/6/2007	MW-1B WG-44016-0607-011 6/6/2007	MW-2 WG-44016-0607-013 6/7/2007	MW-3 WG-44016-0607-007 6/6/2007	MW-3B WG-44016-0607-018 6/7/2007	MW-4 WG-44016-0607-003 6/6/2007	MW-4B WG-44016-0607-004 6/6/2007
Volatile Organic Compounds									
1,1,1-Trichloroethane	µg/L	5	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	0.27 U	0.27 U	0.60 J	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethene	µg/L	5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	µg/L	0.6	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	1.3 U	5.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Benzene	µg/L	1	0.35 UJ	0.35 U	7.8	0.35 U	0.35 U	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 UJ	0.32 U	2.2	0.32 U	0.32 U	0.32 U	0.32 U
Chloroethane	µg/L	5	0.32 U	0.32 U	56	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	1.1	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	µg/L	5	0.51 U	0.51 U	5.9	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	3.7	0.93 U	0.93 U	0.93 U	0.93 U

ANALYTICAL RESULTS SUMMARY
SECOND QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

			Sample Location:	MW-1	MW-1B	MW-2	MW-3	MW-3B	MW-4	MW-4B
			Sample ID:	WG-44016-0607-012	WG-44016-0607-011	WG-44016-0607-013	WG-44016-0607-007	WG-44016-0607-018	WG-44016-0607-003	WG-44016-0607-004
			Sample Date:	6/6/2007	6/6/2007	6/7/2007	6/6/2007	6/7/2007	6/6/2007	6/6/2007
Parameters	*Units*	*Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples*								
Metals										
Iron (Dissolved)	µg/L	-		50.0 U	50.0 U	4150	50.0 U	94.6	50.0 U	50.0 U
Manganese (Dissolved)	µg/L	-		10.4	264	1660	3.0 U	42.9	69.9	122
Dissolved Gas										
Methane	µg/L	-		9.5	1.0	2900	1.0 U	44	1.0 U	1.8
Wet Chemistry										
Nitrate (as N)	mg/L	-		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.59
Nitrite (as N)	mg/L	-		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.086
Sulfate	mg/L	-		38.1	1300	47.1	144	41.9	30.0	1140

ANALYTICAL RESULTS SUMMARY
SECOND QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples	Sample Location: MW-5 Sample ID: WG-44016-0607-017 Sample Date: 6/7/2007	Sample Location: MW-6 Sample ID: WG-44016-0607-015 Sample Date: 6/7/2007	Sample Location: MW-7 Sample ID: WG-44016-0607-016 Sample Date: 6/7/2007	Sample Location: MW-8 Sample ID: WG-44016-0607-014 Sample Date: 6/7/2007	Sample Location: MW-9 Sample ID: WG-44016-0607-008 Sample Date: 6/6/2007	Sample Location: MW-9 Sample ID: WG-44016-0607-009 Sample Date: 6/6/2007 Duplicate	Sample Location: MW-9B Sample ID: WG-44016-0607-010 Sample Date: 6/6/2007
Volatile Organic Compounds									
1,1,1-Trichloroethane	µg/L	5	0.26 U	0.26 U	0.26 U	0.26 U	34	33	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	2.5	2.5	0.27 U
1,1-Dichloroethene	µg/L	5	0.29 U	0.29 U	0.29 U	0.29 U	1.6	1.6	0.29 U
1,2-Dichloroethane	µg/L	0.6	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	10 U	2.4 U	6.7 U	1.3 U	4.5 U	4.2 U	1.3 U
Benzene	µg/L	1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 U	2.1	0.61 J	1.6	0.32 U	0.32 U	0.32 U
Chloroethane	µg/L	5	0.32 U	0.32 U	0.32 U	1.1	0.32 U	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.36 U	0.36 U	0.36 U	0.36 U	0.62 J	0.64 J	0.36 U
Toluene	µg/L	5	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.65 J	0.58 J	0.32 U
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U

ANALYTICAL RESULTS SUMMARY
SECOND QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples	Sample Location: MW-5 Sample ID: WG-44016-0607-017 Sample Date: 6/7/2007	MW-6 WG-44016-0607-015 6/7/2007	MW-7 WG-44016-0607-016 6/7/2007	MW-8 WG-44016-0607-014 6/7/2007	MW-9 WG-44016-0607-008 6/6/2007	MW-9 WG-44016-0607-009 6/6/2007 Duplicate	MW-9B WG-44016-0607-010 6/6/2007
Metals									
Iron (Dissolved)	µg/L	-	50.0 U	50.0 U	3640	1610	50.0 U	50.0 U	50.0 U
Manganese (Dissolved)	µg/L	-	3.0 U	1400	1630	1040	35.8	31.6	47.6
Dissolved Gas									
Methane	µg/L	-	1.0 U	510	340	250	1.8	1.0 U	5.6
Wet Chemistry									
Nitrate (as N)	mg/L	-	6.5	0.050 U	0.050 U	0.050 U	6.7	6.7	0.050 U
Nitrite (as N)	mg/L	-	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
Sulfate	mg/L	-	35.6	54.7	84.6	76.6	77.5	76.6	648

ANALYTICAL RESULTS SUMMARY
SECOND QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

		Sample Location:	*MW-10*	*MW-10B*	*MW-11*	*MW-11B*
		Sample ID:	*WG-44016-0607-001*	*WG-44016-0607-002*	*WG-44016-0607-005*	*WG-44016-0607-006*
		Sample Date:	*6/6/2007*	*6/6/2007*	*6/6/2007*	*6/6/2007*
Parameters	*Units*	*Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples*				
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	5	0.26 U	0.26 U	1.1	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	0.27 U	1.8	1.0	0.27 U
1,1-Dichloroethene	µg/L	5	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	µg/L	0.6	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	1.3 U	1.3 U	2.6 U	1.9 U
Benzene	µg/L	1	0.35 U	0.35 U	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U
Chloroethane	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	µg/L	5	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	0.93 U	0.93 U

ANALYTICAL RESULTS SUMMARY
SECOND QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

	Sample Location:	MW-10	MW-10B	MW-11	MW-11B
	Sample ID:	WG-44016-0607-001	WG-44016-0607-002	WG-44016-0607-005	WG-44016-0607-006
	Sample Date:	6/6/2007	6/6/2007	6/6/2007	6/6/2007
Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples			
Metals					
Iron (Dissolved)	µg/L	-	50.0 U	50.0 U	111	50.0 U
Manganese (Dissolved)	µg/L	-	3.0 U	43.5	326	11.1
Dissolved Gas					
Methane	µg/L	-	1.0 U	7.6	66 J	13
Wet Chemistry					
Nitrate (as N)	mg/L	-	13.9	0.076	0.050 U	0.050 U
Nitrite (as N)	mg/L	-	0.050 U	0.050 U	0.050 U	0.050 U
Sulfate	mg/L	-	37.1	103	77.6	130

Notes:
J Estimated.
U Non-detect at associated value.
[ ] Above 6NYCRR Part 703.5 standards.

ANALYTICAL RESULTS SUMMARY
THIRD QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples	MW-1 WG-44016-0807-007 8/14/2007	MW-1B WG-44016-0807-008 8/14/2007	MW-2 WG-44016-0807-003 8/13/2007	MW-2 WG-44016-0807-004 8/13/2007 Duplicate	MW-3 WG-44016-0807-009 8/14/2007	MW-3B WG-44016-0807-018 8/14/2007
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	5	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethene	µg/L	5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	µg/L	0.6	0.86 J	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	1.2 J	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	1.3 U	3.3 J	1.3 U	1.3 U	1.3 U	1.3 U
Benzene	µg/L	1	0.35 U	0.35 U	5.7	6.4	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 U	0.32 U	2.6	2.7	0.32 U	0.32 U
Chloroethane	µg/L	5	0.32 U	0.32 U	74	78	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	µg/L	5	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U

ANALYTICAL RESULTS SUMMARY
THIRD QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

			Sample Location:	MW-1	MW-1B	MW-2	MW-2	MW-3	MW-3B
			Sample ID:	WG-44016-0807-007	WG-44016-0807-008	WG-44016-0807-003	WG-44016-0807-004	WG-44016-0807-009	WG-44016-0807-018
			Sample Date:	8/14/2007	8/14/2007	8/13/2007	8/13/2007	8/14/2007	8/14/2007
							Duplicate		
Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples							
Metals									
Iron (Dissolved)	µg/L	-		50.0 U	50.0 U	4000	–	50.0 U	50.0 U
Manganese (Dissolved)	µg/L	-		4.9	309	1630	–	3.6	24.4
Dissolved Gas									
Methane	µg/L	-		26	1.0	500	–	1.0 U	41
Wet Chemistry									
Nitrate (as N)	mg/L	-		0.050 U	0.050 U	0.050 U	–	0.050 U	0.050 U
Nitrite (as N)	mg/L	-		0.050 U	0.050 U	0.050 U	–	0.050 U	0.050 U
Sulfate	mg/L	-		32.7	791	38.2	–	137	31.9

ANALYTICAL RESULTS SUMMARY
THIRD QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

	Sample Location:	MW-4	MW-4B	MW-5	MW-6	MW-7	MW-8
	Sample ID:	WG-44016-0807-011	WG-44016-0807-010	WG-44016-0807-017	WG-44016-0807-006	WG-44016-0807-016	WG-44016-0807-005
	Sample Date:	8/14/2007	8/14/2007	8/14/2007	8/13/2007	8/14/2007	8/13/2007
Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples					
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	0.27 U	0.27 U	0.27 U	0.55 J	0.27 U	0.55 J
1,1-Dichloroethene	µg/L	5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	µg/L	0.6	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	1.3 U	1.3 U	450	2.7 J	2.8 J	1.3 U
Benzene	µg/L	1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 U	0.32 U	0.32 U	2.7	0.91 J	2.4
Chloroethane	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	µg/L	5	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U

ANALYTICAL RESULTS SUMMARY
THIRD QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples	Sample Location: MW-4	MW-4B	MW-5	MW-6	MW-7	MW-8
		Sample ID:	WG-44016-0807-011	WG-44016-0807-010	WG-44016-0807-017	WG-44016-0807-006	WG-44016-0807-016	WG-44016-0807-005
		Sample Date:	8/14/2007	8/14/2007	8/14/2007	8/13/2007	8/14/2007	8/13/2007
Metals								
Iron (Dissolved)	µg/L	-	340	50.0 U	50.0 U	158	3120	2020
Manganese (Dissolved)	µg/L	-	892	84.2	3.0	1810	1430	1220
Dissolved Gas								
Methane	µg/L	-	37	1.8	1.0 U	430	440	57
Wet Chemistry								
Nitrate (as N)	mg/L	-	0.050 U	0.65	2.0	0.050 U	0.050 U	0.050 U
Nitrite (as N)	mg/L	-	0.050 U	0.20	0.050 U	0.050 U	0.050 U	0.050 U
Sulfate	mg/L	-	39.4	660	66.2	63.4	86.2	80.1

ANALYTICAL RESULTS SUMMARY
THIRD QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples	Sample Location: MW-9	MW-9B	MW-10	MW-10B	MW-11	MW-11B
		Sample ID:	WG-44016-0807-014	WG-44016-0807-015	WG-44016-0807-013	WG-44016-0807-012	WG-44016-0807-001	WG-44016-0807-002
		Sample Date:	8/14/2007	8/14/2007	8/14/2007	8/14/2007	8/13/2007	8/13/2007
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	5	40	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	3.7	0.27 U	0.27 U	1.3	2.2	0.27 U
1,1-Dichloroethene	µg/L	5	2.0 J	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	µg/L	0.6	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	7.5	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Benzene	µg/L	1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroethane	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.70 J	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	µg/L	5	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	1.1 J	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U

ANALYTICAL RESULTS SUMMARY
THIRD QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

			Sample Location:	MW-9	MW-9B	MW-10	MW-10B	MW-11	MW-11B
			Sample ID:	WG-44016-0807-014	WG-44016-0807-015	WG-44016-0807-013	WG-44016-0807-012	WG-44016-0807-001	WG-44016-0807-002
			Sample Date:	8/14/2007	8/14/2007	8/14/2007	8/14/2007	8/13/2007	8/13/2007
Parameters	*Units*	*Action Limits 6NYCRR Part 703.5 Stds. for Analyte Samples*							
Metals									
Iron (Dissolved)	µg/L	-		50.0 U	50.0 U	50.0 U	50.0 U	638	50.0 U
Manganese (Dissolved)	µg/L	-		34.9	41.5	91.0	50.2	308	13.0
Dissolved Gas									
Methane	µg/L	-		50 U	270	5.0 U	4.0	100	19
Wet Chemistry									
Nitrate (as N)	mg/L	-		5.8	0.050 U	14.5	0.050 U	0.050 U	0.050 U
Nitrite (as N)	mg/L	-		0.050 U	0.050 U	0.39	0.14	0.050 U	0.050 U
Sulfate	mg/L	-		64.0	450	51.9	82.8	65.2	114

Notes:
J Estimated.
U Non-detect at associated value.
[ ] Above 6NYCRR Part 703.5 standards.

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER SAMPLING
BURT, NEW YORK

			Sample Location:	MW-1	MW-1B	MW-2	MW-2	MW-3	MW-3B
			Sample Name:	WG-44016-103007-007	WG-44016-103007-008	WG-44016-103107-012	WG-44016-103107-013	WG-44016-103007-001	WG-44016-103007-009
			Sample Date:	10/30/2007	10/30/2007	10/31/2007	10/31/2007	10/30/2007	10/30/2007
		Action Limits 6NYCRR Part 703.5 Stds. For					Duplicate		
Parameters	Units	Analyte Samples							
Volatiles									
1,1,1-Trichloroethane	µg/L	5		0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1		0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5		0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethene	µg/L	5		0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	µg/L	0.6		1.0	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5		1.7 J	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1		0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Benzene	µg/L	1		0.35 U	0.35 U	0.75 J	0.75 J	0.35 U	0.35 U
Bromodichloromethane	µg/L	50		0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50		0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5		0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-		0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5		0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5		0.32 U	0.32 U	2.8	2.8	0.32 U	0.32 U
Chloroethane	µg/L	5		0.32 U	0.32 U	73	73	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7		0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-		0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4		0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5		0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5		0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5		0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5		0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	µg/L	5		0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4		0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2		0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5		0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER SAMPLING
BURT, NEW YORK

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. For Analyte Samples	Sample Location: MW-1 Sample Name: WG-44016-103007-007 Sample Date: 10/30/2007	Sample Location: MW-1B Sample Name: WG-44016-103007-008 Sample Date: 10/30/2007	Sample Location: MW-2 Sample Name: WG-44016-103107-012 Sample Date: 10/31/2007	Sample Location: MW-2 Sample Name: WG-44016-103107-013 Sample Date: 10/31/2007 Duplicate	Sample Location: MW-3 Sample Name: WG-44016-103007-001 Sample Date: 10/30/2007	Sample Location: MW-3B Sample Name: WG-44016-103007-009 Sample Date: 10/30/2007
Metals								
Iron (Dissolved)	µg/L	-	50.0 U	50.0 U	3400	--	50.0 U	50.0 U
Manganese (Dissolved)	µg/L	-	5.7	186	1470	--	21.4	21.8
Gases								
Methane	µg/L	-	20	1.0 U	2400	--	1.0 U	39
Wet Chemistry								
Nitrate (as N)	mg/L	-	0.050 U	0.050 U	0.050 U	--	0.050 U	0.050 U
Nitrite (as N)	mg/L	-	0.050 U	0.050 U	0.050 U	--	0.050 U	0.050 U
Sulfate	mg/L	-	41.4	1540	49.2	--	178	37.8

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER SAMPLING
BURT, NEW YORK

Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. For Analyte Samples	Sample Location: MW-4B Sample Name: WG-44016-103007-002 Sample Date: 10/30/2007	Sample Location: MW-5 Sample Name: WG-44016-103107-017 Sample Date: 10/31/2007	Sample Location: MW-6 Sample Name: WG-44016-103107-015 Sample Date: 10/31/2007	Sample Location: MW-7 Sample Name: WG-44016-103107-016 Sample Date: 10/31/2007	Sample Location: MW-8 Sample Name: WG-44016-103107-014 Sample Date: 10/31/2007	Sample Location: MW-9 Sample Name: WG-44016-103107-011 Sample Date: 10/31/2007
Volatiles								
1,1,1-Trichloroethane	µg/L	5	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	32
1,1,2,2-Tetrachloroethane	µg/L	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5	0.27 U	0.27 U	0.67 J	0.27 U	0.59 J	3.0
1,1-Dichloroethene	µg/L	5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	1.5
1,2-Dichloroethane	µg/L	0.6	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50	1.3 U	170	1.3 U	1.3 U	1.3 U	3.5 J
Benzene	µg/L	1	0.35 U	0.35 U	0.35 U	0.78 J	0.35 U	0.35 U
Bromodichloromethane	µg/L	50	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5	0.32 U	0.32 U	3.0	1.2	2.3	0.32 U
Chloroethane	µg/L	5	0.32 U	0.32 U	0.32 U	1.0	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-	0.34 U	0.34 U	0.34 U	0.86 J	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.72 J
Toluene	µg/L	5	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.70 J
Vinyl chloride	µg/L	2	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER SAMPLING
BURT, NEW YORK

		Sample Location:	MW-4B	MW-5	MW-6	MW-7	MW-8	MW-9
		Sample Name:	WG-44016-103007-002	WG-44016-103107-017	WG-44016-103107-015	WG-44016-103107-016	WG-44016-103107-014	WG-44016-103107-011
		Sample Date:	10/30/2007	10/31/2007	10/31/2007	10/31/2007	10/31/2007	10/31/2007
Parameters	*Units*	*Action Limits 6NYCRR Part 703.5 Stds. For Analyte Samples*						
Metals								
Iron (Dissolved)	µg/L	-	50.0 U	50.0 U	151	2400	1980	50.0 U
Manganese (Dissolved)	µg/L	-	67.3	14.1	2020	1080	1140	83.2
Gases								
Methane	µg/L	-	2.5	1.0 U	340	520	1.5	1.0 U
Wet Chemistry								
Nitrate (as N)	mg/L	-	0.11	2.0	0.050 U	0.050 U	0.050 U	7.6
Nitrite (as N)	mg/L	-	0.10	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
Sulfate	mg/L	-	844	96.3	83.4	92.6	82.6	81.3

ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER SAMPLING
BURT, NEW YORK

			Sample Location:	MW-9B	MW-10	MW-10B	MW-11	MW-11B
			Sample Name:	WG-44016-103007-010	WG-44016-103007-006	WG-44016-103007-005	WG-44016-103007-004	WG-44016-103007-003
			Sample Date:	10/30/2007	10/30/2007	10/30/2007	10/30/2007	10/30/2007
Parameters	Units	Action Limits 6NYCRR Part 703.5 Stds. For Analyte Samples						
Volatiles								
1,1,1-Trichloroethane	µg/L	5		0.26 U	0.67 J	0.26 U	0.26 U	0.26 U
1,1,2,2-Tetrachloroethane	µg/L	5		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,1,2-Trichloroethane	µg/L	1		0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,1-Dichloroethane	µg/L	5		0.27 U	0.27 U	1.1	1.7	0.27 U
1,1-Dichloroethene	µg/L	5		0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	µg/L	0.6		0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichloroethene (total)	µg/L	5		0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
1,2-Dichloropropane	µg/L	1		0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	µg/L	50		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	-		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Acetone	µg/L	50		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Benzene	µg/L	1		0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromodichloromethane	µg/L	50		0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Bromoform	µg/L	50		0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane (Methyl Bromide)	µg/L	5		0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Carbon disulfide	µg/L	-		0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Carbon tetrachloride	µg/L	5		0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	µg/L	5		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroethane	µg/L	5		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform (Trichloromethane)	µg/L	7		0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane (Methyl Chloride)	µg/L	-		0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
cis-1,3-Dichloropropene	µg/L	0.4		0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dibromochloromethane	µg/L	50		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	µg/L	5		0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Methylene chloride	µg/L	5		0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	µg/L	5		0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Tetrachloroethene	µg/L	5		0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	µg/L	5		0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
trans-1,3-Dichloropropene	µg/L	0.4		0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene	µg/L	5		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Vinyl chloride	µg/L	2		0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Xylene (total)	µg/L	5		0.93 U	0.93 U	0.93 U	0.93 U	0.93 U

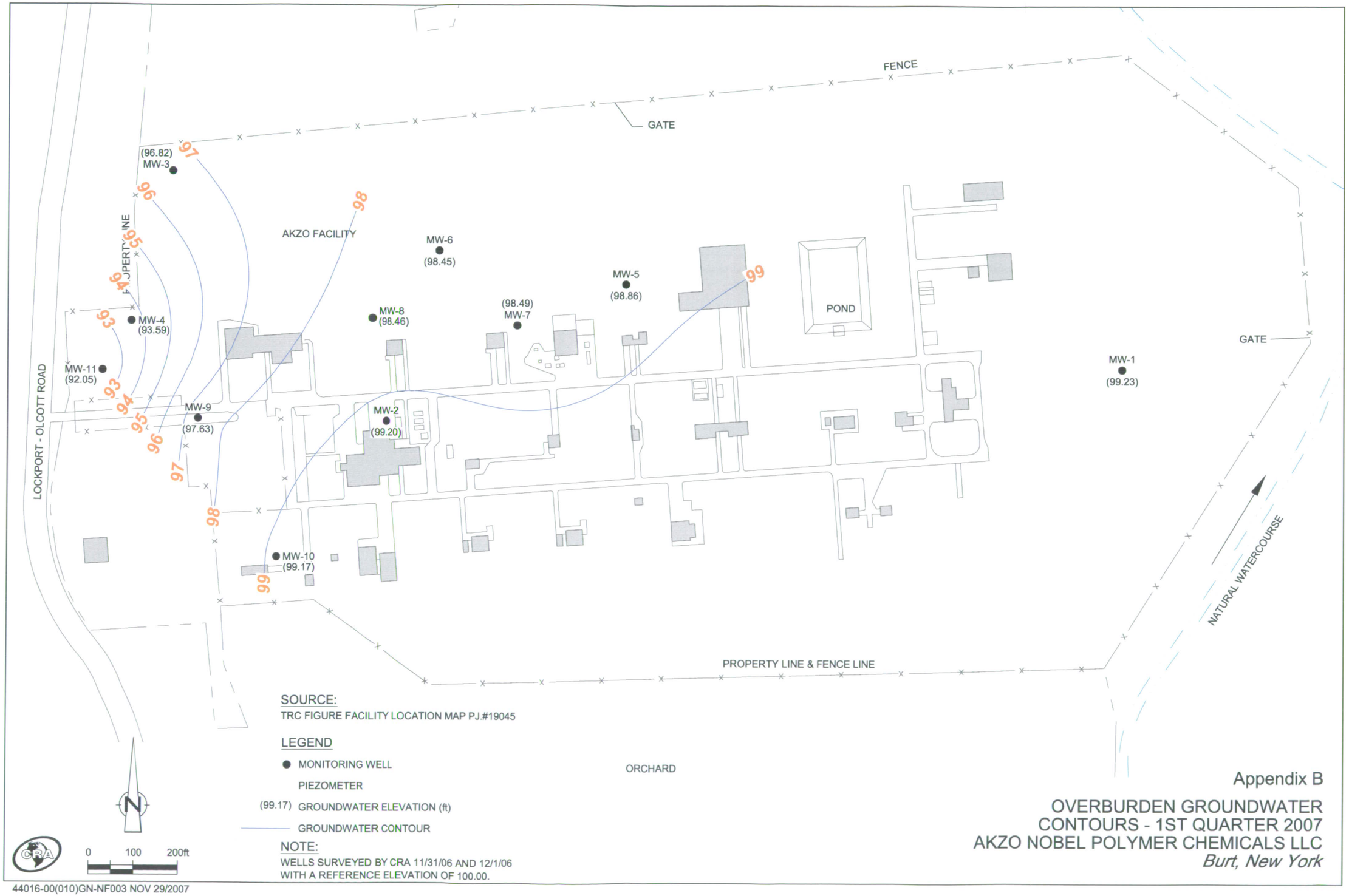
ANALYTICAL RESULTS SUMMARY
AKZO NOBEL QUARTERLY GROUNDWATER SAMPLING
BURT, NEW YORK

		Sample Location:	~~MW-9B~~	~~MW-10~~	~~MW-10B~~	~~MW-11~~	~~MW-11B~~
		Sample Name:	WG-44016-103007-010	WG-44016-103007-006	WG-44016-103007-005	WG-44016-103007-004	WG-44016-103007-003
		Sample Date:	10/30/2007	10/30/2007	10/30/2007	10/30/2007	10/30/2007
Parameters	*Units*	*Action Limits 6NYCRR Part 703.5 Stds. For Analyte Samples*					
Metals							
Iron (Dissolved)	µg/L	-	50.0 U	50.0 U	50.0 U	791	50.0 U
Manganese (Dissolved)	µg/L	-	37.6	62.8	41.9	228	22.3
Gases							
Methane	µg/L	-	3.5	1.0 U	12	65	21
Wet Chemistry							
Nitrate (as N)	mg/L	-	0.070	18.9	0.058	0.050 U	0.050 U
Nitrite (as N)	mg/L	-	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
Sulfate	mg/L	-	712	75.2	120	95.3	338

Notes:
- \- Not analyzed.
- J Estimated.
- U Not detected.
- [ ] Above 6NYCRR Part 703.5 standards.

APPENDIX B

OVERBURDEN GROUNDWATER CONTOURS - 2007



SOURCE:
TRC FIGURE FACILITY LOCATION MAP P.J.#19045

LEGEND

- ● MONITORING WELL
- PIEZOMETER
- (99.17) GROUNDWATER ELEVATION (ft)
- GROUNDWATER CONTOUR

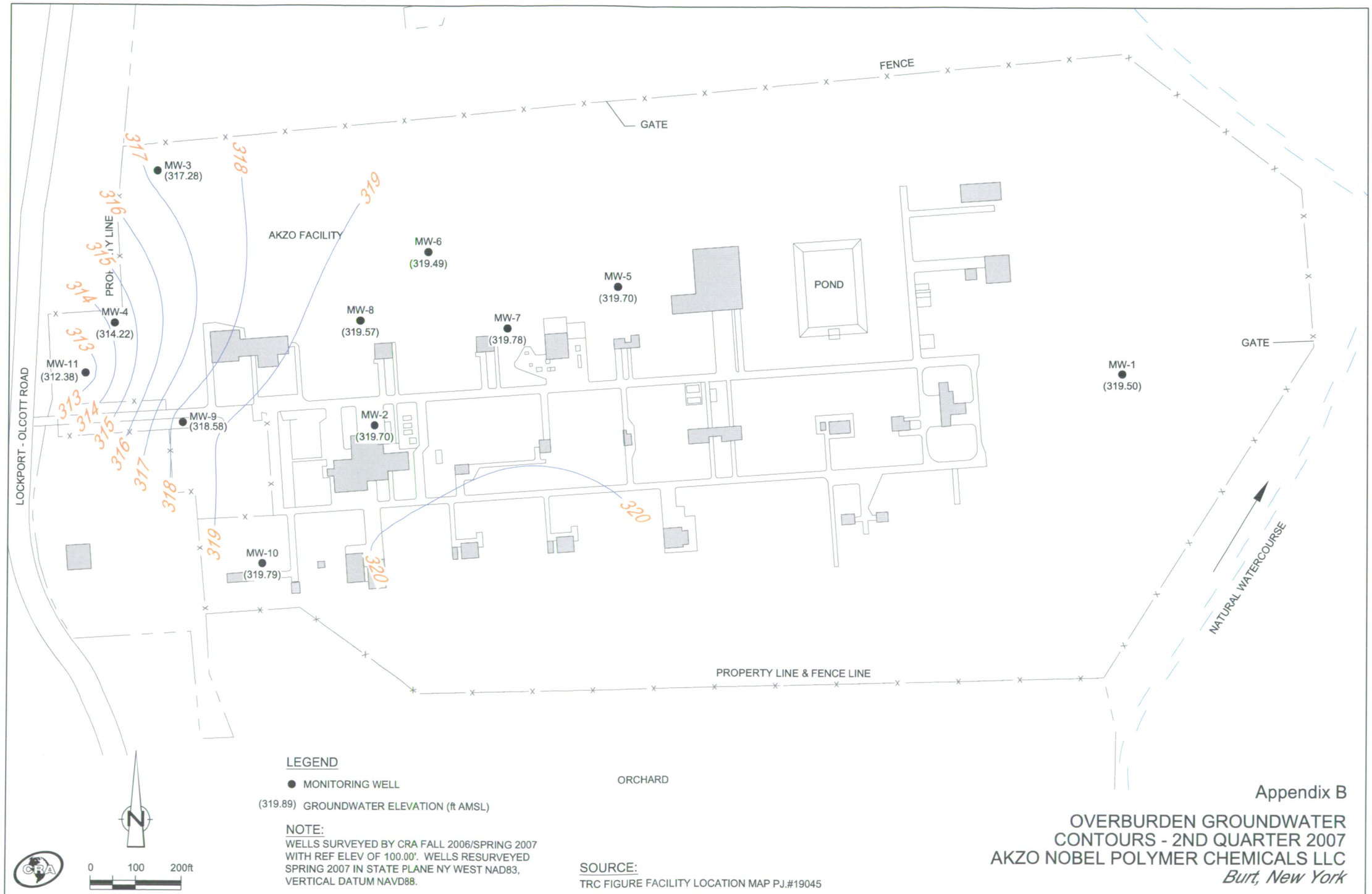
NOTE:
WELLS SURVEYED BY CRA 11/31/06 AND 12/1/06
WITH A REFERENCE ELEVATION OF 100.00.

44016-00(010)GN-NF003 NOV 29/2007

Appendix B

OVERBURDEN GROUNDWATER CONTOURS - 1ST QUARTER 2007 AKZO NOBEL POLYMER CHEMICALS LLC

Burt, New York

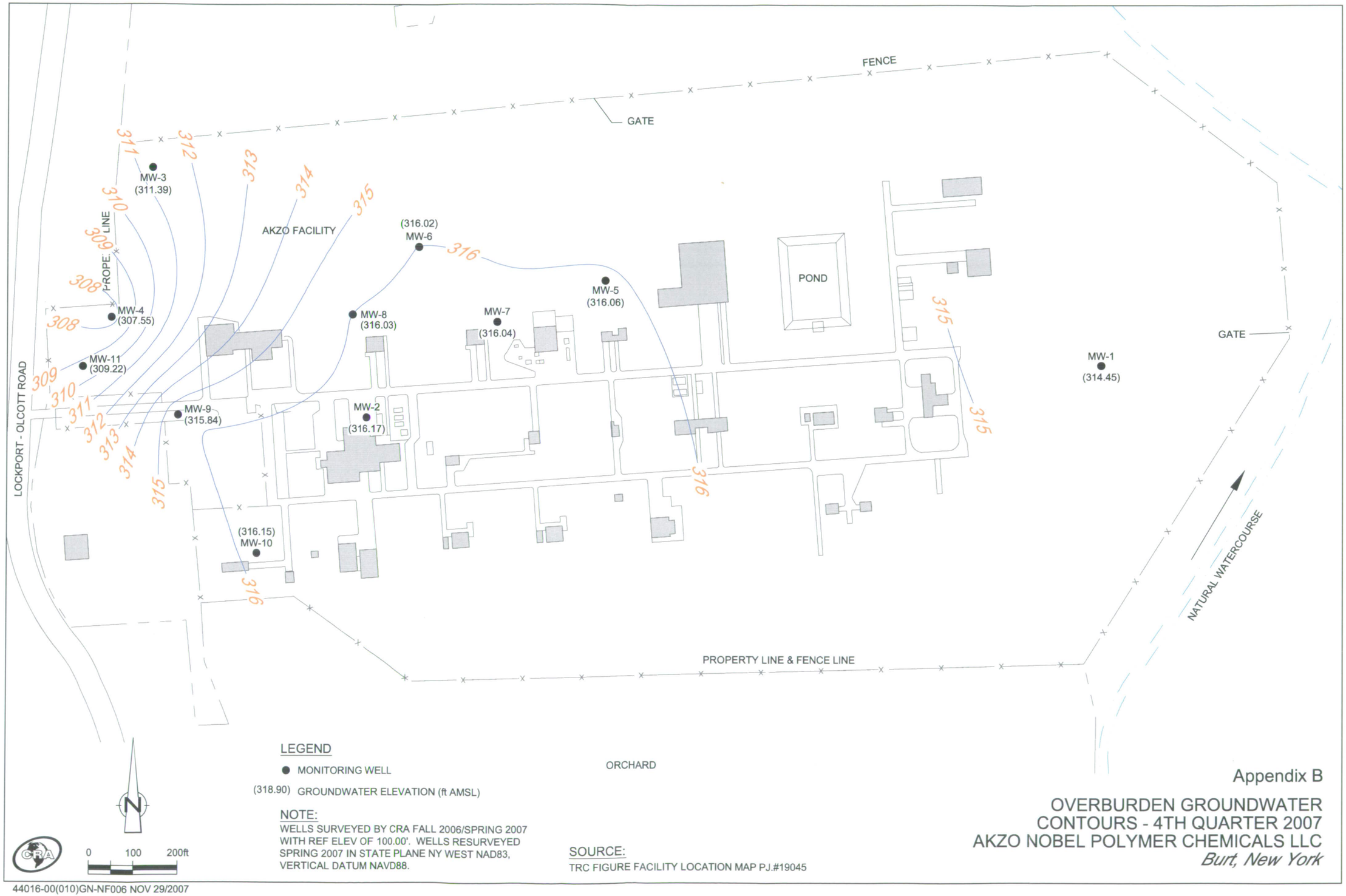


Appendix B

OVERBURDEN GROUNDWATER CONTOURS - 2ND QUARTER 2007 AKZO NOBEL POLYMER CHEMICALS LLC

Burt, New York

44016-00(010)GN-NF004 DEC 02/2007



Appendix B

OVERBURDEN GROUNDWATER CONTOURS - 4TH QUARTER 2007 AKZO NOBEL POLYMER CHEMICALS LLC

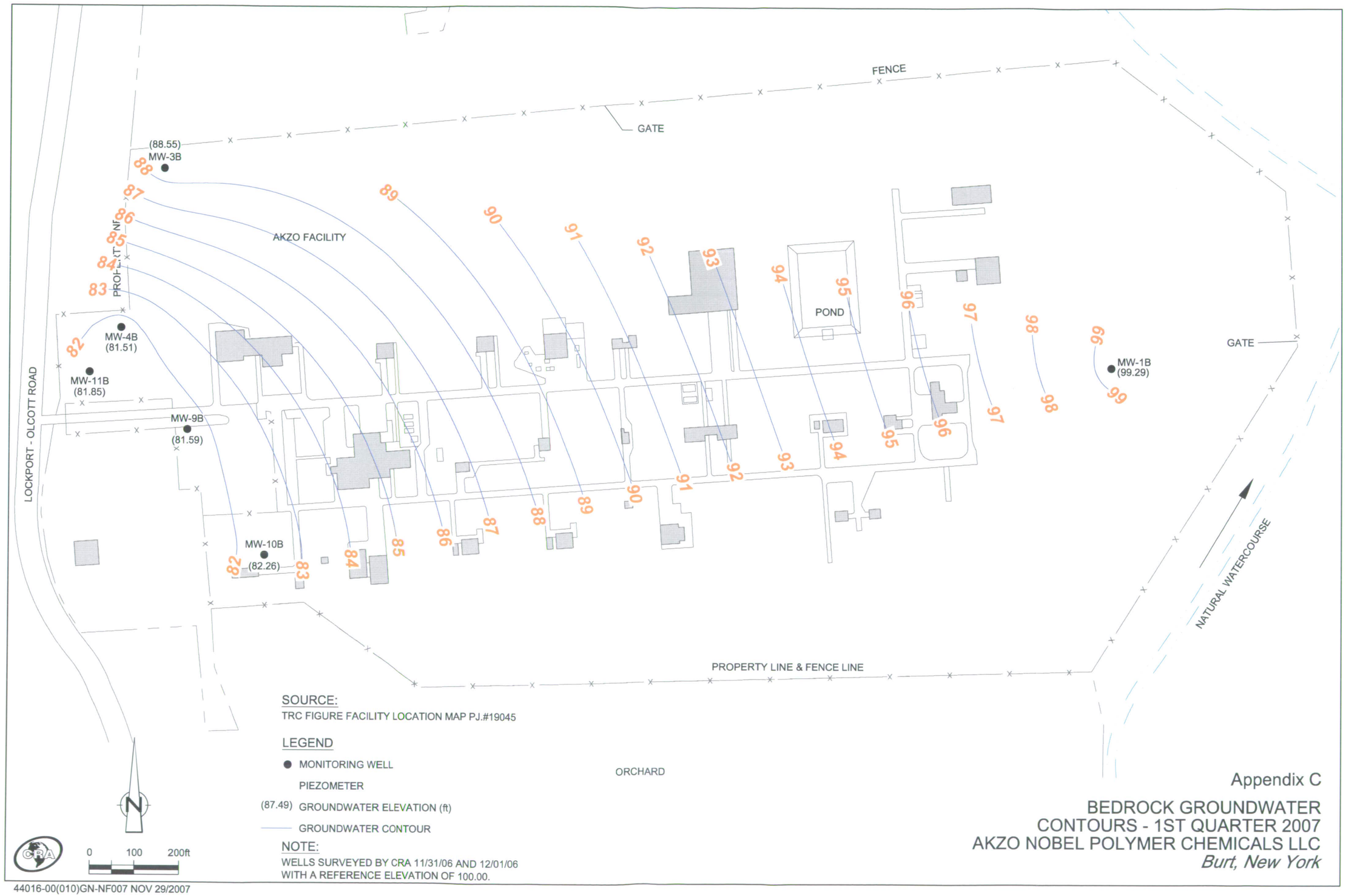
Burt, New York

44016-00(010)GN-NF006 NOV 29/2007

C

APPENDIX C

BEDROCK GROUNDWATER CONTOURS - 2007



SOURCE:
TRC FIGURE FACILITY LOCATION MAP PJ.#19045

LEGEND

- ● MONITORING WELL
- PIEZOMETER
- (87.49) GROUNDWATER ELEVATION (ft)
- GROUNDWATER CONTOUR

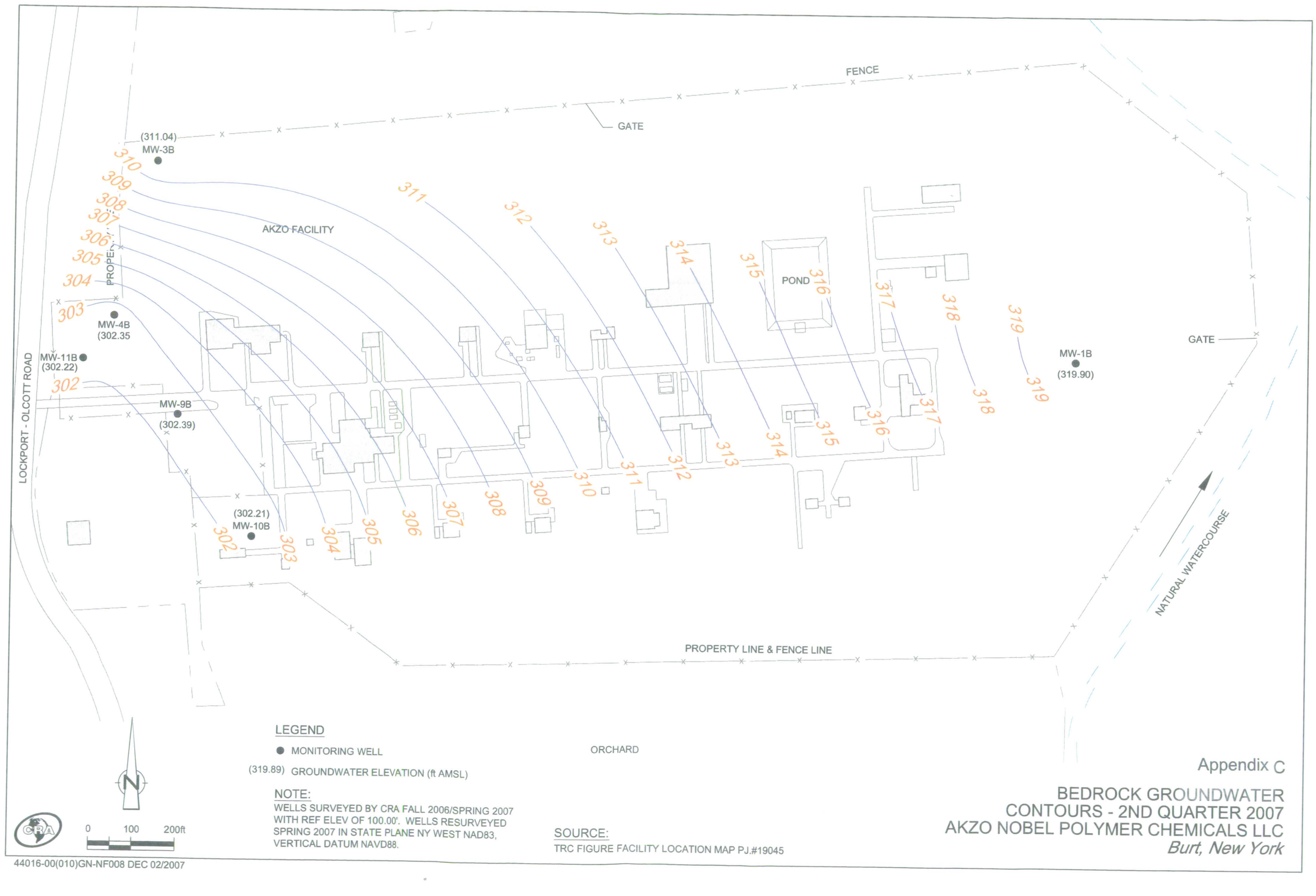
NOTE:
WELLS SURVEYED BY CRA 11/31/06 AND 12/01/06
WITH A REFERENCE ELEVATION OF 100.00.

Appendix C

BEDROCK GROUNDWATER CONTOURS - 1ST QUARTER 2007 AKZO NOBEL POLYMER CHEMICALS LLC

Burt, New York

44016-00(010)GN-NF007 NOV 29/2007

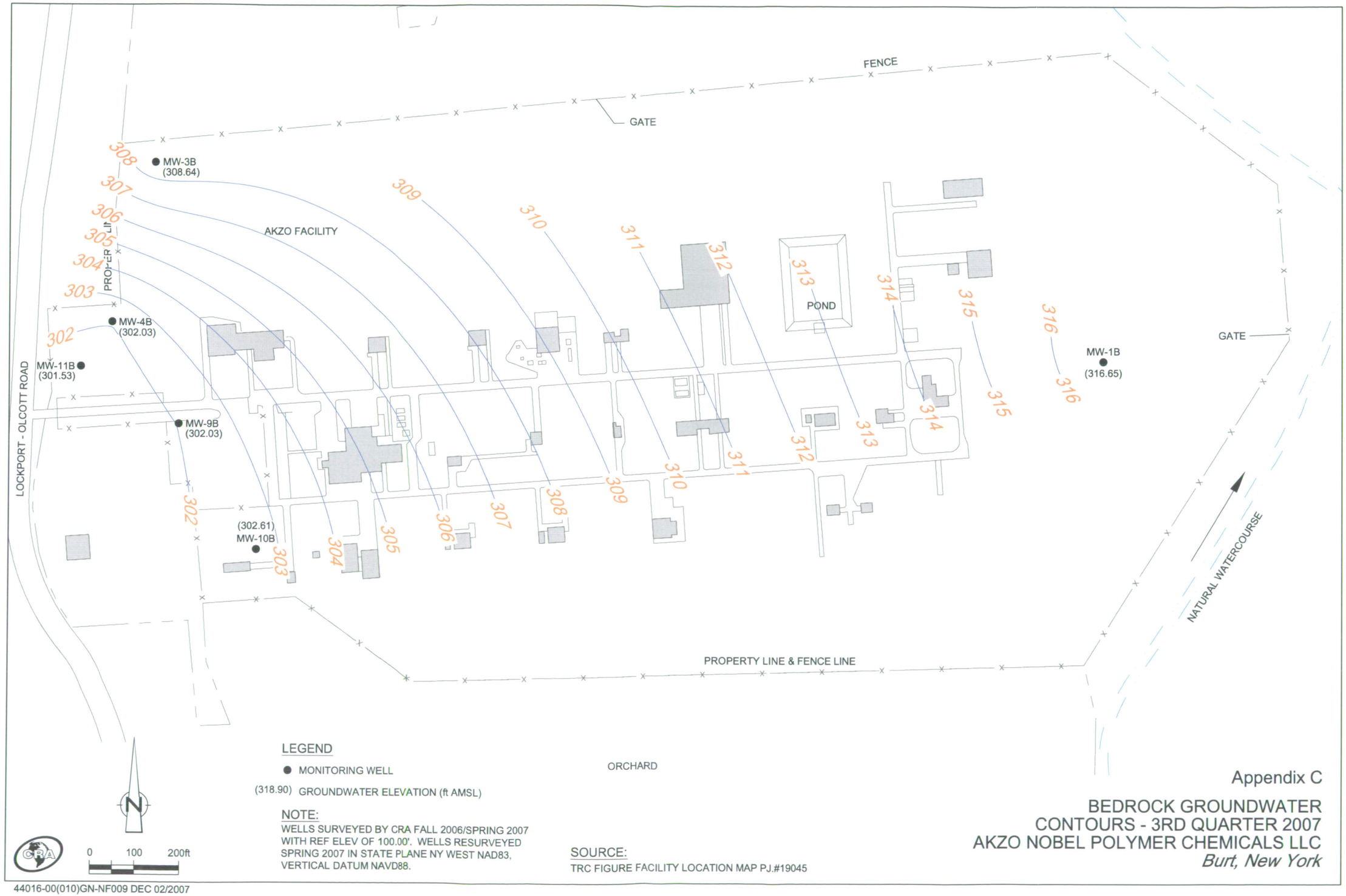


Appendix C

BEDROCK GROUNDWATER CONTOURS - 2ND QUARTER 2007 AKZO NOBEL POLYMER CHEMICALS LLC

Burt, New York

44016-00(010)GN-NF008 DEC 02/2007

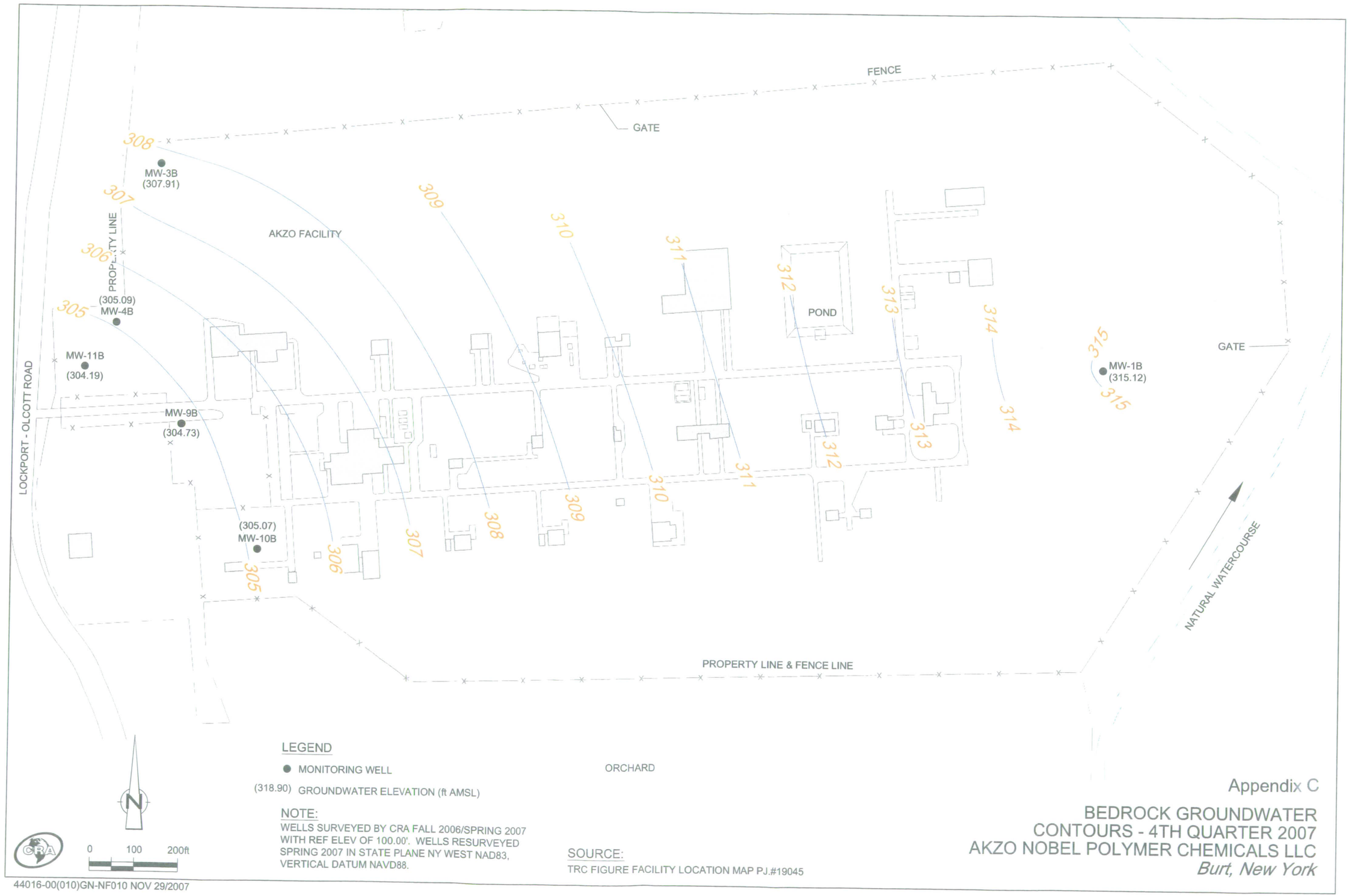


Appendix C

BEDROCK GROUNDWATER CONTOURS - 3RD QUARTER 2007 AKZO NOBEL POLYMER CHEMICALS LLC

Burt, New York

44016-00(010)GN-NF009 DEC 02/2007



44016-00(010)GN-NF010 NOV 29/2007

Appendix C

BEDROCK GROUNDWATER CONTOURS - 4TH QUARTER 2007 AKZO NOBEL POLYMER CHEMICALS LLC

Burt, New York

D

APPENDIX D

FIELD MEASUREMENTS - 2007

APPENDIX D - APRIL 2007

FIELD MEASUREMENTS
AKZO NOBEL QUARTERLY GROUNDWATER MONITORING
BURT, NEW YORK

Well ID	*Type*	*pH*	*Temp. °C*	*Conductivity mS/cm*	*ORP Millivolts*	*Turbidity NTU*	*Dissolved Oxygen mg/L*	*Ferrous Iron mg/L*
MW-1	Background - Overburden	7.30	8.8	0.618	88	83	6.93	0.06
MW-1B	Background - Bedrock	7.55	11.6	3.58	70	138	9.05	0.07
MW-2	Source Area - Overburden	7.11	10.0	0.783	-113	223	7.50	1.47
MW-3	Downgradient Boundary - Overburden	7.70	9.1	1.00	61	25	9.30	0.00
MW-3B	Downgradient Boundary - Bedrock	7.81	14.2	0.587	125	339	11.30	0.09
MW-4	Downgradient Boundary - Overburden	7.53	9.4	0.990	26	124	7.46	0.05
MW-4B	Downgradient Boundary - Bedrock	7.96	11.6	4.18	26	9	6.86	0.14
MW-5	Source Area - Overburden	7.58	11.0	0.811	109	0	6.78	0.09
MW-6	Downgradient Offset - Overburden	7.40	9.4	1.07	51	52	7.11	0.06
MW-7	Source Area - Overburden	7.19	10.1	1.81	-98	10	4.69	-
MW-8	Source Area - Overburden	7.21	11.0	1.19	-92	46	4.27	1.02
MW-9	Downgradient Boundary - Overburden	7.32	8.9	1.17	63	124	6.74	0.00
MW-9B	Downgradient Boundary - Bedrock	7.84	11.5	2.02	-14	17	3.96	0.07
MW-10	Downgradient Offset - Overburden	7.33	8.9	0.752	150	56	11.14	0.06
MW-10B	Downgradient Offset - Bedrock	7.62	12.0	0.966	153	81	8.52	0.18
MW-11	Downgradient Boundary - Overburden	7.28	11.6	1.20	142	>1000	10.19	0.14
MW-11B	Downgradient Boundary - Bedrock	8.33	14.0	1.06	148	688	10.31	0.06

Notes:
mg/L Milligram/liter.
mS/cm Millisiemens/centimeter.
NTU Nephelometric Turbidity Unit.
ORP Oxygen Release Potential

APPENDIX D - JUNE 2007
FIELD MEASUREMENTS
SECOND QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Well ID	Type	pH	Temp. °C	Conductivity mS/cm	ORP Millivolts	Turbidity NTU	Dissolved Oxygen mg/L	Ferrous Iron mg/L
MW-1	Background - Overburden	7.4	11.4	0.666	167	11.1	5.10	0.02
MW-1B	Background - Bedrock	7.45	11.5	3.510	174	21.2	6.77	0.01
MW-2	Source Area - Overburden	6.73	12.2	0.776	-10	31.9	3.30	1.87
MW-3	Downgradient Boundary - Overburden	7.61	14.4	0.847	229	68.3	11.48	0.00
MW-3B	Downgradient Boundary - Bedrock	7.94	13.1	0.543	155	55.5	6.98	0.12
MW-4	Downgradient Boundary - Overburden	7.56	11.3	0.966	203	43.9	9.04	0.00
MW-4B	Downgradient Boundary - Bedrock	7.85	10.9	4.50	232	45.5	9.02	0.02
MW-5	Source Area - Overburden	7.29	14.2	0.973	190	9.9	9.02	0.01
MW-6	Downgradient Offset - Overburden	7.32	11.1	1.270	200	3.1	6.86	0.00
MW-7	Source Area - Overburden	7.17	11.1	1.680	-7	3.2	5.58	2.20
MW-8	Source Area - Overburden	7.14	10.4	1.120	30	6.7	6.48	1.21
MW-9	Downgradient Boundary - Overburden	7.80	14.9	1.150	232	21.8	9.15	0.00
MW-9B	Downgradient Boundary - Bedrock	8.21	13.6	2.180	202	22.6	8.10	0.00
MW-10	Downgradient Offset - Overburden	7.35	12.0	0.7455	259	38.4	11.24	0.05
MW-10B	Downgradient Offset - Bedrock	7.45	13.2	0.984	264	38.0	8.93	0.05
MW-11	Downgradient Boundary - Overburden	7.72	9.3	1.870	230	791	8.95	0.32
MW-11B	Downgradient Boundary - Bedrock	8.44	10.8	0.781	190	117	9.18	0.00

Notes:
mg/L Milligram/liter.
mS/cm Millisiemens/centimeter.
NTU Nephelometric Turbidity Unit.
ORP Oxygen Release Potential

APPENDIX D - AUGUST 2007
FIELD MEASUREMENTS
THIRD QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Well ID	Type	pH	Temp. °C	Conductivity mS/cm	ORP Millivolts	Turbidity NTU	Dissolved Oxygen mg/L	Ferrous Iron mg/L
MW-1	Background - Overburden	6.87	13.3	0.636	295	63.6	9.02	0.06
MW-1B	Background - Bedrock	6.87	12.4	3.80	325	33.8	10.53	0.04
MW-2	Source Area - Overburden	6.63	18.4	0.683	-24	57.5	6.01	2.76
MW-3	Downgradient Boundary - Overburden	6.97	15.6	0.879	255	23.9	7.70	0.00
MW-3B	Downgradient Boundary - Bedrock	8.00	15.5	0.549	229	199	10.40	0.08
MW-4	Downgradient Boundary - Overburden	7.13	13.5	0.989	260	33.8	6.14	0.12
MW-4B	Downgradient Boundary - Bedrock	7.64	12.4	3.96	265	58.7	8.20	0.20
MW-5	Source Area - Overburden	7.20	16.0	1.25	189	25.1	10.97	0.15
MW-6	Downgradient Offset - Overburden	6.83	16.3	1.20	62	4.5	4.18	0.14
MW-7	Source Area - Overburden	7.17	15.3	1.62	4	20.8	10.45	2.60
MW-8	Source Area - Overburden	6.86	16.4	1.25	71	37.1	6.75	2.09
MW-9	Downgradient Boundary - Overburden	7.60	18.4	1.28	229	19.4	10.94	0.00
MW-9B	Downgradient Boundary - Bedrock	8.07	14.6	1.96	244	16.6	14.23	0.00
MW-10	Downgradient Offset - Overburden	7.10	16.3	0.776	249	93.5	11.88	0.13
MW-10B	Downgradient Offset - Bedrock	8.02	14.3	0.874	242	77.0	12.19	0.00
MW-11	Downgradient Boundary - Overburden	6.66	13.4	1.65	62	168	4.93	1.49
MW-11B	Downgradient Boundary - Bedrock	7.88	12.6	0.811	174	83.5	5.86	0.00

Notes:
mg/L Milligram/liter.
mS/cm Millisiemens/centimeter.
NTU Nephelometric Turbidity Unit.
ORP Oxygen Release Potential.

APPENDIX D - OCTOBER 2007
FIELD MEASUREMENTS
AKZO NOBEL QUARTERLY GROUNDWATER MONITORING
BURT, NEW YORK

Well ID	*Type*	*pH*	*Temp. °C*	*Conductivity mS/cm*	*ORP Millivolts*	*Turbidity NTU*	*Dissolved Oxygen mg/L*	*Ferrous Iron mg/L*
MW-1	Background - Overburden	7.50	12.6	0.505	161	184	5.92	0.00
MW-1B	Background - Bedrock	7.84	11.0	3.70	160	31.5	9.60	0.04
MW-2	Source Area - Overburden	7.23	15.2	0.902	-118	9.8	2.73	1.00
MW-3	Downgradient Boundary - Overburden	7.49	12.7	0.839	151	224	7.40	0.00
MW-3B	Downgradient Boundary - Bedrock	8.31	13.3	0.570	146	43	7.02	0.02
MW-4	Downgradient Boundary - Overburden	*	*	*	*	*	*	*
MW-4B	Downgradient Boundary - Bedrock	8.04	11.9	3.10	149	34.5	7.66	0.06
MW-5	Source Area - Overburden	7.32	14.6	1.39	59	9.2	4.73	0.00
MW-6	Downgradient Offset - Overburden	7.51	13.7	1.44	-51	11.6	9.83	0.24
MW-7	Source Area - Overburden	7.44	14.4	1.50	-120	9.7	3.75	1.69
MW-8	Source Area - Overburden	7.40	13.9	1.27	-99	28.3	3.65	1.27
MW-9	Downgradient Boundary - Overburden	7.42	15.2	1.31	155	5.0	7.75	0.00
MW-9B	Downgradient Boundary - Bedrock	8.28	14.3	1.74	151	4.5	6.10	0.08
MW-10	Downgradient Offset - Overburden	7.50	14.1	0.770	148	742	8.30	0.09
MW-10B	Downgradient Offset - Bedrock	8.13	12.1	0.813	131	85.0	7.62	0.00
MW-11	Downgradient Boundary - Overburden	7.41	12.1	1.58	-27	218	6.18	0.82
MW-11B	Downgradient Boundary - Bedrock	8.44	10.8	1.41	30	54.4	6.13	0.02

Notes:
mg/L Milligram/liter.
mS/cm Millisiemens/centimeter.
NTU Nephelometric Turbidity Unit.
ORP Oxygen Release Potential
* Well Dry Minimal Purge Water

E

APPENDIX E

EVALUATION OF NATURAL ATTENUATION DATA

CONESTOGA-ROVERS & ASSOCIATES

2055 Niagara Falls Blvd., Suite #3
Niagara Falls, New York 14304
Telephone: (716) 297-6150 Fax: (716) 297-2265
www.CRAworld.com

MEMORANDUM

TO: Gene Dworzanski

REF. NO.: 044016

FROM: Alan Weston/Sophia Dore/adh/2

DATE: December 18, 2007

RE: **Evaluation of Natural Attenuation Data**
Akzo Nobel Polymer Chemicals, LLC, Burt, New York

1.0 INTRODUCTION

Groundwater at the Akzo Nobel Polymer Chemicals, LLC Site in Burt, New York (Site) contains volatile organic compound (VOC) in some areas. Monitored Natural Attenuation (MNA) is currently in progress at this Site.

The Conestoga-Rovers & Associates' (CRA's) Innovative Technology Group (ITG) was requested to review the MNA data and assess the current groundwater conditions.

2.0 BACKGROUND

1,1,1-trichloroethane (1,1,1-TCA), chloroethane, and benzene have been detected above regulatory criteria at the Site. 1,1,1-TCA degrades under anaerobic conditions by reductive dechlorination to form chloroethane. During this reductive dechlorination, bacteria with the necessary enzymes are able to utilize the chlorinated compounds as an electron acceptor. 1,1,1-TCA can also be degraded aerobically although bacteria that perform this degradation pathway are rare. Chloroethane itself can be further degraded under anaerobic conditions to ethane and under aerobic conditions through 1-chloroethanol to acetaldehyde. Benzene can be degraded under aerobic conditions and also under anaerobic sulfate reducing conditions. In both cases, the benzene is degraded to carbon dioxide and water.

Several indicators of anaerobic conditions were measured during the groundwater sampling at the Site. Dissolved oxygen (DO) is a direct measurement of oxygen in the groundwater. Oxidation-Reduction Potential (ORP) was also measured. A negative ORP indicates that groundwater conditions are anaerobic, while a positive ORP indicates that conditions are aerobic. Reductive dechlorination occurs best at an ORP of less than –200 millivolts (mV). Methane gas was analyzed. The production of methane by anaerobic biodegradation can only occur under highly anaerobic conditions when the ORP is less than –200 mV. Therefore, when methane is produced, it can be assumed that conditions are favorable for reductive dechlorination. Dissolved metals such as iron and manganese were also measured. These metals are soluble only in their reduced forms, which suggest that groundwater conditions are anaerobic (ORP less than 0 mV). Nitrate and nitrite were also measured. At ORP values of less than +300 mV, nitrate is converted to nitrite and then to nitrogen gas. Therefore, under conditions favorable for reductive dechlorination, nitrate levels are likely to be low, since any nitrate present would have been converted to nitrogen gas.

3.0 EVALUATION OF SITE MNA DATA

Site groundwater MNA data were evaluated to determine whether conditions suitable for reductive dechlorination exist at the Site.

Redox Conditions

In most of the wells monitored, the MNA data showed that conditions were likely aerobic. Methane gas is produced only under highly anaerobic conditions, and significant levels of methane gas were found only in wells MW-2, MW-6, MW-7, and MW-8. Similarly high levels of dissolved iron and manganese were found only in these four wells. Therefore, it appears that an anaerobic zone exists in the source area stretching from well MW-2 to well MW-6 in the north and well MW-7 to the northeast. Based on the 2006 data, conditions at well MW-6 were generally aerobic but some methane and dissolved iron and manganese were detected; therefore, well MW-6 appeared to be on the northern boundary of the anaerobic zone. In 2007, the data suggest that the anaerobic zone has extended further north to include MW-6. Conditions at well MW-5 remained highly aerobic, which suggests that the anaerobic zone still does not extend past well MW-7. Conditions in the anaerobic zone appear to be sulfate reducing/methanogenic. Reductive dechlorination occurs at sulfate reducing and methanogenic reduction potentials; therefore, conditions in this zone are favorable for the degradation of the chloroethanes.

The DO and OPR measurements taken in the field are in basic agreement with the findings described above. Negative ORP values were measured at all sampling events in well MW-2, and in MW-7 at all of the sampling events except for the August sampling event. In MW-8, positive ORP values were measured during the June and August sampling events, and in MW-6, a negative ORP value was measured only in the October sampling event. Positive ORP values were again measured at the remaining wells. However, the negative ORP values were higher than would have been expected based on the levels of methane and dissolved metals present. DO levels between 3 and 7.5 milligrams per liter (mg/L) were measured at well MW-2 during all four sampling events. These dissolved oxygen levels were much higher than would be expected, based on the other data. The high levels of methane observed at MW-2, and the presence of dissolved iron and manganese would not be expected if dissolved oxygen were as high as reported. The measurement of ORP and DO is conducted with a probe that is submersed in the well. The probes are sensitive to motion in the water and to particulate matter. The detection of degradation products such as methane and dissolved metals, however, is less sensitive to transient conditions in the wells. Therefore, the degradation product and metals data were used to assess anaerobic conditions rather than the DO and ORP data.

Degradation Products

Chloroethane is formed when 1,1,1-TCA is degraded by reductive dechlorination. The presence of chloroethane in MW-2 suggests that reductive dechlorination of 1,1,1-TCA has occurred in this area.

Chloroethane was detected in well MW-2 during all four monitoring events during 2007. During the April event, chloroethane levels were very high (greater than 500 µg/L), however these levels fell to between 56 and 76 µg/L during subsequent sampling events suggesting that the chloroethane plume front has passed through MW-2 and the reduced levels represent the tail of the plume. Conditions at well MW-2, which is located in the source area, appeared to be highly anaerobic as discussed above. Therefore, it is likely that the 1,1,1-TCA was degraded to chloroethane by reductive dechlorination. Anaerobic degradation of chloroethane is slow; therefore, a transient accumulation of chloroethane would be expected

to move with the groundwater from the source area. However, the chloroethane will degrade over time by an anaerobic metabolism. Since the flow of groundwater from the source area is towards the aerobic areas to the west, it is likely that the chloroethane will be degraded by the faster, aerobic mechanisms once it migrates further west. Since aerobic degradation of chloroethane is a faster mechanism, it is expected that chloroethane will not be detected at the boundary wells, and the analytical data supports this conclusion, since chloroethane has not been detected in any of the boundary wells.

Benzene was detected in samples from well MW-2 at 33 µg/L during the April sampling event. The benzene concentration had fallen to 7.8 µg/L by the June event, to 6 µg/L by the August event, and benzene was not detected at MW-2 during the October sampling event. As discussed above, sulfate reducing conditions appear to exist at well MW-2. Benzene can be degraded under sulfate reducing conditions, and it appears that anaerobic degradation of benzene is occurring in the source area at the Site. Aerobic degradation of benzene is much faster. Like the chloroethane migration described above, any benzene not degraded in the source area is likely to migrate with the groundwater into the aerobic area to the west and be degraded there by aerobic microorganisms. Therefore, benzene should also not be detected at the boundary wells. The analytical data supports this conclusion, since benzene has not been detected in any of the boundary wells.

1,1,1-TCA was detected in samples from well MW-9, one of the downgradient boundary wells, during all four sampling events. As discussed above, conditions at well MW-9 are highly aerobic. 1,1,1-TCA degrades most readily under anaerobic conditions, but aerobic degradation of 1,1,1-TCA to carbon dioxide is possible. However, levels of 1,1,1-TCA have remained fairly constant over the 2006 and 2007 sampling events, therefore, it does not appear that significant aerobic degradation of 1,1,1-TCA is occurring in this area.

4.0 CONCLUSIONS

It appears that the 1,1,1-TCA present in the source area is being degraded to chloroethane. The chloroethane will either continue to degrade under anaerobic conditions in the source area or will be degraded aerobically as it migrates towards the Site boundary. Similarly, benzene present in the source area appears to have been degraded under the anaerobic conditions present, however, any benzene not degraded in the source area will be degraded faster as it migrates to the aerobic area west of the source area. Therefore, further migration of these chemicals from the source area to the boundary should speed their degradation. 1,1,1-TCA is already present in the aerobic boundary area. The data do not indicate that quantifiable aerobic biodegradation of 1,1,1-TCA is occurring in this area.

APPENDIX F

COMPARISION OF 2006 TCL VOCs IN GROUNDWATER WITH NYCRR 703.5 GROUNDWATER STANDARDS

COMPARISON OF 2006 TCL VOCs IN GROUNDWATER WITH NYCRR 703.5 GROUNDWATER STANDARDS

Well	*Comparison of TCL VOCs in Groundwater with NYCRR 703.5 Groundwater Standards*	
MW-1	No results above action limits.	
MW-1B	No results above action limits.	
MW-2	Benzene (4.8 µg/L versus action limit of 1 µg/L)	05/26/06
	Benzene (16 µg/L versus action limit of 1 µg/L)	11/30/06
	Chloroethane (38 µg/L versus action limit of 5 µg/L)	05/26/06
	Chloroethane (30 µg/L versus action limit of 5 µg/L)	08/29/06
	Chloroethane (100 µg/L versus action limit of 5 µg/L)	11/30/06
MW-3*	No results above action limits	
MW-3B*	No results above action limits	
MW-4*	No results above action limits	
MW-4B*	No results above action limits	
MW-5	Acetone (100 µg/L versus action limit of 50 µg/L)	08/29/06
MW-6	No results above action limits	
MW-7	No results above action limits	
MW-8	Chloroethane (8.0 µg/L [8.1 µg/L duplicate] versus action limit of 5 µg/L)	05/26/06
MW-9*	1,1,1-Trichloroethane (21 µg/L versus action limit of 5 µg/L)	05/26/06
	1,1,1-Trichloroethane (31 µg/L [resample])	07/12/06
	1,1,1-Trichloroethane (34 µg/L versus action limit of 5 µg/L)	08/29/06
	1,1,1-Trichloroethane (19 µg/L [resample])	10/10/06)
MW-9B*	No results above action limits	
MW-10*	No results above action limits	
MW-10B*	No results above action limits	

Notes:

* Denotes downgradient boundary well

µg/L Micrograms per liter

APPENDIX G

WATER LEVEL MEASUREMENTS - 2007

APPENDIX G - APRIL 2007

WATER LEVEL MEASUREMENTS
AKZO NOBEL QUARTERLY GROUNDWATER MONITORING
BURT, NEW YORK

Well ID	*Type*	*Top of Casing feet*	*Depth to Water feet - BTOC*	*Water Level Elevation feet*
MW-1	Background - Overburden	105.88	6.65	99.23
MW-1B	Background - Bedrock	105.66	6.37	99.29
MW-2	Source Area - Overburden	103.88	5.75	98.13
MW-3	Downgradient Boundary - Overburden	99.95	3.13	96.82
MW-3B	Downgradient Boundary - Bedrock	99.22	10.67	88.55
MW-4	Downgradient Boundary - Overburden	100.49	6.90	93.59
MW-4B	Downgradient Boundary - Bedrock	101.03	19.52	81.51
MW-5	Source Area - Overburden	102.05	3.19	98.86
MW-6	Downgradient Offset - Overburden	102.68	4.23	98.45
MW-7	Source Area - Overburden	101.47	2.98	98.49
MW-8	Source Area - Overburden	103.60	5.14	98.46
MW-9	Downgradient Boundary - Overburden	102.40	4.77	97.63
MW-9B	Downgradient Boundary - Bedrock	102.58	20.99	81.59
MW-10	Downgradient Offset - Overburden	105.76	6.59	99.17
MW-10B	Downgradient Offset - Bedrock	105.49	23.23	82.26
MW-11	Downgradient Boundry - Overburden	103.15	11.10	92.05
MW-11B	Downgradient Boundary - Bedrock	102.69	20.84	81.85

Note:
BTOC Below Top of Casing or Reference Point.

APPENDIX G - JUNE 2007

WATER LEVEL MEASUREMENTS
SECOND QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Well ID	*Type*	*Top of Casing (feet)*	*Depth to Water (feet BTOC)*	*Water Level Elevation (feet)*
MW-1	Background - Overburden	328.51	9.01	319.50
MW-1B	Background - Bedrock	328.29	8.39	319.90
MW-2	Source Area - Overburden	327.58	7.88	319.70
MW-3	Downgradient Boundary - Overburden	322.58	5.30	317.28
MW-3B	Downgradient Boundary - Bedrock	321.85	10.81	311.04
MW-4	Downgradient Boundary - Overburden	323.12	8.9	314.22
MW-4B	Downgradient Boundary - Bedrock	323.66	21.31	302.35
MW-5	Source Area - Overburden	324.68	4.98	319.70
MW-6	Downgradient Offset - Overburden	325.31	5.82	319.49
MW-7	Source Area - Overburden	324.10	4.32	319.78
MW-8	Source Area - Overburden	326.23	6.66	319.57
MW-9	Downgradient Boundary - Overburden	325.03	6.45	318.58
MW-9B	Downgradient Boundary - Bedrock	325.21	22.82	302.39
MW-10	Downgradient Offset - Overburden	328.39	8.60	319.79
MW-10B	Downgradient Offset - Bedrock	328.12	25.91	302.21
MW-11	Downgradient Boundary - Overburden	325.76	13.38	312.38
MW-11B	Downgradient Boundary - Bedrock	325.32	23.10	302.22

Note:
BTOC Below Top of Casing.

APPENDIX G - AUGUST 2007

WATER LEVEL MEASUREMENTS
THIRD QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Well ID	*Type*	*Top of Casing (feet)*	*Depth to Water (feet BTOC)*	*Water Level Elevation (feet)*
MW-1	Background - Overburden	328.51	12.42	316.09
MW-1B	Background - Bedrock	328.29	11.64	316.65
MW-2	Source Area - Overburden	327.58	10.28	317.30
MW-3	Downgradient Boundary - Overburden	322.58	8.57	314.01
MW-3B	Downgradient Boundary - Bedrock	321.85	13.21	308.64
MW-4	Downgradient Boundary - Overburden	323.12	12.68	310.44
MW-4B	Downgradient Boundary - Bedrock	323.66	21.63	302.03
MW-5	Source Area - Overburden	324.68	7.59	317.09
MW-6	Downgradient Offset - Overburden	325.31	8.31	317.00
MW-7	Source Area - Overburden	324.10	7.06	317.04
MW-8	Source Area - Overburden	326.23	9.17	317.06
MW-9	Downgradient Boundary - Overburden	325.03	8.48	316.55
MW-9B	Downgradient Boundary - Bedrock	325.21	23.18	302.03
MW-10	Downgradient Offset - Overburden	328.39	11.03	317.36
MW-10B	Downgradient Offset - Bedrock	328.12	25.51	302.61
MW-11	Downgradient Boundary - Overburden	325.76	15.17	310.59
MW-11B	Downgradient Boundary - Bedrock	325.32	23.79	301.53

Note:
BTOC Below Top of Casing.

APPENDIX G - OCTOBER 2007

WATER LEVEL MEASUREMENTS
SECOND QUARTER GROUNDWATER MONITORING
AKZO NOBEL POLYMER CHEMICALS LLC

Well ID	Type	Top of Casing (feet)	Depth to Water (feet BTOC)	Water Level Elevation (feet)
MW-1	Background - Overburden	328.51	14.06	314.45
MW-1B	Background - Bedrock	328.29	13.17	315.12
MW-2	Source Area - Overburden	327.58	11.41	316.17
MW-3	Downgradient Boundary - Overburden	322.58	11.19	311.39
MW-3B	Downgradient Boundary - Bedrock	321.85	13.94	309.91
MW-4	Downgradient Boundary - Overburden	323.12	15.57	307.55
MW-4B	Downgradient Boundary - Bedrock	323.66	18.57	305.09
MW-5	Source Area - Overburden	324.68	8.62	316.06
MW-6	Downgradient Offset - Overburden	325.31	9.29	316.02
MW-7	Source Area - Overburden	324.10	8.06	316.04
MW-8	Source Area - Overburden	326.23	10.20	316.03
MW-9	Downgradient Boundary - Overburden	325.03	9.19	315.84
MW-9B	Downgradient Boundary - Bedrock	325.21	20.48	304.73
MW-10	Downgradient Offset - Overburden	328.39	12.24	316.15
MW-10B	Downgradient Offset - Bedrock	328.12	23.05	305.07
MW-11	Downgradient Boundary - Overburden	325.76	16.54	309.22
MW-11B	Downgradient Boundary - Bedrock	325.32	21.13	304.19

Note:
BTOC Below Top of Casing.