PHASE II
REMEDIAL INVESTIGATION REPORT
ADDENDUM
FORMER AVERY DENNISON / MONARCH SYSTEMS, INC. FACILITY
July 9, 2001

VOLUME 1

Submitted to:

NEW YORK STATE
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EXECUTIVE SUMMARY

Activities documented within this Phase II Remedial Investigation Addendum Report include: (1) performance of ground water quality and geochemical sampling and laboratory analysis at 23 on-site and off-site monitoring wells; (2) soil/sediment quality sampling and analysis at 14 locations and surface water quality sampling and analysis at 3 locations within Town of New Windsor owned wetlands property located east of the project site; and (3) a biological screening assessment of the wetlands property.

The results of the current ground water sampling event, a continuation of a semi-annual program that was initiated by Avery Dennison in 1995, indicate the following:

- The on-site contaminant plume concentration distribution is similar to that observed during the past 18 months, with the highest TVOC concentrations (3–7 mg/L) exhibited within a narrow band within the central portion of the site defined by wells RIZ-4, MW-1S and MW-2;

- In the off-site area between the project site and the wetlands, the contaminant concentration detected at monitoring well MW-4S (52 ug/L) is significantly lower than that observed previously. While a steep, decreasing concentration gradient would be expected in this area, the current data may be biased somewhat low as a result of seasonal variability or diversion of a portion of the ground water contaminant plume within the local storm drainage system to surface water discharge;

- As expected, given the site conceptual ground water flow and geochemical models, chlorinated hydrocarbon contamination was not detected at the presumed leading edge of the discharging plume within the Town of New Windsor wetlands area (monitoring well MW-5); and

- Geochemical data clearly indicate a progression towards an anaerobic, organic carbon rich subsurface environment conducive to biodegradation of chlorinated hydrocarbons to the east /northeast of the center of the project site. A range of geochemical "footprints" support the occurrence of anaerobic bacterial respiration and natural, in-situ dechlorination adjacent to MacArthur Avenue and within off-site wells located adjacent to and within the wetlands.

The results of sediment sampling indicate low concentrations of chlorinated hydrocarbon degradation products in the area of ground water contaminant plume discharge within the wetlands. Higher concentrations of degradation products are associated with an area proximal to MacArthur Avenue and adjacent to a tributary stream that is fed by the local storm water drainage system. These data suggest that a portion of the ground water contaminant plume may be intercepted by the storm drainage system during the wet season, with discharge to the wetlands surface water flow system. Aggressive biodegradation of the chlorinated constituents is documented by the large proportion of breakdown products to parent compounds in the sediments. No benthic aquatic life acute or chronic toxicity or wildlife bioaccumulation criteria are available from the NYSDEC Division of Fish, Wildlife, and Marine Resources (DFWMR) for project site related constituents of concern.

A significant finding of the sediment sampling program is the ubiquitous presence of petroleum hydrocarbons (fuel/oil related compounds) within the investigation area, likely resulting from

storm water runoff associated with adjacent residential and industrial land uses. These contaminants are not associated with the project site.

The results of the surface water sampling program indicate the presence of chlorinated hydrocarbons in a tributary stream located adjacent to MacArthur Avenue that is fed by storm water drainage. These data are consistent with the findings of earlier investigations of shallow ground water and surface water within the wetlands area, which indicated the presence of contamination in perimeter areas and within upstream drainage channels, but little or no evidence of contamination in downstream areas. The prior investigations also detected evidence of independent sources of chlorinated hydrocarbon contamination to the north and south of the project site; either or both of these sources could contribute to storm water drainage and the presence of such contamination within wetlands area tributary streams. Concentrations of detected contaminants in surface water are one or more orders of magnitude lower than aquatic life acute and chronic toxicity criteria provided by NYSDEC-DFWMR.

The results of the biological screening of the wetlands area indicate a healthy environment, with no evidence of ecotoxicological stress.

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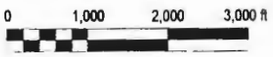
1.0 INTRODUCTION

This Phase II Remedial Investigation Addendum Report describes the results of field investigation performed during the week of April 2, 2001 at the former Monarch Systems, Inc. site (the "project site"), located at 15-21 Ruscitti Road (MacArthur Avenue) in New Windsor, Orange County, New York (Figure 1-1). This work included: (1) ground water sampling and laboratory analysis for volatile organic compound (VOC) and geochemical parameters at 23 on-site and off-site monitoring wells; (2) soil/sediment sampling and VOC laboratory analysis at 14 locations and surface water sampling and VOC laboratory analysis at 3 locations within Town of New Windsor owned wetlands property located east of the project site and MacArthur Avenue; and (3) a biological screening assessment of the wetlands property.

The ground water sampling event represented a continuation of a semi-annual monitoring program voluntarily initiated by Avery Dennison in 1995, supplemented with the collection of geochemical data to more fully characterize the water chemistry of the project site and adjacent off-site down gradient areas. The protocol for the ground water sampling and analysis program was defined in the ***Supplemental Site Investigation Report*** (AMEC, January 2000).

Sampling within the Town of New Windsor wetlands area was performed in response to comments received from the New York State Department of Environmental Conservation Division of Fish, Wildlife and Marine Resources (NYSDEC-DFWMR) in correspondence dated September 8, 2000. The protocol for the soil/sediment sampling and analysis program was defined in correspondence from AMEC to the Department dated March 5, 2001. Surface water sampling was added to the investigation scope of work at the request of NYSDEC-DFWMR following review of the soil/sediment sampling plan. The referenced correspondence was contained in Appendix A of the ***Phase II Remedial Investigation Report*** (AMEC, 2001).

LEGEND



Source: U.S. Geological Survey Cornwall Quadrangle, NY
7.5 Minute Series (1957; photorevised 1981)

Figure 1-1
Site Location Map

Avery Dennison/Former Monarch Systems, Inc.
New Windsor, New York

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2.0 PHASE II REMEDIAL INVESTIGATION ADDENDUM

2.1 GROUND WATER SAMPLING

During the week of April 2, 2001, 23 monitoring wells (including one piezometer) were sampled at and down gradient of the project site, as follows:

- On-Site Wells[1]: RIZ-2, RIZ-3, RIZ-4, RIZ-5, RIZ-6, RIZ-7, RIZ-8, RIZ-9, RIZ-10, RIZ-15, RIZ-16, RIZ-17, RIZ-18, RIZ-19, MW-1S, MW-1D, MW-2, MW-3, MW-4I, MW-4D.

- Off-Site Wells: MW-4S, MW-5, P-1 (piezometer).

Well locations are indicated on Figure 2-1. A minimum of three well volumes were purged from each well using either a peristaltic pump or submersible pump, and indicator parameters (temperature, specific conductance, pH, turbidity, dissolved oxygen, REDOX, and ferrous iron) were monitored periodically during and at the completion of the purging process. Field recorded well purging and sampling data are summarized in Table 2-1.

Dedicated pre-cleaned tubing was used at each location, and samples were obtained either directly from the purge tubing (in-line), or with disposable, pre-cleaned bailers. All samples were maintained on-site at a temperature of 4° C in dedicated sample coolers, and submitted to STL Envirotech, Edison, NJ, a NYSDOH ELAP-CLP certified laboratory. Samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs) +10, methane, ethane, ethene, alkalinity, chloride, nitrate, sulfate, sulfide, and total organic carbon (TOC). The NYSDEC Analytical Services Protocol (ASP) category B deliverables format was specified for data reporting.

2.2 SEDIMENT/SURFACE WATER SAMPLING

Sediment sampling within the presumed area of ground water contaminant plume discharge within the Town of New Windsor wetland area, located east of MacArthur Avenue from the project site, was performed on April 5, 2001. A total of 14 sediment samples (S-1 through S-14) were collected, as well as one duplicate and one matrix spike/matrix spike duplicate sample. The samples were obtained from a depth of 0-6 inches with decontaminated stainless steel trowels. Sample locations are indicated on Figure 2-2, and survey coordinates are compiled in Table 2-2.

Three surface water samples were also obtained as part of this investigation (SW-1 through SW-3), as well as one aqueous sample duplicate and one aqueous matrix spike/matrix spike duplicate sample. SW-1 was obtained from the base of a shallow pool of ponded water (6 in. depth) in the vicinity of sediment sample S-14; SW-2 was obtained from the base of a shallow pool of ponded water (12 in. depth) in the vicinity of sediment sample S-6; and SW-3 was obtained from a small, flowing tributary stream in the vicinity of sediment sample S-4. Sample locations are indicated on Figure 2-2.

Sediment and surface water samples were maintained on-site at a temperature of 4° C in dedicated sample coolers, and submitted to STL Envirotech, Edison, NJ, a NYSDOH ELAP-

[1] Monitoring well RIZ-1 could not be located; it is believed to be covered by storage materials associated with a leaseholder to the current property owner. The inability to obtain a sample from this well is not considered critical to the ongoing ground water monitoring program.

LEGEND

⊙ **Monitoring Well Location**

RIZ Wells and MW-1S, MW-2, MW-3, MW-4S, MW-5 screened at water table
MW-4I screened above surface of lodgement till
MW-4D and MW-1D screened above surface of bedrock

Survey Control: Grevas & Hildreth, P.C., Newburgh, NY, 1996, 2001

Aerial Photo Base: Robinson Aerial Surveys, Inc., Newton, NJ
Exp. No. ORG-1-67; April 23, 1990

Figure 2-1
Monitoring Well Location Plan
Phase II Remedial Investigation

Avery Dennison / Former Monarch Systems, Inc.
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TABLE 2-1
WELL PURGING AND SAMPLING DATA
AVERY DENNISON/FORMER MONARCH SYSTEMS, INC. FACILITY NEW WINDSOR, NEW YORK
Sample Dates: April 3-5, 2001

Well ID	Sample Date	Sample Time	Depth to Water (ft)	Casing Diameter (in.)	Water Column (ft)	Volume Purged (gal)	Pumping Rate (gpm)	Temp (°C)	pH (units)	Conductivity (us/cm)	REDOX (Eh-mV)	DO (mg/L)	Turbidity (NTU)	Fe^{2+} (mg/L)
RIZ-2	04/03/01	12:25	7.11	2	12.19	6.0	0.2	11.4	6.41	0.392	70	5.68	30.7	0.2
RIZ-3	04/03/01	13:35	4.93	2	11.98	6.0	0.2	11.1	5.99	0.908	67	1.11	48.8	0
RIZ-4	04/04/01	13:00	10.88	2	10.66	5.0	0.2	15.4	6.7	0.559	68	5.49	146	0
RIZ-5	04/04/01	8:10	6.83	2	10.9	5.0	0.3	11.2	6.41	0.796	38	3.56	53.8	0
RIZ-6	04/03/01	11:10	3.72	2	10.72	5.0	0.2	9.0	6.34	0.653	-6	2.31	38.5	2.4
RIZ-7	04/03/01	19:00	1.13	2	10.59	5.0	0.2	9.3	6.56	0.474	13	0.67	54.3	0.2
RIZ-8	04/03/01	18:05	2	2	9.41	5.0	0.2	8.4	6.94	0.713	10	2.06	34	0
RIZ-9	04/04/01	10:10	11.22	1	6.1	2.0	0.05	10.7	6.66	0.387	14	3.32	7.9	0
RIZ-10	04/04/01	9:35	10.53	1	6.38	1.0	0.1	12.4	6.72	0.817	31	6.07	23.9	1.0
RIZ-15	04/04/01	17:25	9.41	2	9.02	4.5	0.3	15.5	7.13	0.727	ns	ns	ns	0
RIZ-16	04/04/01	19:45	10.08	2	8	4.0	0.2	15.7	6.83	0.498	55	2.97	16.5	0
RIZ-17	04/04/01	16:45	10.22	2	7	3.5	0.2	15.9	6.58	0.469	41	1.22	70.3	0
RIZ-18	04/04/01	18:43	10.68	2	8.3	4.0	0.2	15.5	7.11	0.696	ns	ns	ns	0.2
RIZ-19	04/04/01	11:30	8.82	2	7.9	4.0	0.2	13.5	6.47	0.252	77	4.92	1.5	0
MW-1D	04/03/01	15:45	0	4	53.71	6.0	0.2	14.9	7.24	0.902	19	2.24	139	0
MW-1S	04/03/01	16:05	0.68	4	14.62	4.0	0.2	10.6	7.4	0.723	-43	0.00	240	0
MW-2	04/04/01	15:15	1.2	4	10.8	4.0	0.2	9.3	7.08	0.686	26	2.40	133	0
MW-3	04/04/01	14:25	3	4	9.66	4.0	0.2	11.1	6.91	0.574	-21	0.61	64.6	0
MW-4D	04/04/01	17:50	10.14	4	30.3	3.0	0.2	15.8	7.39	0.001	54	3.79	25	0.6
MW-4I	04/04/01	18:55	9.66	4	22.34	4.0	0.2	16.5	7.47	0.622	42	3.59	14.7	0.8
MW-4S	04/05/01	12:40	5.88	2	35.44	4.0	0.2	14.4	7.1	0.833	4	1.56	107	0
MW-5	04/05/01	11:45	2.32	2	5.68	3.0	0.15	7.2	7.4	0.663	13	5.13	922	2
P1	04/05/01	13:50	8.82	2	8.4	4.0	0.2	12.1	7.2	0.712	-70	1.08	61.5	3.2

ns -not sampled/analyzed

LEGEND

GW 1-3 — **Prior Ground Water Sample Location** (Shallow Hand Auger; April 1999)

S-4 — **Sediment Sample Location** (April 2001)

SW-3 — **Surface Water Sample Location** (April 2001)

Survey Control: Grevas & Hildreth, P.C., Newburgh, NY, 1996, 2001

Aerial Photo Base: Robinson Aerial Surveys, Inc., Newton, NJ
Exp. No. ORG-1-67; April 23, 1990

Figure 2-2
Sediment and Surface Water Sample Location Plan
Phase 2 Remedial Investigation

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CLP certified laboratory. All samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs) +10, with specified NYSDEC-ASP category B deliverables format.

Table 2-2: Survey Control- Sediment Sample Locations

Sample Location	Easting (x)	Northing (y)
S-1	620,428.90	966,841.50
S-2	620,498.80	966,824.20
S-3	620,573.10	966,808.70
S-4	620,430.80	966,776.80
S-5	620,503.20	966,764.50
S-6	620,577.20	966,758.30
S-7	620,651.50	966,763.30
S-8	620,455.80	966,721.20
S-9	620,505.70	966,713.00
S-10	620,579.80	966,706.40
S-11	620,649.30	966,698.10
S-12	620,512.20	966,668.60
S-13	620,577.80	966,656.70
S-14	620,647.50	966,642.70

2.3 BIOLOGICAL SCREENING

As part of the targeted soil/sediment and surface water sampling program, a biological screening of the Town of New Windsor wetlands area was conducted (*i.e.*, area south of Little Falls Pond #1)[2]. The objective of the screening was to characterize the basic plant communities within the wetland system and to ascertain whether any indications of ecotoxicological impact to the vegetative community were evident. The screening was conducted on a qualitative basis through the completion of a pedestrian survey of the wetland area. A Professional Wetland Scientist trained in the performance of ecological risk assessments conducted the screening survey on April 5, 2001.

[2] The pond location is indicated on Figure 2-2.

3.0 RESULTS AND DISCUSSION

3.1 GROUND WATER SAMPLING

Six laboratory analytical data packages (sample delivery groups or SDGs) were prepared to document the results of ground water sampling, as follows:

- Target Compound List Volatile Organic Compounds (TCL-VOC+15): SDG Nos. J5721 and J6151 dated April 24, 2001, and No. J6661 dated April 25, 2001 (also includes surface water samples).

- Geochemical Parameters (alkalinity, chloride, nitrate, sulfate, sulfide, total organic carbon [TOC], methane, ethane, ethene): SDG No. J615 (April 25, 2001), and Nos. J572 and J666 dated April 26, 2001.

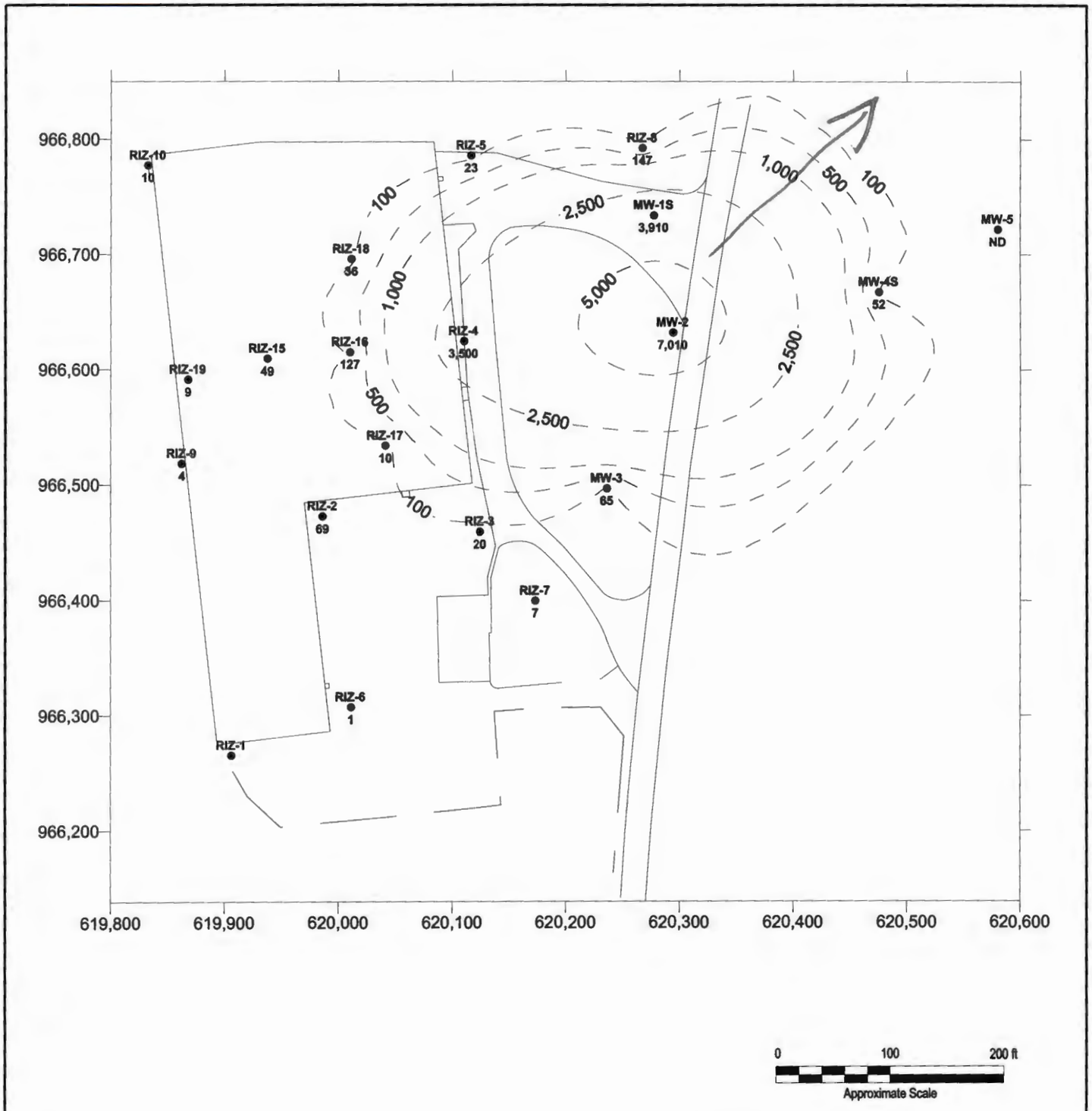
These data packages are contained under separate cover as Volumes 2, 3, and 4 of this report.

Summary analytical tabulations for the April 2001 sampling event are contained in Appendix A, as part of a database that contains the full historical record of VOC data compiled at the project site since April 1993. The Appendix A data compilation also provides plots of water level elevation and constituent concentrations over time at each monitoring well location.

Figure 3-1 is total volatile organic compound (TVOC) concentration contour (isopleth) map that indicates the contaminant distribution in the shallow (water table) monitoring zone during the April 3-5, 2001 sampling event. The concentration distribution is similar to that observed during the past two sampling events (September 1999 and June 2000), with maximum concentrations in the range of 1-7 mg/L (1,000-7,000 ug/L) within the central area to the east of the former Monarch production building (wells RIZ-4, MW-1S and MW-2). The concentration gradient decreases steeply to the north, east, and south of this central area. Appendix B contains a series of color-coded concentration contour maps that allow for a comparison of the contaminant distribution over time, and indicate the similarity in contaminant concentration distribution during the three sampling events performed over the past 18 months.

The installation of monitoring wells MW-4S, MW-5 and piezometer P-1 during February 2001 acted to expand the area of investigation for the April 2001 monitoring period relative to prior monitoring periods. The conceptual ground water flow and geochemical models for the project area[3] would dictate low ground water concentrations of VOCs within the wetlands and in the deep ground water flow system, and a steep, decreasing concentration gradient in the shallow flow system between the project site and the wetlands. Consistent with these models, no VOCs were detected at well MW-5 (located to monitor the leading edge of the shallow contaminant plume), and deep wells MW-1D and P-1 (screened at depths of 44-54 and 38-40 ft below ground surface, respectively) indicated TVOC concentrations below 80 ug/L. The TVOC concentration detected in well MW-4S (52 ug/L) was significantly lower than those associated with upgradient wells MW-1S (3,910 ug/L) and MW-2 (7,010 ug/L). It should be noted that the

[3] The ground water flow model states that both lateral and vertical ground water hydraulic gradients in the project area are controlled by the wetlands discharge area; ground water flow paths from the project site associated with this scenario would be shallow, and would not support significant deep (downward) migration of contaminants. The geochemical model states that high soil organic carbon content and anaerobic conditions associated with wetlands sediments would result in the natural biodegradation of chlorinated hydrocarbon contaminants in ground water.



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MW-1S ← Monitoring Well ID

3,910 ← TVOC Concentration (ug/L)

1,000 Estimated TVOC Concentration Contour (ug/L)

Survey Control: Grevas & Hildreth, P.C., Newburgh, NY, 1996, 2001

Figure 3-1
Total Volatile Organic Compound (TVOC)
Concentration (ug/L): April 3-5, 2001
Shallow (Water Table) Monitoring Wells

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MW-4S concentration is more than an order of magnitude lower than that observed in this area from prior hydropunch sampling reported in the ***Supplemental Site Investigation Report*** (AMEC, 2000); *i.e.*, sample location HP-2 (located approximately 20 ft south of MW-4S) indicated a TVOC concentration of approximately 1,200 ug/L in August 1999[4].

3.1.1 Geochemical Data

The purpose of the geochemical sampling program is to document the presence of in-situ conditions that support the natural anaerobic biodegradation of chlorinated hydrocarbons. The distribution and concentration of VOCs reflect the intermediate and end points of these degradation processes, through reduction in parent compound concentrations (*i.e.*, TCE, 111TCA), and relative increases in daughter or breakdown product concentrations (*e.g.*, 12DCE, 11DCA). In the evaluation of natural attenuation processes, the National Research Council (2000) identifies an approach that links contaminant concentration data from the site to a site model (as previously described) and "footprints" of underlying mechanisms. These "footprints" are represented by concentration changes in reactants or products of biogeochemical processes that transform or immobilize the contaminants. Footprints occur because the processes leading to contaminant degradation or transformation also consume or produce other materials.

A summary of the laboratory data derived from the April 2001 sampling event for the project specified suite of geochemical parameters is contained in Table 3-1; field measured data were compiled previously in Table 2-1. As a whole, these data strongly support the conceptual geochemical model for the project area, which specifies a favorable environment for natural in-situ biodegradation of chlorinated hydrocarbons within and adjacent to the wetlands area located hydraulically down gradient of the project site. It is important to note that the geochemical data are generally evaluated as a group within a "preponderance of evidence" context to support the occurrence of natural degradation processes. This is because different degradation processes will typically be occurring within different areas of the contaminant plume at different times, and because natural or anthropogenic influences may interfere with accurate or representative values for one or several geochemical parameters, but generally not all. The geochemical parameters being used as footprints in the ongoing investigation are described below, with pertinent findings discussed for each constituent.

Dissolved Oxygen: DO is the most thermodynamically favored electron acceptor used by microbes for the biodegradation of organic carbon, whether natural or anthropogenic. Anaerobic bacteria generally cannot function at dissolved oxygen concentrations greater than about 0.5 mg/L, and hence reductive dechlorination will not occur. Availability of a carbon source in the aquifer that can be used by aerobic microorganisms as a primary substrate is essential to allow for DO depletion (resulting from aerobic respiration).

[4] It is believed that the MW-4S concentration measured during April 2001 may be biased low as a result of several factors, including: (1) the difference in aquifer saturated thickness across which ground water samples were obtained in the monitoring well (10 ft) relative to the hydropunch (2 ft), and (2) seasonal variability in contaminant concentration as a result of the elevation of the water table (and hence the saturated thickness across the well screen). A second seasonal factor that may also influence water chemistry in MW-4S is associated with the local storm drainage system that bisects the contaminant plume under MacArthur Avenue. During the wet seasons of the year (winter/spring), a portion of ground water flow may be intercepted by the drainage system and discharged as surface water into the wetlands area. This phenomenon is discussed more fully in Report Sections 3.2 and 3.3 relative to the interpretation of sediment and surface water samples collected in the wetlands area.

TABLE 3-1
GROUND WATER GEOCHEMICAL ANALYTICAL DATA SUMMARY
AVERY DENNISON/FORMER MONARCH SYSTEMS, INC. FACILITY, NEW WINDSOR, NEW YORK
Sample Dates: April 3-5, 2001

Well ID	Alkalinity	Chloride	Nitrate	Sulfate	Sulfide	TOC	Methane	Ethane	Ethene	cis-1,2-DCE	trans-1,2-DCE
R1Z-2	94.5	17.5	3.2	13.3	ND (1.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)
RIZ-3	315	85.0	0.3	69.0	ND (1.0)	3.4	29	ND (5.0)	ND (5.0)	ND (10)	ND (10)
R1Z-4	200	61.0	0.8	38.3	ND (1.0)	1.5	ND (5.0)	ND (5.0)	ND (5.0)	ND (250)	ND (250)
R1Z-5	152	138.0	2.2	55.9	ND (1.0)	1.4	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)
RIZ-6	226	51.0	ND (0.1)	15.6	ND (1.0)	4.2	22	ND (5.0)	ND (5.0)	ND (10)	ND (10)
R1Z-7	179	40.0	0.3	16.8	ND (1.0)	1.4	7.4	ND (5.0)	ND (5.0)	1 J	ND (10)
R1Z-8	268	66.0	0.4	18.4	ND (1.0)	1.5	7.6	ND (5.0)	ND (5.0)	0.06 J	ND (10)
R1Z-9	110	37.5	3.0	22.3	ND (1.0)	1.6	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)
R1Z-10	200	135	2.7	59	ND (1.0)	2.1	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)
RIZ-15	194	66.0	0.2	38.2	ND (1.0)	1.7	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)
R1Z-16	173	54.0	1.0	30.3	ND (1.0)	1.4	6.1	ND (5.0)	ND (5.0)	ND (10)	ND (10)
R1Z-17	147	55.0	ND (0.1)	28.3	ND (1.0)	2.1	120	ND (5.0)	ND (5.0)	ND (10)	ND (10)
R1Z-18	205	82.5	1.0	68.5	ND (1.0)	1.4	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)
R1Z-19	94.5	20.0	ND (0.1)	25.5	ND (1.0)	1.1	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)
MW-1D	252	130	ND (0.1)	64	ND (1.0)	ND (1.0)	5.9	ND (5.0)	ND (5.0)	ND (10)	ND (10)
MW-1S	268	91.0	0.2	23.2	ND (1.0)	1.5	12	ND (5.0)	ND (5.0)	30 J	ND (200)
MW-2	210	76.0	1.5	48.6	ND (1.0)	1.2	ND (5.0)	ND (5.0)	ND (5.0)	80 J	ND (500)
MW-3	221	46.0	1.0	37.0	ND (1.0)	1.1	ND (5.0)	ND (5.0)	ND (5.0)	1 J	ND (10)
MW-4D	200	72.5	ND (0.1)	63.9	ND (1.0)	ND (1.0)	ND (5.0)	5.6	ND (5.0)	3 J	ND (10)
MW-4I	137	72.5	0.2	47.8	ND (1.0)	1.4	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)
MW-4S	284	102	0.3	43	ND (1.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (5.0)	1 J	ND (10)
MW-5	231	78.0	ND (0.1)	17.0	ND (1.0)	9.9	74	ND (5.0)	ND (5.0)	ND (10)	ND (10)
P1	278	60.0	ND (0.1)	46.1	ND (1.0)	3.0	87	ND (5.0)	ND (5.0)	30	ND (10)

ND - Analyte not detected at indicated detection limit in parentheses

The DO concentration data are generally divided into two groups: (1) wells with depressed values (0-1.5 mg/L) observed in low lying on-site areas that typically exhibit saturated soil conditions or increased soil organic carbon content due to their proximity to wetlands or stream sediments (i.e., MW-1S, MW3, RIZ-7, and off-site wells MW-4S and P-1), and (2) wells with DO concentrations typical of aerobic subsurface environments (> 1.5 mg/L), which are represented by the majority of upland locations on the project site.

An exception to this pattern is the high DO concentration observed at well MW-5 within the wetlands; in this case the observed concentration is a result of oxygen saturation of shallow standing water by aquatic vegetation and algae; because the water table is essentially at ground surface at this location, and the well is screened over the upper five feet of sediment, this shallow water is drawn into the well during the purging process. As noted subsequently, ample evidence of anaerobic degradation in the subsurface is available from other geochemical data obtained at this location.

Well MW-2 would also be expected to exhibit a DO concentration similar to those measured at wells MW-1 and MW-3, rather than the observed concentration (2.4 mg/L). In this case (as with several of the other upland wells exhibiting DO concentrations > 5 mg/L) field instrument variability, and the difficulty in avoiding mixing with atmospheric oxygen during the purging and sampling process is the likely cause of the elevated concentration.

Nitrate: After DO has been depleted in the microbiological treatment zone, nitrate may be used as an electron acceptor for anaerobic biodegradation of organic carbon via denitrification. In order for reductive dechlorination to occur, nitrate concentrations in the contaminated portion of the aquifer must be less than 1.0 mg/L.

In general, the same distinction identified above relative to DO applies in this case, with nitrate concentration <1.0 mg/L typical of the low, wet areas of the site and off-site wetlands area, and elevated concentrations associated with the upland areas of the project site.

Iron II (ferrous): In some cases, iron (III) is used as an electron acceptor during anaerobic biodegradation of organic carbon. During this process, iron (III) is reduced to iron (II), which may be soluble in water.

In this case, a higher concentration of ferrous iron would be expected in those areas exhibiting anaerobic degradation processes. This is observed at off-site well MW-5 (2.0 mg/L) and piezometer P-1 (3.2 mg/L), relative to concentrations observed elsewhere within the project site, which generally lie within the range of 0-1.0 mg/L.

Sulfate/Sulfite: After DO and nitrate have been depleted in the microbiological treatment zone, sulfate may be used as an electron acceptor for anaerobic biodegradation. This process is termed sulfate reduction and results in a decreased concentration of sulfate within the contaminant plume relative to background concentrations and the production of sulfide. It is important to note that concentrations of sulfate greater than 20 mg/L may cause competitive exclusion of dechlorination; *i.e.*, at high concentrations, microorganisms may preferentially utilize sulfate as an electron acceptor rather than the chlorinated hydrocarbon.

Sulfate reduction does not appear to be an important process in the project area, with only a few wells exhibiting sulfate at a concentration less than 20 mg/L (wetlands well MW-5 being one of them); sulfite was not detected in any of the monitoring wells.

Methane: During methanogenesis (an anaerobic biodegradation process), carbon dioxide is used as an electron acceptor, and methane is produced. Methanogenesis generally occurs after oxygen, nitrate, bioavailable iron III (ferric), and sulfate have been depleted. The presence of methane in ground water is indicative of strongly reducing conditions.

With the exception of RIZ-17, which appears to be an anomaly, the highest concentrations of methane detected in the project area are associated with off-site piezometer P-1 (87 mg/L) and wetlands well MW-5 (74 mg/L). Elsewhere, concentrations are in the non-detect to 29 mg/L range.

ORP (redox): The oxidation-reduction potential (Eh) of ground water is a measure of electron activity and is an indicator of the relative tendency of a solution to accept or transfer electrons. Oxidation-reduction reactions in ground water containing organic compounds (natural or anthropogenic) are usually biologically mediated, and therefore, the ORP of a ground water system depends on and influences rates of biodegradation. ORP < 50 mv suggests that a reductive pathway may be possible, and ORP < -100 mv suggests that a reductive pathway is possible.

The lowest ORP data are associated with the low lying areas on-site adjacent to MacArthur Avenue and the off-site wells located adjacent to and within the wetlands. Several of the upland wells also exhibit ORP < 50 mv.

pH: The pH of the ground water has an affect on the presence and activity of microbial populations in ground water. This is especially true for methanogens. Microbes capable of degrading chlorinated aliphatic hydrocarbons generally prefer pH in the range of 6 to 8 standard units.

The pH measured in virtually all project area wells lies within the range of 6 – 8 units.

Temperature: Ground water temperature directly affects the solubility of oxygen and other geochemical species. Ground water temperature also affects the metabolic activity of bacteria; rates of hydrocarbon biodegradation roughly double for every 10° C increase in temperature over the range 5° - 25° C.

Temperatures recorded from all project area wells are in the range of 7.2 – 16.5° C.

Chloride: During biodegradation of chlorinated hydrocarbons dissolved in ground water, chloride is released. This results in chloride concentrations in the contaminant plume that are elevated relative to background concentrations.

A clear pattern of increasing chloride concentration to the east/northeast from the center of the site is apparent, consistent with the orientation of the contaminant plume. With the exception of wells RIZ-5 and RIZ-10, which are believed to be affected by anthropogenic sources of chloride (due to adjacent property land use), the highest chloride concentrations detected in the project area were at wells MW-1S (91 mg/L) and MW-4S (102 mg/L), which are located within the contaminant plume footprint. The concentration in well MW-2 is also elevated (76 mg/L), although within a range observed at several of the upland wells.

Alkalinity: Alkalinity results from the presence of hydroxides, carbonates, and bicarbonates derived from the dissolution of rocks, the transfer of carbon dioxide from the atmosphere, and the respiration of microorganisms. Alkalinity is important in the maintenance of ground water pH

because it buffers the ground water system against acids generated during both aerobic and anaerobic biodegradation. Higher alkalinity concentrations within the area of contaminant plume (relative to background or upgradient concentrations) are an indication of biological degradation processes.

Similar to the distribution of chloride data, alkalinity concentrations are generally observed to increase to the east/northeast from the center of the site. Of 11 wells exhibiting alkalinity at a concentration > 200 mg/L, 9 are located in the low lying area adjacent to MacArthur Avenue or adjacent to/within the off-site wetlands area. These concentrations are greater than two times background/upgradient values observed at wells RIZ-2, RIZ-9 and RIZ-19.

Total Organic Carbon: Under anaerobic conditions, microorganisms will utilize chlorinated hydrocarbons as electron acceptors to drive the reductive dechlorination process. For this process to occur, there must be an appropriate source of carbon (i.e., electron donor) for microbial growth.

Within the project area, ground water high in TOC is associated primarily with wetlands soils, which derive their organic carbon content from decaying vegetation. Wetlands well MW-5, with a TOC concentration of 9.9 mg/L reflects this condition, as does piezometer P-1 (3.0 mg/L), located adjacent to the wetlands. The majority of the on-site wells exhibit TOC < 2.0 mg/L; wells RIZ-3 and RIZ-6 exhibit TOC concentrations of 3.4 and 4.2 mg/L, respectively, and are somewhat anomalous in this regard.

1,2-Dichloroethene (12DCE): This compound is a daughter product of TCE, especially in the case where greater than 80% of total TCE is in the form of the cis- isomer. Its presence is an indicator of reductive dechlorination.

This compound is present in the contaminant plume almost exclusively in the low lying wells adjacent to MacArthur Avenue and the off-site wells adjacent to/within the wetlands area. Limited available data suggest that the cis- isomer represents the dominant form. The distribution of 12DCE observed in the monitoring wells was also documented in the results of the off-site hydropunch sampling described in the ***Supplemental Site Investigation Report*** (AMEC, 2000), and the soil vapor survey described in the ***Phase II Remedial Investigation Report*** (AMEC, 2001).

1,1-Dichloroethene (11DCE): This compound is a daughter product of TCE, or chemical reaction of 111TCA. Its presence is an indicator of reductive dechlorination.

As with 12DCE, this compound is present in the contaminant plume almost exclusively in the low lying wells adjacent to MacArthur Avenue and the off-site wells adjacent to/within the wetlands area. Similarly, the distribution of 11DCE observed in the monitoring wells was also documented in the results of the off-site hydropunch sampling described in ***the Supplemental Site Investigation Report*** (AMEC, 2000), and the soil vapor survey described in the Phase II Remedial Investigation Report (AMEC, 2001).

Ethene/Ethane: The end point of the TCE dechlorination process following transformation through 12DCE, 11DCE and vinyl chloride is either complete mineralization (conversion to carbon dioxide and water) or production of ethene and/or ethane. As the dechlorination process may be interrupted at any stage (with other processes acting upon the products), or the concentration of intermediate or end products may be reduced to a concentration that is below analytical detection limits, these end may or may not be detected in ground water.

With the exception of a low ethane concentration detected in MW-4D (a well located at the base of the lodgement till adjacent to the former vapor degreaser source area), these constituents were not detected in any on-site or off-site wells. Historically, vinyl chloride has not been detected in ground water as well, which suggests that a combination of dilution and aerobic surface processes[5] ultimately degrade and mineralize resultant low concentrations of chlorinated hydrocarbon end products within the wetlands ground water discharge area.

Summary: As a whole, the geochemical data clearly indicate a progression towards an anaerobic, organic carbon rich subsurface environment conducive to biodegradation of chlorinated hydrocarbons to the east /northeast of the center of the project site. A range of geochemical "footprints" support the occurrence of anaerobic bacterial respiration and natural, in-situ dechlorination adjacent to MacArthur Avenue and within off-site wells located adjacent to and within the wetlands area located hydraulically down gradient of the project site. These "footprints" include: (1) depressed concentrations/values of dissolved oxygen, nitrate, and redox potential within or adjacent to the wetlands area relative to upland or background conditions, (2) elevated concentrations of ferrous iron, methane, chloride, total organic carbon, and alkalinity within or adjacent to the wetlands area relative to upland/background conditions, and (3) the presence of the primary degradation (or "daughter") byproducts of TCE and 111TCA[6] almost exclusively within the low lying areas of the site adjacent to MacArthur Avenue and within or adjacent to the wetlands area.

3.2 SEDIMENT SAMPLING

One laboratory analytical data package (sample delivery group or SDG) was prepared to document the results of sediment sampling: SDG No. J6662, dated April 27, 2001. This data package is contained under separate cover as Volume 5 of this report.

The analytical results of the sediment sampling program are summarized in Table 3-2. These data are summarized graphically on Figure 3-2 (total chlorinated hydrocarbons), Figure 3-3 (total ethenes), Figure 3-4 (total ethanes), and Figure 3-5 (total petroleum hydrocarbons). Figures 3-3 and 3-4 represent a subset of the total chlorinated hydrocarbon data, with the ethenes consisting of TCE, 12DCE, 11DCE, and vinyl chloride, and the ethanes consisting of 111TCA, 11DCA, and chloroethane.

Total chlorinated hydrocarbons[7] were detected within three general zones within the investigation area: (1) low estimated concentrations within the presumed area of ground water plume discharge; *i.e.*, sample locations S-12 and S-9; (2) elevated concentrations adjacent to a storm water discharge stream proximal to MacArthur Avenue; *i.e.*, sample locations S-1 and S-2; and (3) low estimated concentrations adjacent to the terminus of Foley Avenue; *i.e.*, sample locations S-11 and S-7. No chlorinated hydrocarbons were detected at perimeter sample locations S-4, S-8, S-13, and S-14 or interior sample locations S-3, S-5, S-6, and S-10.

The low estimated concentrations of TCE, 12DCE, and 11DCE at sample locations S-12 and S-9 (with a higher proportion of the daughter products) represent a condition that would be

[5] Degradation of vinyl chloride is predominantly an aerobic process.

[6] 12DCE, 11DCE, and 11DCA

[7] In the ensuing discussion, VOCs not related to either chlorinated solvents associated with the project site or petroleum hydrocarbons are not referenced. At several sample locations, anomalous constituents were detected, and are indicated in Table 3-2 (*e.g.*, acetone and 2-butanone at sample location S-12).

TABLE 3-2
VOLATILE ORGANIC COMPOUND (VOC) LABORATORY ANALYSIS OF SEDIMENT (ug/KG)
AVERY DENNISON/FORMER MONARCH SYSTEMS, INC. FACILITY, NEW WINDSOR, NEW YORK
Sample Date: April 5, 2001

Sample No.	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-9 Dup	S-10	S-11	S-12	S-13	S-14
Laboratory Sample ID #	267402	267403	267404	267405	267406	267407	267408	267409	267410	267416	267411	267412	267413	267414	267415
Chloromethane	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Bromomethane	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Vinyl Chloride	32	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Chloroethane	64	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Methylene Chloride	2.0 JB	1.0 JB	-- U (27)	0.9 JB	-- U (17)	-- U (21)	3.0 JB	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	4.0 JB	-- U (17)	1.0 JB
Acetone	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	150	-- U (17)	-- U (19)
Carbon Disulfide	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
1,1-Dichloroethene	28	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
1,1-Dichloroethane	280	12 J	-- U (27)	-- U (15)	-- U (17)	-- U (21)	7.0 J	-- U (22)	-- U (19)	-- U (20)	-- U (18)	28 J	13 J	-- U (17)	-- U (19)
1,2-Dichloroethene(total)	100	30	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	3.0 J	-- U (20)	-- U (18)	-- U (32)	18 J	-- U (17)	-- U (19)
Chloroform	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
1,2-Dichloroethane	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
2-Butanone	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	64	-- U (17)	-- U (19)
1,1,1-Trichloroethane	140	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	21 J	-- U (62)	-- U (17)	-- U (19)
CarbonTetrachloride	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Bromodichloromethane	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
1,2-Dichloropropane	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
cis-1,3-Dichloropropene	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Trichloroethene	6.0 J	2.0 J	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	4.0 J	-- U (17)	-- U (19)
Dibromochloromethane	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
1,1,2-Trichloroethane	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Benzene	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
trans-1,3-Dichloropropene	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Bromoform	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
4-Methyl-2-Pentanone	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
2-Hexanone	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Tetrachloroethene	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	4.0 J	-- U (62)	-- U (17)	-- U (19)
1,1,2,2-Tetrachloroethane	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Toluene	14 J	3.0 J	5.0 J	2.0 J	4.0 J	4.0 J	9.0 J	6.0 J	5.0 J	4.0 J	6.0 J	5.0 J	15 J	3.0 J	4.0 J
Chlorobenzene	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Ethylbenzene	4.0 J	2.0 J	22 J	2.0 J	3.0 J	3.0 J	7.0 J	5.0 J	4.0 J	3.0 J	6.0 J	4.0 J	12 J	2.0 J	3.0 J
Styrene	-- U (27)	-- U (17)	-- U (27)	-- U (15)	-- U (17)	-- U (21)	-- U (40)	-- U (22)	-- U (19)	-- U (20)	-- U (18)	-- U (32)	-- U (62)	-- U (17)	-- U (19)
Xylenes(Total)	21 J	13 J	100	10 J	18	16 J	34 J	28	21	18 J	30	22 J	60 J	12 J	18 J
Tentatively Identified Compounds	--	--	--	--	--	--	569	--	--	--	--	--	--	--	--

U - Indicates analyte was not detected at method reporting limit.
J - Estimated value less than minimum detection limit.
B - Analyte is found in the laboratory blanks as well as the sample.

LEGEND

S-4 **Sediment Sample Location**

SW-3 **Surface Water Sample Location**

Soil ug/KG

1000
750
500
250
100
50
25
10

Survey Control: Grevas & Hildreth, P.C., Newburgh, NY, 2001

Aerial Photo Base: Robinson Aerial Surveys, Inc., Newton, NJ
Exp. No. ORG-1-67; April 23, 1990

Figure 3-2

Total Chlorinated Hydrocarbons in Surface Soil (ug/KG) and Surface Water (ug/L)

Avery Dennison/Former Monarch Systems, Inc
New Windsor, New York

amec
Earth & Environmental
285 Davidson Avenue, Suite 100, Somerset, New Jersey 08873

LEGEND

S-4 **Sediment Sample Location**

SW-3 **Surface Water Sample Location**

Soil ug/KG

1000
750
500
250
100
50
25
10

Survey Control: Grevas & Hildreth, P.C., Newburgh, NY, 2001

Aerial Photo Base: Robinson Aerial Surveys, Inc., Newton, NJ
Exp. No. ORG-1-67; April 23, 1990

Figure 3-3

Total Ethenes in Surface Soil (ug/KG)
and Surface Water (ug/L)

Avery Dennison/Former Monarch Systems, Inc
New Windsor, New York

amec
Earth & Environmental
285 Davidson Avenue, Suite 100, Somerset, New Jersey 08873

LEGEND

S-4 — Sediment Sample Location

SW-3 — Surface Water Sample Location

Soil ug/KG

1000
750
500
250
100
50
25
10

Survey Control: Grevas & Hildreth, P.C., Newburgh, NY, 2001

Aerial Photo Base: Robinson Aerial Surveys, Inc., Newton, NJ
Exp. No. ORG-1-67; April 23, 1990

Figure 3-4

Total Ethanes in Surface Soil (ug/KG)
and Surface Water (ug/L)

Avery Dennison/Former Monarch Systems, Inc
New Windsor, New York

amec
Earth & Environmental
285 Davidson Avenue, Suite 100, Somerset, New Jersey 08873

LEGEND

S-4 **Sediment Sample Location**

SW-3 **Surface Water Sample Location**

Soil ug/KG

1000
750
500
250
100
50
25
10

Survey Control: Grevas & Hildreth, P.C., Newburgh, NY, 2001

Aerial Photo Base: Robinson Aerial Surveys, Inc., Newton, NJ
Exp. No. ORG-1-67; April 23, 1990

Figure 3-5

Total Petroleum Hydrocarbons in Surface Soil (ug/KG) and Surface Water (ug/L)

Avery Dennison/Former Monarch Systems, Inc
New Windsor, New York

amec
Earth & Environmental
285 Davidson Avenue, Suite 100, Somerset, New Jersey 08873

expected given the distribution of these contaminants in ground water. Their low concentration distribution and their absence from interior areas of the investigation area support the geochemical degradation model for the project area.

The presence of chlorinated hydrocarbons at sample location S-1 (and to a lesser degree at S-2) suggests that a component of the ground water contaminant plume is intercepted by the storm water drainage system underlying MacArthur Avenue, and diverted as surface water discharge during high flow periods into a wetlands area perimeter stream. The high proportion of degradation products at S-1 relative to parent compounds[8] indicates that aggressive dechlorination of chlorinated solvents is occurring in this area.

The presence of low estimated concentrations of chlorinated hydrocarbons at sample locations S-11 and S-7 is believed to be associated with storm water runoff from Foley Avenue, as is discussed further below. As indicated on Figure 3-5, the presence of petroleum hydrocarbons is ubiquitous within the investigation area, with these fuel/oil related constituents detected at all sampling locations. These contaminants are not associated with the project site. The highest concentrations of petroleum hydrocarbons are associated with sample locations S-7[9] and S-12; the source of the former appears to clearly be associated with storm water runoff from Foley Avenue, while those at S-12 appear to be associated with runoff from adjacent industrial properties.

Review of the NYSDEC-DFWMR ***Technical Guidance for Screening Contaminated Sediments*** (July 1994) indicates that there are no benthic aquatic life acute or chronic toxicity criteria or wildlife bioaccumulation criteria for any of the chlorinated solvent contaminants detected in the investigation area sediments associated with the project site.

3.3 SURFACE WATER SAMPLING

Surface water samples were combined with several ground water sample analyses in one laboratory analytical data package: SDG J6661, dated April 25, 2001. This data package is contained under separate cover in Volume 2 of this report.

The results of surface water sampling are summarized in Table 3-3, and plotted with the sediment quality data on Figures 3-2 (total chlorinated hydrocarbons), Figure 3-3 (total ethenes), Figure 3-4 (total ethanes) and Figure 3-5 (total petroleum hydrocarbons).

Estimated concentrations of 111TCA (3 ug/L) and 11DCA (3 ug/L) were detected at sample location SW-1, obtained from a shallow pool of ponded water (6 in. depth) in the vicinity of sediment sample S-14. No chlorinated hydrocarbons were detected at sample location SW-2, obtained from a shallow pool of ponded water (12 in. depth) in the vicinity of sediment sample S-6. A total chlorinated hydrocarbon concentration of 76.6 ug/L was detected at sample location SW-3, obtained from a shallow, flowing tributary stream. This total was comprised of 42 ug/L 111TCA and 28 ug/L TCE, with several low, estimated concentrations of associated parent and breakdown products. As noted above, the presence of these constituents appear to be associated with discharge from the MacArthur Avenue storm water drainage system. No petroleum hydrocarbons were detected in any of the surface water samples.

[8] Including vinyl chloride and chloroethane, not observed elsewhere in the ground water analytical database.

[9] The majority of petroleum hydrocarbons detected in the sample from this location were identified in the VOC Tentatively Identified Compound scan as "C10H16 Aromatic", with a total estimated concentration of 571 ug/KG.

TABLE 3-3
VOLATILE ORGANIC COMPOUND (VOC) LABORATORY ANALYSIS OF SURFACE WATER (ug/L)
AVERY DENNISON/FORMER MONARCH SYSTEMS, INC. FACILITY, NEW WINDSOR, NEW YORK
Sample Date: April 5, 2001

Sample No.	SW-1	SW-2	Dup-A (SW-2)	SW-3	FB040501	TB040501
Laboratory Sample ID #	267398	267399	267400	267401	267419	267418
Chloromethane	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Bromomethane	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
VinylChloride	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Chloroethane	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
MethyleneChloride	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Acetone	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
CarbonDisulfide	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
1,1-Dichloroethene	— U (10)	— U (10)	— U (10)	0.6 J	— U (10)	— U (10)
1,1-Dichloroethane	3.0 J	— U (10)	— U (10)	2.0 J	— U (10)	— U (10)
1,2-Dichloroethene(total)	— U (10)	— U (10)	— U (10)	2.0 J	— U (10)	— U (10)
Chloroform	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
1,2-Dichloroethane	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
2-Butanone	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
1,1,1-Trichloroethane	3.0 J	— U (10)	— U (10)	42	— U (10)	— U (10)
CarbonTetrachloride	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Bromodichloromethane	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
1,2-Dichloropropane	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
cis-1,3-Dichloropropene	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Trichloroethene	— U (10)	— U (10)	— U (10)	28	— U (10)	— U (10)
Dibromochloromethane	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
1,1,2-Trichloroethane	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Benzene	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
trans-1,3-Dichloropropene	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Bromoform	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
4-Methyl-2-Pentanone	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
2-Hexanone	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Tetrachloroethene	— U (10)	— U (10)	— U (10)	2.0 J	— U (10)	— U (10)
1,1,2,2-Tetrachloroethane	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Toluene	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Chlorobenzene	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Ethylbenzene	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Styrene	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)
Xylenes(Total)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)	— U (10)

U - Indicates analyte was not detected at method reporting limit.
J - Estimated value less than minimum detection limit.

Concentrations of detected constituents in surface water are one or more orders of magnitude below aquatic life acute and chronic toxicity criteria provided by NYSDEC-DFWMR in correspondence dated September 8, 2000 (contained in Appendix A of the ***Phase II Remedial Investigation Report*** (AMEC 2001). These criteria are summarized below:

Compound	Acute Toxicity Guidance Value (ug/L)	Chronic Toxicity Guidance Value (ug/L)
Carbon Tetrachloride	2,200	240
1,1,1-Trichloroethane	2,500	280
1,1,2-Trichloroethane	5,000	560
1,1,2,2-Tetrachloroethane	1,300	150
Trichloroethene	1,100	130
Tetrachloroethane	390	43

A more comprehensive investigation of shallow ground water and surface water was performed across a sample grid within the wetlands area in August 1999, as documented in the ***Supplemental Site Investigation Report*** (AMEC, 2000); these grid sample locations are indicated on Figure 2-2 of this report. The results of the current surface water sampling program are consistent with the prior investigation, relative to: (1) the magnitude of detected TVOC concentrations; *i.e.*, the SW-3 concentration is within the range of concentrations detected in the August 1999 investigation, which exhibited a maximum concentration of 191 ug/L at sample location 1-5 adjacent to the Ruscitti Road asphalt plant, and (2) the distribution of detected contamination; *i.e.*, higher concentrations were detected adjacent to Ruscitti Road/MacArthur Ave or associated with perimeter stream channels, with little or no evidence of contamination within downstream areas that feed Little Falls Pond # 1.

Of relevance to this discussion is the fact that evidence of independent sources of chlorinated hydrocarbon contamination was observed to the north and south of the project site during the August 1999 investigation. Either or both of these sources could contribute to storm water drainage and the presence of such contamination within wetlands area tributary streams.

3.4 BIOLOGICAL SCREENING

A biological screening survey was performed in the wetlands area located hydraulically down gradient of the project site (Little Falls Pond area) to characterize the vegetation community and allow for a qualitative assessment of potential impacts to the community from site-related contaminant migration. As described below, the community appears to be a healthy, thriving ecosystem, with no evidence of ecotoxicological stress.

Based on the wetlands classification system presented in Classification of Wetlands and Deepwater Habitats of the United States (FWS/OBS-79/31), the wetland area located hydraulically down gradient of the project site would be mostly classified as a Palustrine Deciduous Broad-Leaved Forested (PF01) wetland. A small portion of the wetland area adjacent to the Little Falls Pond # 1 would be classified as a Palustrine Emergent (PEM) wetland. Palustrine wetlands include all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens. Palustrine wetlands are bounded by uplands or any other type of wetlands and may be situated shoreward of lakes, river channels or in floodplains. The vegetative community in a PF01 wetland is dominated by woody species at least 20 feet in height, which drop their leaves during the winter. The vegetative community in a

PEM wetland is dominated by soft stem or herbaceous plant species in which at least a portion of the foliage and all of the reproductive structures extend above the surface of any standing water.

The vegetative community in the PF01 wetland is dominated by red maple (*Acer rubrum*) in the canopy, a very sparse understory, and a heavy herbaceous stratum comprised of skunk cabbage (*Symplocarpus foetidus*). The forested wetland is a stereotypical red maple swamp that is noted throughout the glaciated northeast. The canopy gives complete aerial coverage of the ground surface. The trees are an even age stand, ranging in diameter-at-breast-height (DBH) between four and eight inches. The average distance between trees is approximately 10 feet and the average canopy height is 30 feet.

The hydrology in the wetland area is driven by surface water flow from an unnamed creek flowing into Little Falls Pond #1 and by a high ground water table. The creek becomes abraided in the center portion of the swamp, splitting into several well defined channels. These channels coalesce into a single channel for discharge into the pond.

Moving in a northerly direction towards the pond, other woody species become apparent. In particular, smooth alder (*Alnus serrulata*) becomes the dominant woody species bordering the creek channels. Other woody species that are present include black willow (*Salix nigra*), American elm (*Ulmus americana*), silver maple (*Acer saccharinum*), swamp oak (*Quercus bicolor*), and yellow birch (*Betula lutea*). All of these species are typical wetland species. Upland woody species observed bordering the wetland include red oak (*Quercus rubra*), white oak (*Quercus alba*), white birch (*Betula alba*), and black locust (*Robinia pseudo-acacia*).

While the understory in the forested wetland is sparse, some subcanopy species are present. They include spicebush (*Lindera benzoin*) and coast pepperbush (*Clethra alnifolia*). An invasive species, Morrow's honeysuckle (*Lonicera morrowii*) can be found in limited numbers.

As previously mentioned, the herbaceous community within the forested wetland is dominated by skunk cabbage. However, other species such as sensitive fern (*Onoclea sensibilis*) and tussock sedge (*Carex stricta*) are also present.

The PEM wetland is dominated by phragmites or common reed (*Phragmites australis*). It is bordered by woody species that include eastern cottonwood (*Populus deltoides*), black willow, and pussy willow (*Salix discolor*). An extensive population of purple loosestrife (*Lythrum salicaria*) can be found in the emergent wetland area.

The results of the biological screening survey indicate that the wetland is a thriving ecosystem. There are no apparent ecotoxicological impacts potentially associated with constituents of concern in groundwater. There are no signs of phytological stress; no signs of leaf wilt or chlorosis. There are no indications that some factor has impacted the vegetative community or caused a die-off of parts of the community. The community appears healthy and supports a diverse community of wildlife. Signs of numerous white-tailed deer (*Odocoileus virginianus*) and raccoons (*Procyon lotor*) were observed and a number of eastern cottontail rabbits (*Sylvilagus floridanus*) were noted. A variety of passerine song birds were also observed.

In summation, the wetland south of Little Falls Pond #1 is dominated by a forested wetland community, with a lesser extent of emergent wetlands being present immediately adjacent to the pond. There are no signs of ecotoxicological stress and the wetland appears to be sound and healthy.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions drawn from performance of the field investigations documented in this report relative to ground water quality and geochemistry, wetlands sediment and surface water quality sampling and analysis, and biological screening are summarized below:

Ground Water

The results of ground water sampling at on-site and off-site wells during April 2001 resulted in several observations:

- The current on-site contaminant plume concentration distribution is similar to that observed during the past 18 months, with the highest TVOC concentrations (3–7 mg/L) exhibited within a narrow band within the central portion of the site defined by wells RIZ-4, MW-1S and MW-2;

- In the off-site area between the project site and the Town of New Windsor wetlands area, the contaminant concentration detected at monitoring well MW-4S (52 ug/L) is significantly lower than that observed previously. While a steep, decreasing concentration gradient would be expected in this area, the current data may be biased somewhat low as a result of seasonal variability or diversion of a portion of the ground water contaminant plume within the local storm drainage system to surface water discharge;

- As expected given the site conceptual ground water flow and geochemical models, chlorinated hydrocarbon contamination was not detected at the presumed leading edge of the discharging plume within the Town of New Windsor wetlands area (monitoring well MW-5); and

- Geochemical data clearly indicate a progression towards an anaerobic, organic carbon rich subsurface environment conducive to biodegradation of chlorinated hydrocarbons to the east /northeast of the center of the project site. A range of geochemical "footprints" support the occurrence of anaerobic bacterial respiration and natural, in-situ dechlorination adjacent to MacArthur Avenue and within off-site wells located adjacent to and within the wetlands.

Sediment

The results of sediment sampling indicate low concentrations of chlorinated hydrocarbon degradation products in the area of ground water contaminant plume discharge within the wetlands. Higher concentrations of degradation products are associated with an area proximal to MacArthur Avenue and adjacent to a tributary stream that is fed by the local storm water drainage system. These data suggest that a portion of the ground water contaminant plume is intercepted by the storm drainage system during the wet season, with discharge to the wetlands surface water flow system. Aggressive biodegradation of the chlorinated constituents is documented by the large proportion of breakdown products to parent compounds in the sediments. No benthic aquatic life acute or chronic toxicity or wildlife bioaccumulation criteria are available from the NYSDEC Division of Fish, Wildlife, and Marine Resources (DFWMR) for project site related constituents of concern.

A significant finding of the sediment sampling program is the ubiquitous presence of petroleum hydrocarbons (fuel/oil associated compounds) within the investigation area, likely resulting from

storm water runoff associated with adjacent residential and industrial land uses. These contaminants are not associated with the project site.

Surface Water

The results of the surface water sampling program indicate the presence of chlorinated hydrocarbons in a tributary stream located adjacent to MacArthur Avenue that is fed by storm water drainage. These data are consistent with the findings of earlier investigations of shallow ground water and surface water within the wetlands area, which indicated the presence of contamination in perimeter areas and within upstream drainage channels, but little or no evidence of contamination in downstream areas adjacent to Little Falls Pond #1. The prior investigations also detected evidence of independent sources of chlorinated hydrocarbon contamination to the north and south of the project site; either or both of these sources could contribute to storm water drainage and the presence of such contamination within wetlands area tributary streams.

Biological Screening

The results of the biological screening of the wetlands area indicate a healthy environment, with no evidence of ecotoxicological stress.

Summary

In conclusion, the results of the on-site and off-site multi-media sampling programs have provided data that are largely consistent with prior investigations, and support both the conceptual ground water flow and geochemical models for the project area. A pertinent finding of this work is that a portion of the ground water contaminant plume may be seasonally intercepted by the local storm water drainage system and diverted as surface water discharge into the perimeter of the Town of New Windsor wetlands area. Available data indicate that there may be at least several independent contributing sources of contamination to the storm water system. Regardless, sediment analytical data indicate that these contaminants are aggressively degraded by natural, in-situ processes, and that residual surface water contamination is well below NYSDEC aquatic life acute and chronic toxicity guidance criteria. Further, the results of prior sampling and analysis have indicated that shallow ground water and surface water contamination is not present in downstream areas adjacent to Little Falls Pond # 1.

Recommendations

The results of the Phase II Remedial Investigation Addendum activities support prior observations regarding ground water transport and the ultimate fate of chlorinated hydrocarbons associated with the project site. Field data document in-situ biodegradation of residual contaminants in sediments associated with the ground water migration pathway, as well as a potential seasonal surface water pathway, consistent with the findings of the site geochemical assessment. Given these findings, it is recommended that the monitored natural attenuation (MNA) ground water sampling program, initiated in April 2001, be continued in accordance with the protocols and schedule defined in the ***Supplemental Site Investigation Report/Remedial Action Workplan*** (AMEC, 2000).

5.0 LIST OF REFERENCES

AMEC Earth & Environmental (formerly Ogden Environmental & Energy Services). April 1998. ***Site Investigation Report-Former Avery Dennison/Monarch Systems, Inc. Facility-New Windsor, New York***. Somerset, NJ.

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National Research Council. 2000. ***Natural Attenuation for Groundwater Remediation. Committee on Intrinsic Remediation***. Water Science and Technology Board. Board on radioactive Waste management. Commission on Geosciences, Environment, and resources. National Academy Press. Washington, D.C.

New York State Department of Environmental Conservation. Division of Fish and Wildlife. Division of Maine Resources. July 1994. ***Technical Guidance for Screening Contaminated Sediments***. Albany, NY.

APPENDIX A

HISTORICAL GROUND WATER MONITORING DATABASE

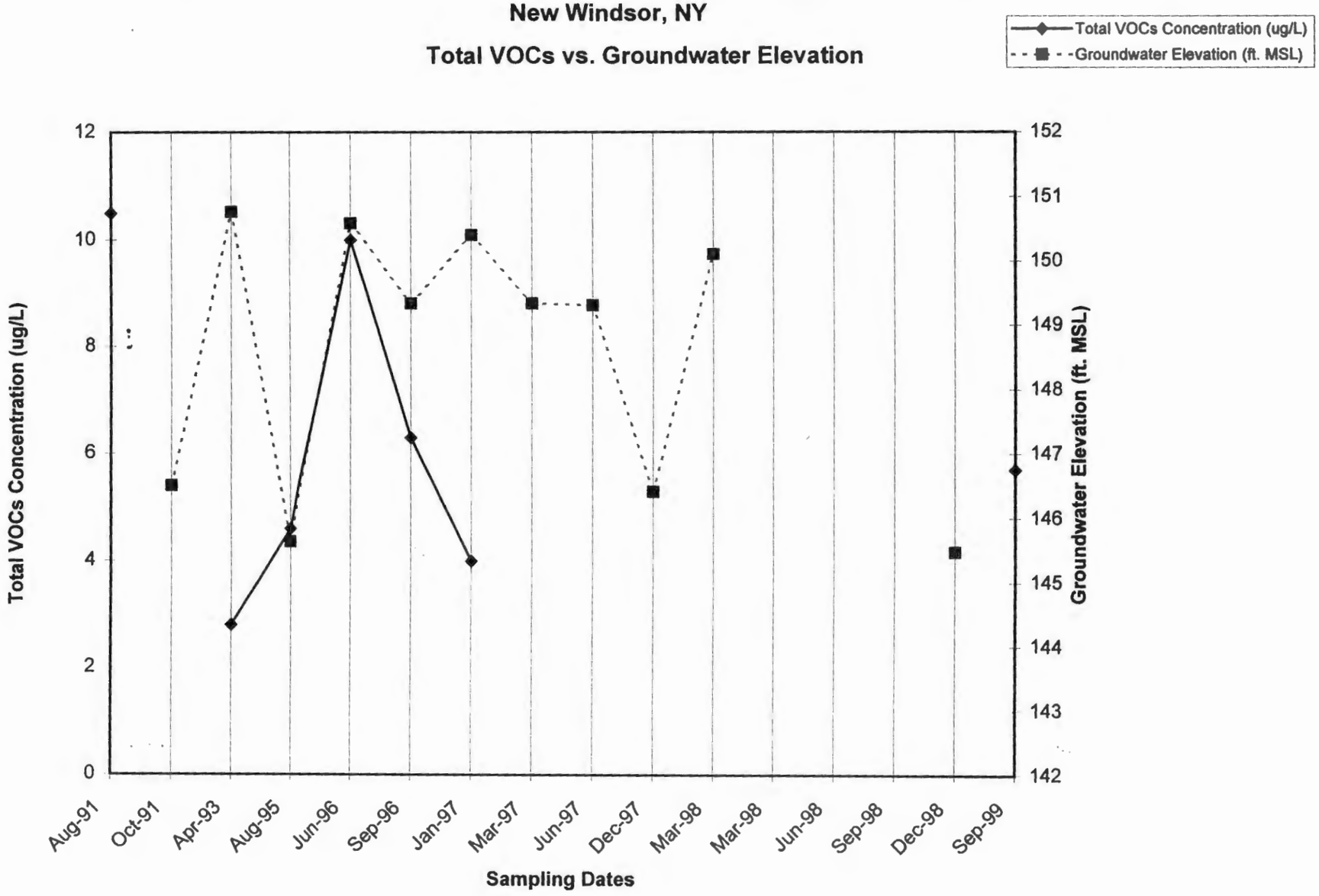
Ground Water Quality Sampling Database
Avery Dennison Monarch Facility
New Windsor, New York

Updated to Include April 2001 Sampling Results

Prepared by:
demaximis, inc.
AMEC Earth & Environmental, Inc.
June 2001

RIZ-1
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation



Monarch1a.xls

Table 1
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-1
Monarch Systems, Inc., New Windsor, New York

RIZ-1																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91		Oct-91		Apr-93		Aug-95		Jun-96		Sep-96		Jan-97		Mar-97		Jun-97		Dec-97	
Acetone	No Standard - 50 (guidance value)																				
Benzene	0.7																				
Bromodichloromethane	Not Regulated																				
Bromoform	No Standard - 50 (guidance value)																				
Bromomethane	5																				
2-Butanone (MEK)	No Standard - 50 (guidance value)																				
Carbon Disulfide	Not Regulated																				
Carbon Tetrachloride	5																				
Chlorobenzene	5																				
Chloroethane	5																				
2-Chloroethyl Vinyl Ether																					
Chloroform	7																				
Chloromethane	5																				
Dibromochloromethane	No Standard - 50 (guidance value)																				
1,1-Dichloroethane	5																				
1,2-Dichloroethane	5																				
1,1-Dichloroethene	5																				
trans-1,2-Dichloroethene	No Standard																				
1,2-Dichloropropane	5																				
cis-1,3-Dichloropropene	5																				
trans-1,3-Dichloropropene	5																				
Ethylbenzene	5																				
2-Hexanone	No Standard - 50 (guidance value)																				
4-Methyl-2-Pentanone (M1BK)	Not Regulated																				
Methylene Chloride	5							1.5	JB	6.4	B	3	J								
Styrene	5																				
1,1,2,2-Tetrachloroethane	5																				
Tetrachloroethene	5	8						1.6	J												
Toluene	5																				
1,1,1-Trichloroethane (TCA)	5																				
1,1,2-Trichloroethane	5																				
Trichloroethene (TCE)	5	2.5				2.8		1.5	J	3.6	J	3.3		4	J						
Vinyl Acetate	Not Regulated																				
Vinyl Chloride	2																				
Xylenes (Total)	5																				
TOTAL VOCs		**10.5**			**NS**	**2.8**		**4.6**		**10**		**6.3**		**4**			**NS**		**NS**		**NS**
Well Elevation (ft. MSL)				158.51		158.51		158.51		158.51		158.51		158.51		158.51		158.51		158.51	
Depth of Water (ft.)				12.01		7.74		12.88		7.92		9.17		8.1		9.17		9.2		12.1	
Groundwater Elevation (ft. MSL)				146.5		150.77		145.63		150.59		149.34		150.41		149.34		149.31		146.41	

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

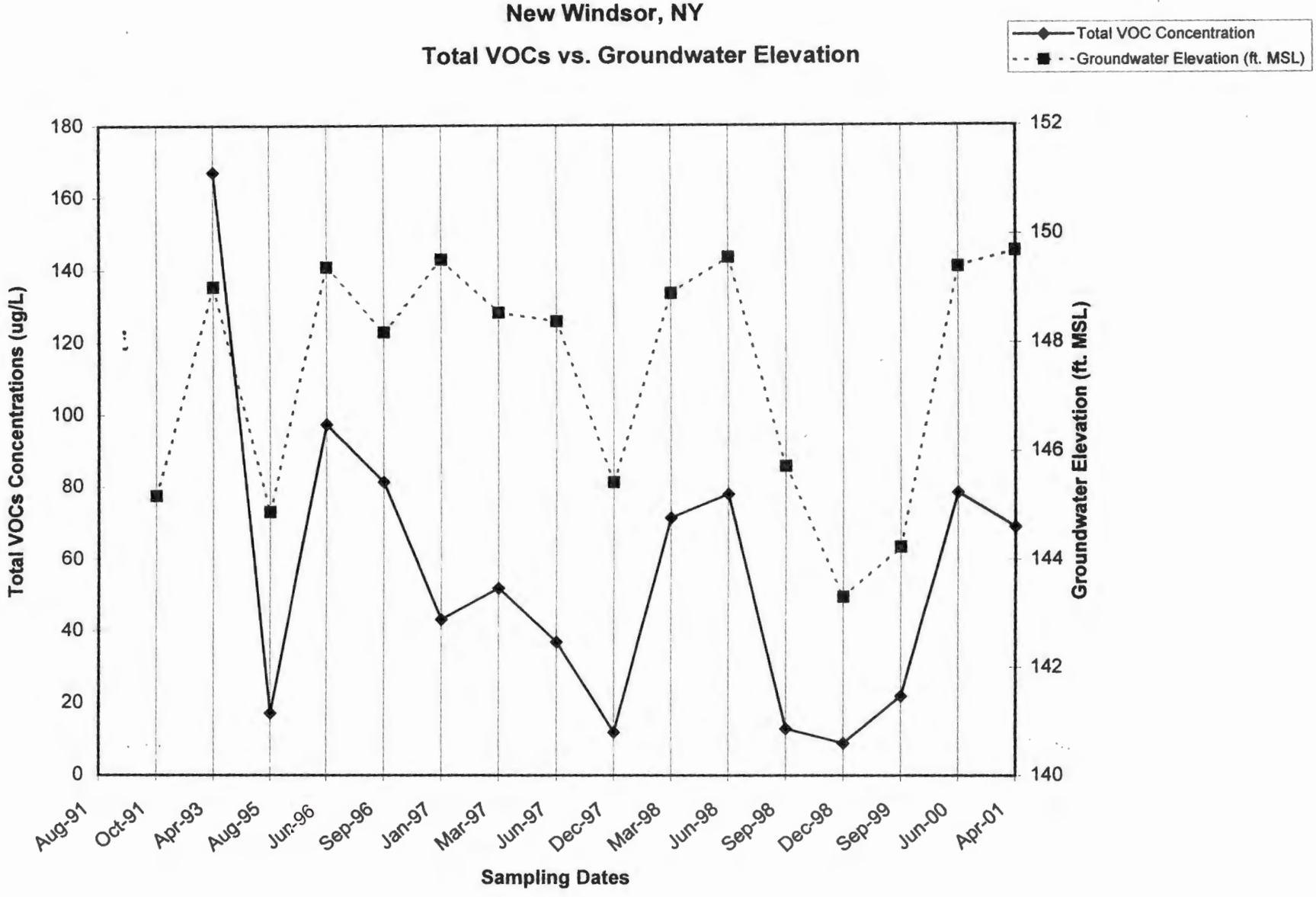
Table 1
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-1
Monarch Systems, Inc., New Windsor, New York

RIZ-1																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98		Jun-98		Sep-98		Dec-98		Sep-99		Jun-00		Apr-01									
Acetone	No Standard - 50 (guidance value)									1.7	J, B												
Benzene	0.7																						
Bromodichloromethane	Not Regulated																						
Bromoform	No Standard - 50 (guidance value)																						
Bromomethane	5									1.5	J, B												
2-Butanone (MEK)	No Standard - 50 (guidance value)																						
Carbon Disulfide	Not Regulated																						
Carbon Tetrachloride	5																						
Chlorobenzene	5																						
Chloroethane	5																						
2-Chloroethyl Vinyl Ether																							
Chloroform	7																						
Chloromethane	5																						
Dibromochloromethane	No Standard - 50 (guidance value)																						
1,1-Dichloroethane	5																						
1,2-Dichloroethane	5																						
1,1-Dichloroethene	5																						
trans-1,2-Dichloroethene	No Standard																						
1,2-Dichloropropane	5																						
cis-1,3-Dichloropropene	5																						
trans-1,3-Dichloropropene	5																						
Ethylbenzene	5																						
2-Hexanone	No Standard - 50 (guidance value)																						
4-Methyl-2-Pentanone (M1BK)	Not Regulated																						
Methylene Chloride	5																						
Styrene	5																						
1,1,2,2-Tetrachloroethane	5																						
Tetrachloroethene	5									1.2	J												
Toluene	5																						
1,1,1-Trichloroethane (TCA)	5																						
1,1,2-Trichloroethane	5																						
Trichloroethene (TCE)	5									1.3	J												
Vinyl Acetate	Not Regulated																						
Vinyl Chloride	2																						
Xylenes (Total)	5																						
TOTAL VOCs			NS		NS		NS		NS	5.7			NS		NS								
Well Elevation (ft. MSL)		158.51		158.51		158.51		158.51		158.51		158.51		158.51									
Depth of Water (ft.)		8.4			NS		NS		NS	13.03			NS		NS								
Groundwater Elevation (ft. MSL)		150.11			NS		NS		NS	145.48			NS		NS								

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-2
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation



Monarch1a.xls

Table 2
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-2
Monarch Systems, Inc., New Windsor, New York

RIZ-2 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				2.3 JB	1.5 J	3.6 J				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5			14		5.3 B	5.9	2.2 J	2.9 J		
Toluene	5										
1,1,1-Trichloroethane (TCA)	5			23		1.7 J	1.9				
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5			130	15	89	70	41	49	37	12
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		NS	NS	167	17.3	97.5	81.4	43.2	51.9	37	12
Well Elevation (ft. MSL)			156.8	156.8	156.8	156.8	156.8	156.8	156.8	156.8	156.8
Depth of Water (ft.)			11.63	7.77	11.93	7.41	8.6	7.27	8.24	8.4	11.38
Groundwater Elevation (ft. MSL)			145.17	149.03	144.87	149.39	148.2	149.53	148.56	148.4	145.42

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
'D" = Dilution performed
NS" = Not Sampled

Table 2
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-2
Monarch Systems, Inc., New Windsor, New York

RIZ-2																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98		Jun-98		Sep-98		Dec-98		Sep-99		Jun-00		Apr-01									
Acetone	No Standard - 50 (guidance value)									2	J, B												
Benzene	0.7																						
Bromodichloromethane	Not Regulated																						
Bromoform	No Standard - 50 (guidance value)																						
Bromomethane	5									1.5	J, B												
2-Butanone (MEK)	No Standard - 50 (guidance value)									1.5	J												
Carbon Disulfide	Not Regulated																						
Carbon Tetrachloride	5																						
Chlorobenzene	5																						
Chloroethane	5																						
2-Chloroethyl Vinyl Ether																							
Chloroform	7																						
Chloromethane	5																						
Dibromochloromethane	No Standard - 50 (guidance value)																						
1,1-Dichloroethane	5																						
1,2-Dichloroethane	5																						
1,1-Dichloroethene	5																						
trans-1,2-Dichloroethene	No Standard																						
1,2-Dichloropropane	5																						
cis-1,3-Dichloropropene	5																						
trans-1,3-Dichloropropene	5																						
Ethylbenzene	5																						
2-Hexanone	No Standard - 50 (guidance value)																						
4-Methyl-2-Pentanone (M1BK)	Not Regulated																						
Methylene Chloride	5									1	J												
Styrene	5																						
1,1,2,2-Tetrachloroethane	5																						
Tetrachloroethene	5	4	J	4	J							3.5	J	4	J								
Toluene	5																						
1,1,1-Trichloroethane (TCA)	5	5.4												2	J								
1,1,2-Trichloroethane	5																						
Trichloroethene (TCE)	5	62		74		13		9	J	16		75		63									
Vinyl Acetate	Not Regulated																						
Vinyl Chloride	2																						
Xylenes (Total)	5																						
TOTAL VOCs		**71.4**		**78**		**13**		**9**		**22**		**78.5**		**69**									
Well Elevation (ft. MSL)		156.8		156.8		156.8		156.8		156.8		156.8		156.8									
Depth of Water (ft.)		7.89		7.23		11.08		13.5		12.57		7.4		7.11									
Groundwater Elevation (ft. MSL)		148.91		149.57		145.72		143.3		144.23		149.4		149.69									

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-3
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

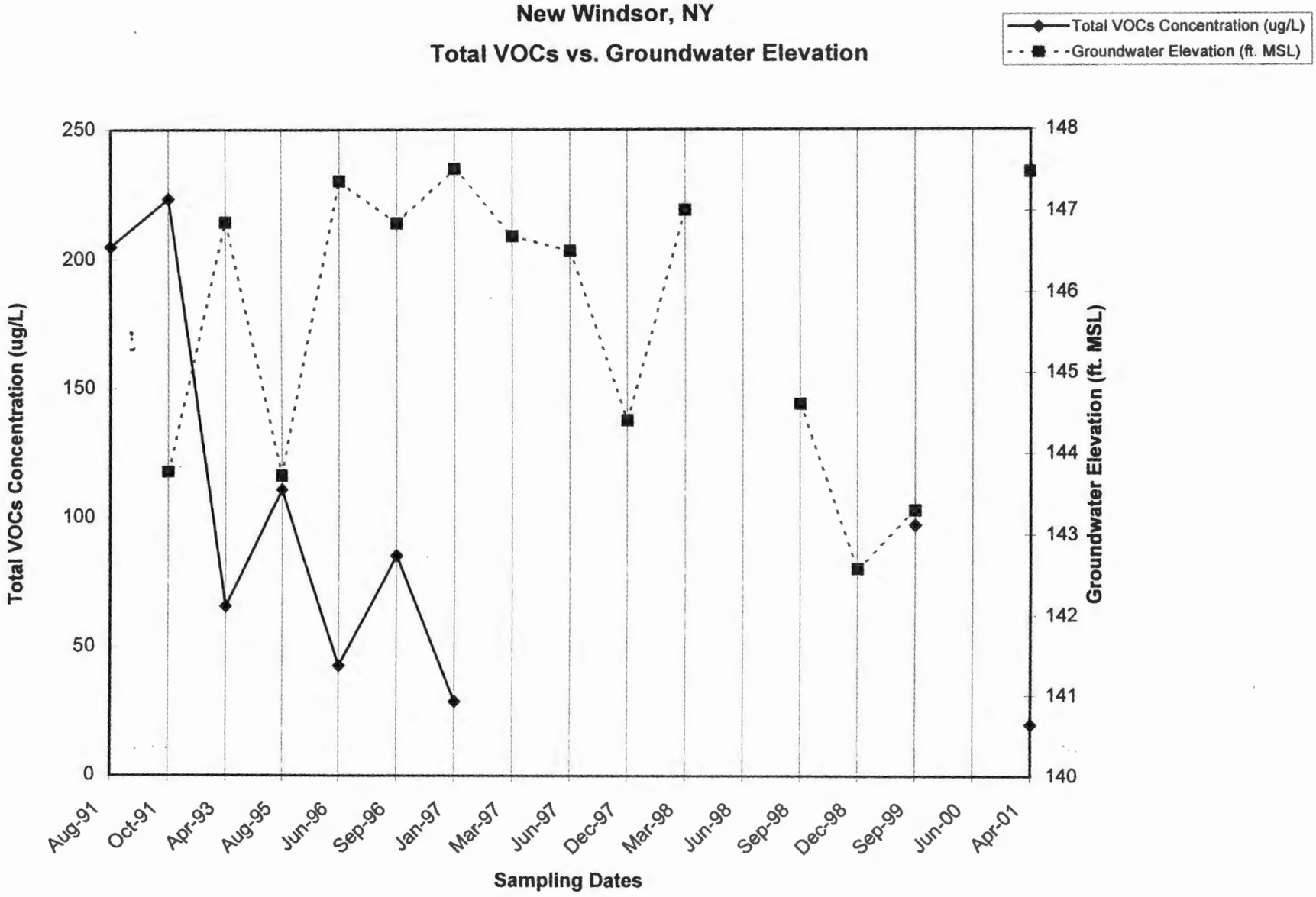


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Table 3
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-3
Monarch Systems, Inc., New Windsor, New York

RIZ-3 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)						5.5				
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5		3.9		1.8 J	1.4 J					
1,2-Dichloroethane	5										
1,1-Dichloroethene	5		3.5								
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				6.1 B	3.6 JB	1.1 JB				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane (TCA)	5	75	56	14	10	1.9 J	5				
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	130	160	52	93	36	74	29			
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**205**	**223.4**	**66**	**110.9**	**42.9**	**85.6**	**29**	**NS**	**NS**	**NS**
Well Elevation (ft. MSL)			152.41	152.41	152.41	152.41	152.41	152.41	152.41	152.41	152.41
Depth of Water (ft.)			8.64	5.55	8.69	5.04	5.56	4.89	5.72	5.90	8.00
Groundwater Elevation (ft. MSL)			143.77	146.86	143.72	147.37	146.85	147.52	146.69	146.51	144.41

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
D" = Dilution performed
NS" = Not Sampled

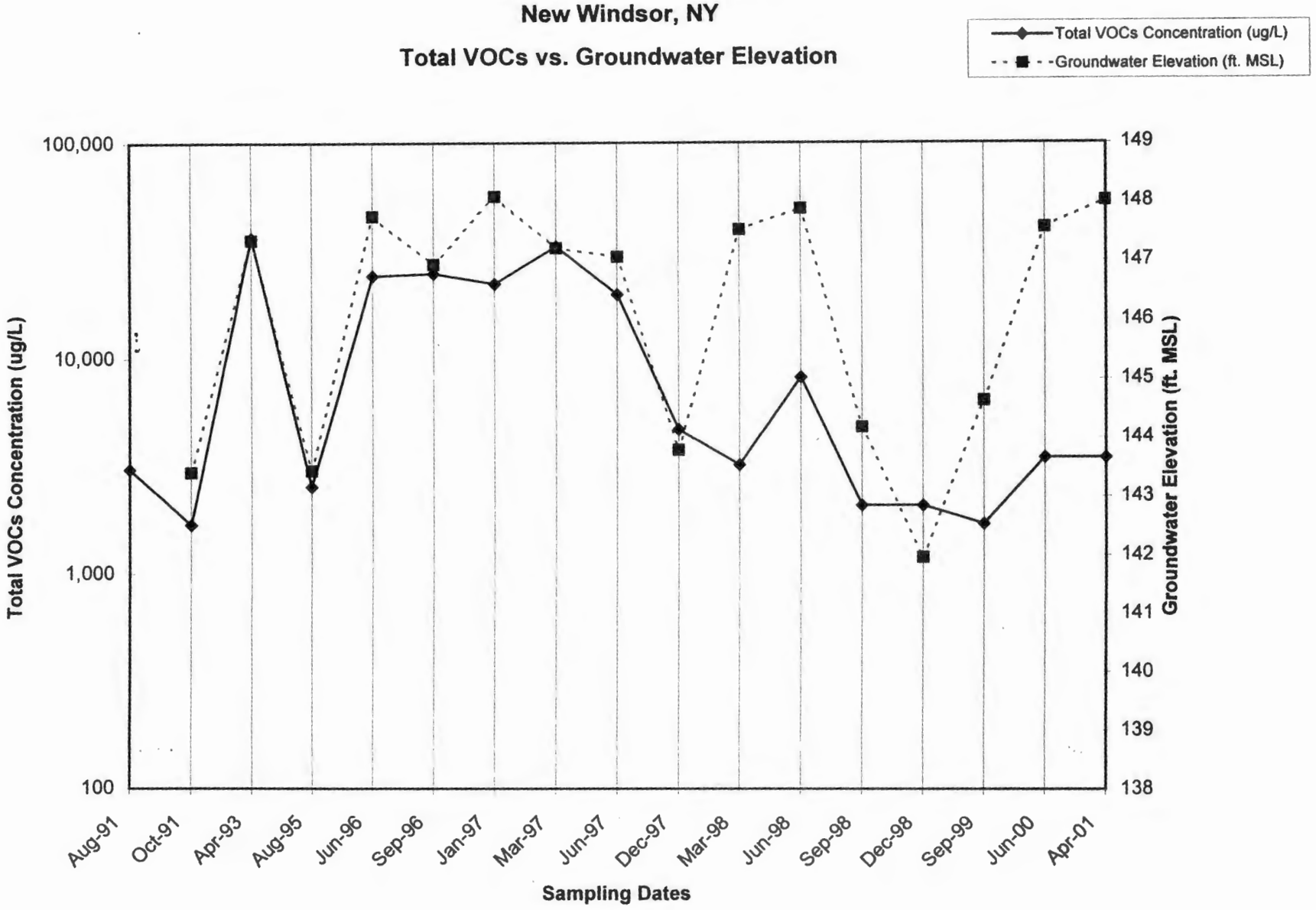
Table 3
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-3
Monarch Systems, Inc., New Windsor, New York

RIZ-3																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98		Jun-98		Sep-98		Dec-98		Sep-99		Jun-00		Apr-01									
Acetone	No Standard - 50 (guidance value)									2.5	J, B												
Benzene	0.7																						
Bromodichloromethane	Not Regulated																						
Bromoform	No Standard - 50 (guidance value)																						
Bromomethane	5									1.2	J, B												
2-Butanone (MEK)	No Standard - 50 (guidance value)																						
Carbon Disulfide	Not Regulated																						
Carbon Tetrachloride	5																						
Chlorobenzene	5																						
Chloroethane	5																						
2-Chloroethyl Vinyl Ether																							
Chloroform	7																						
Chloromethane	5																						
Dibromochloromethane	No Standard - 50 (guidance value)																						
1,1-Dichloroethane	5																						
1,2-Dichloroethane	5																						
1,1-Dichloroethene	5																						
trans-1,2-Dichloroethene	No Standard									1.2	J												
1,2-Dichloropropane	5																						
cis-1,3-Dichloropropene	5																						
trans-1,3-Dichloropropene	5																						
Ethylbenzene	5																						
2-Hexanone	No Standard - 50 (guidance value)																						
4-Methyl-2-Pentanone (M1BK)	Not Regulated																						
Methylene Chloride	5																						
Styrene	5																						
1,1,2,2-Tetrachloroethane	5																						
Tetrachloroethene	5																						
Toluene	5																						
1,1,1-Trichloroethane (TCA)	5									3.6	J												
1,1,2-Trichloroethane	5																						
Trichloroethene (TCE)	5									89				20									
Vinyl Acetate	Not Regulated																						
Vinyl Chloride	2																						
Xylenes (Total)	5																						
TOTAL VOCs			**NS**		**NS**		**NS**		**NS**	**97.5**			**NS**	**20**									
Well Elevation (ft. MSL)		152.41		152.41		152.41		152.41		152.41		152.41		152.41									
Depth of Water (ft.)		5.4			NS	7.8		9.83		9.11			NS	4.93									
Groundwater Elevation (ft. MSL)		147.01			NS	144.61		142.58		143.3			NS	147.48									

lote:
}" = Found in method blank
" = Estimated result, less than the quantitation limit
" = Dilution performed
S" = Not Sampled

RIZ-4
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation



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RIZ-4
Monarch Systems, Inc.
New Windsor, NY

TCA and TCE vs. Groundwater Elevation

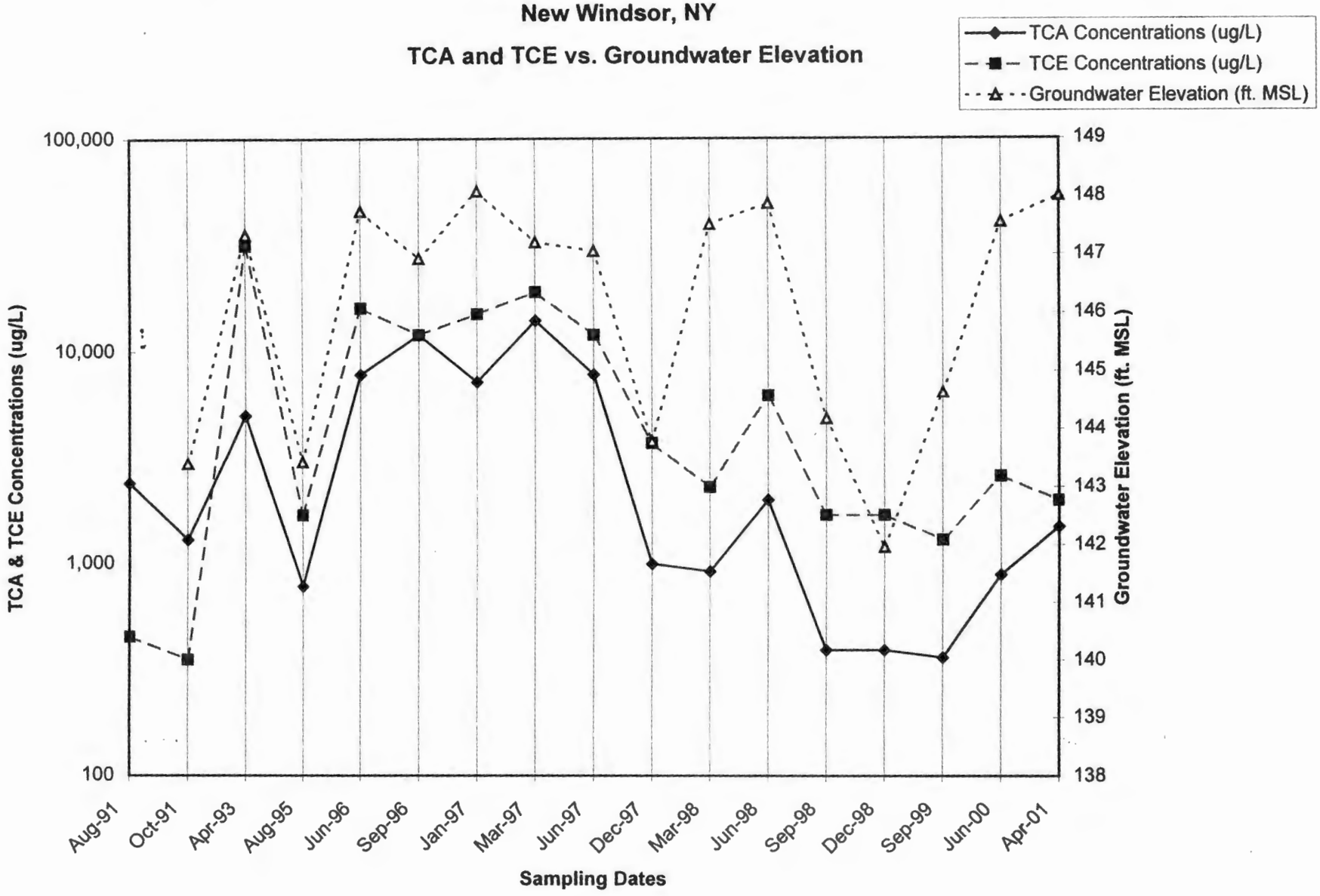

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Table 4
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-4
Monarch Systems, Inc., New Windsor, New York

RIZ-4 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)						600				
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5		6.1								
1,2-Dichloroethane	5										
1,1-Dichloroethene	5	210	34		13 JD						
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				45 JBD	310 JBD	130 JB				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5	9.2	3.4								
Toluene	5										
1,1,1-Trichloroethane (TCA)	5	2,400	1,300	5,000	780 D	7800 D	12000	7200	14000	7800	1000
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	450	350	31,200	1,700 BD	16000 D	12000 D	15000	19000	12000	3700
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**3069.2**	**1693.5**	**36200**	**2538**	**24110**	**24730**	**22200**	**33000**	**19800**	**4700**
Well Elevation (ft. MSL)			158.9	158.9	158.9	158.9	158.9	158.9	158.9	158.9	158.9
Depth of Water (ft.)			15.50	11.56	15.47	11.15	11.97	10.81	11.69	11.84	15.12
Groundwater Elevation (ft. MSL)			143.40	147.34	143.43	147.75	146.93	148.09	147.21	147.06	143.78

Note:
" = Found in method blank
= Estimated result, less than the quantitation limit
= Dilution performed
" = Not Sampled

Table 4
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-4
Monarch Systems, Inc., New Windsor, New York

RIZ-4

VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98	Jun-98	Sep-98	Dec-98	Sep-99	Jun-00	Apr-01			
Acetone	No Standard - 50 (guidance value)					1.6 J, B					
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5					1 J, B					
2-Butanone (MEK)	No Standard - 50 (guidance value)					38 J					
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5					5.8 J					
1,2-Dichloroethane	5										
1,1-Dichloroethene	5					11					
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5										
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5					6.2 J	5 J				
Toluene	5										
1,1,1-Trichloroethane (TCA)	5	920	2000	390	390	360 E	890	1500			
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	2300	6200	1700	1700	1300 E	2600	2000			
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**3220**	**8200**	**2090**	**2090**	**1723.6**	**3495**	**3500**			
Well Elevation (ft. MSL)		158.9	158.9	158.9	158.9	158.9	158.9	158.9			
Depth of Water (ft.)		11.38	11.02	14.73	16.94	14.27	11.34	10.88			
Groundwater Elevation (ft. MSL)		147.52	147.88	144.17	141.96	144.63	147.56	148.02			

Found in method blank
Estimated result, less than the quantitation limit
Dilution performed
Not Sampled

RIZ-5
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

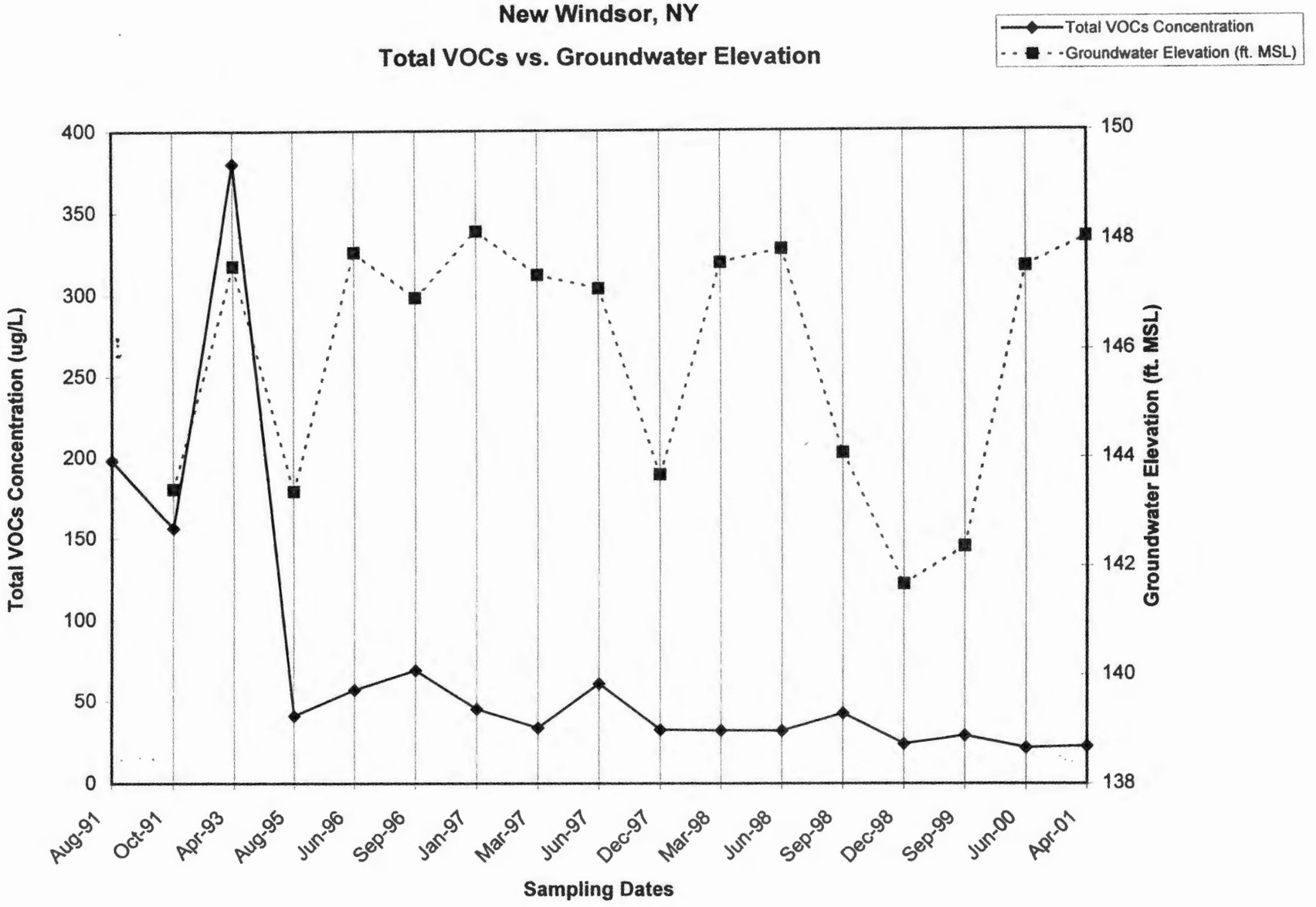

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Table 5
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-5
Monarch Systems, Inc., New Windsor, New York

RIZ-5 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7								3.1 J		
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										1.4 J
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5	8.4	6.5								
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				3.6 JB	1.3 J	3.3 J				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane (TCA)	5	190	150	380	7.8	12	13	7.5	5.9	9.1	2.3 J
1,1,2-Trichloroethane	5										5.2
Trichloroethene (TCE)	5				30	44	53	38	25	52	24
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**198.4**	**156.5**	**380**	**41.4**	**57.3**	**69.3**	**45.5**	**34**	**61.1**	**32.9**
Well Elevation (ft. MSL)			154.88	154.88	154.88	154.88	154.88	154.88	154.88	154.88	154.88
Depth of Water (ft.)			11.46	7.35	11.50	7.10	7.93	6.72	7.52	7.77	11.20
Groundwater Elevation (ft. MSL)			143.42	147.53	143.38	147.78	146.95	148.16	147.36	147.11	143.68

Note:
B = Found in method blank
J = Estimated result, less than the quantitation limit
D = Dilution performed
NS = Not Sampled

Table 5
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-5
Monarch Systems, Inc., New Windsor, New York

RIZ-5																															
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98		Jun-98		Sep-98		Dec-98		Sep-99		Jun-00		Apr-01																	
Acetone	No Standard - 50 (guidance value)									3.4	J, B																				
Benzene	0.7																														
Bromodichloromethane	Not Regulated																														
Bromoform	No Standard - 50 (guidance value)																														
Bromomethane	5																														
2-Butanone (MEK)	No Standard - 50 (guidance value)																														
Carbon Disulfide	Not Regulated																														
Carbon Tetrachloride	5																														
Chlorobenzene	5																														
Chloroethane	5																														
2-Chloroethyl Vinyl Ether																															
Chloroform	7																														
Chloromethane	5																														
Dibromochloromethane	No Standard - 50 (guidance value)																														
1,1-Dichloroethane	5																														
1,2-Dichloroethane	5																														
1,1-Dichloroethene	5																														
trans-1,2-Dichloroethene	No Standard																														
1,2-Dichloropropane	5																														
cis-1,3-Dichloropropene	5																														
trans-1,3-Dichloropropene	5																														
Ethylbenzene	5																														
2-Hexanone	No Standard - 50 (guidance value)																														
4-Methyl-2-Pentanone (M1BK)	Not Regulated																														
Methylene Chloride	5																														
Styrene	5																														
1,1,2,2-Tetrachloroethane	5																														
Tetrachloroethene	5																														
Toluene	5																														
1,1,1-Trichloroethane (TCA)	5	6.4		4.3	J	4	J	2.2	J	3	J	2.9	J	3	J																
1,1,2-Trichloroethane	5																														
Trichloroethene (TCE)	5	26		28		39		22		23		19		20																	
Vinyl Acetate	Not Regulated																														
Vinyl Chloride	2																														
Xylenes (Total)	5																														
TOTAL VOCs		**32.4**		**32.3**		**43**		**24.2**		**29.4**		**21.9**		**23**																	
Well Elevation (ft. MSL)		154.88		154.88		154.88		154.88		154.88		154.88		154.88																	
Depth of Water (ft.)		7.30		7.05		10.80		13.21		12.52		7.37		6.83																	
Groundwater Elevation (ft. MSL)		147.58		147.83		144.08		141.67		142.36		147.51		148.05																	

B = Found in method blank
J = Estimated result, less than the quantitation limit
D = Dilution performed
NS = Not Sampled

RIZ-6
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

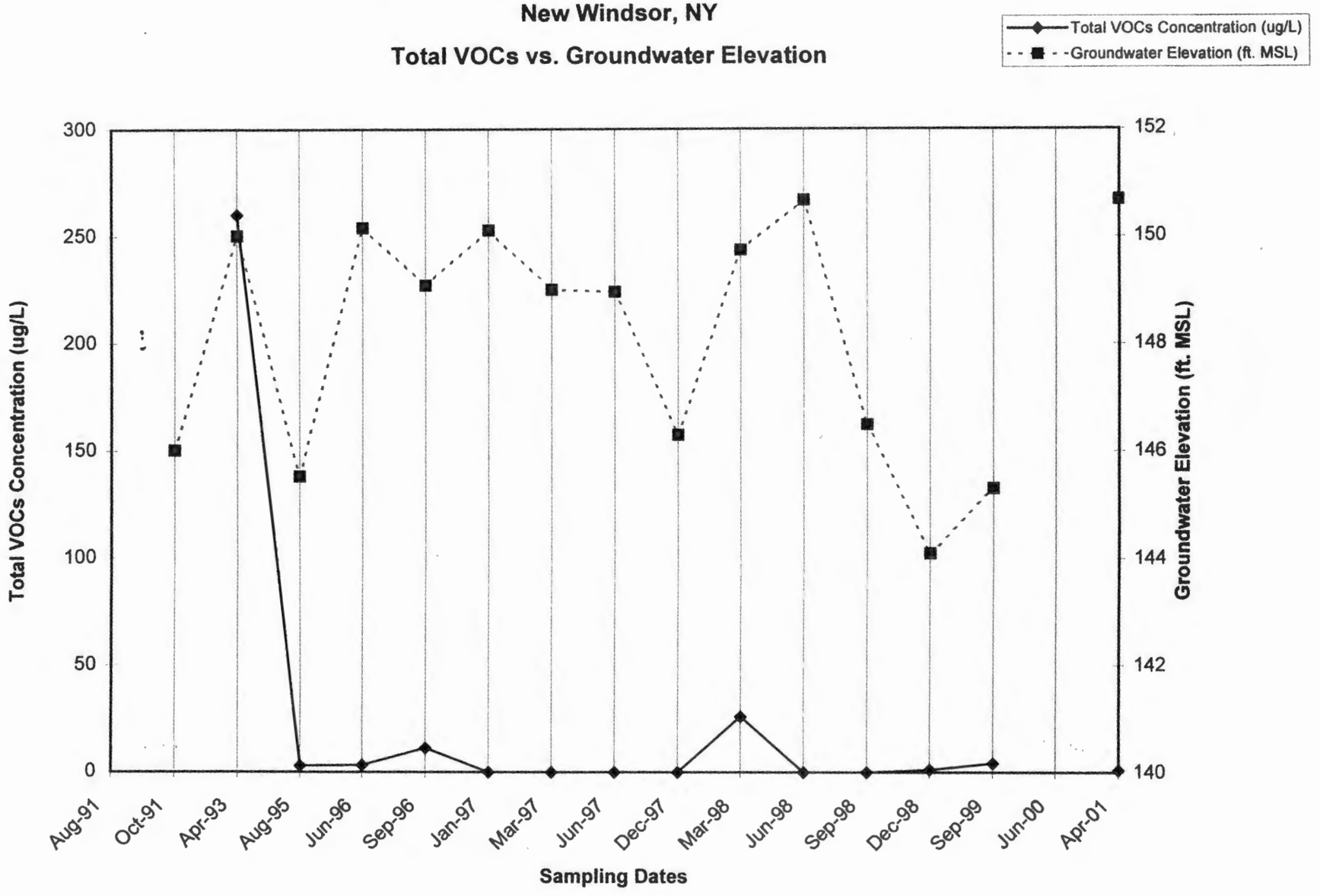

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Table 6
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-6
Monarch Systems, Inc., New Windsor, New York

RIZ-6

VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)			260			9.3 B				
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				1.6 JB	1.4 J	2 J				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5				1.4 J						
Toluene	5										
1,1,1-Trichloroethane (TCA)	5										
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5					1.9 J					
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs			NS	260	3	3.3	11.3	0	0	0	0
Well Elevation (ft. MSL)			154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
Depth of Water (ft.)			8.39	4.39	8.87	4.24	5.32	4.29	5.40	5.44	8.10
Groundwater Elevation (ft. MSL)			146.01	150.01	145.53	150.16	149.08	150.11	149	148.96	146.3

ote:
" = Found in method blank
' = Estimated result, less than the quantitation limit
' = Dilution performed
S" = Not Sampled

Table 6
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-6
Monarch Systems, Inc., New Windsor, New York

RIZ-6

VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98	Jun-98	Sep-98	Dec-98	Sep-99	Jun-00	Apr-01			
Acetone	No Standard - 50 (guidance value)	26 J				1.7 J, B					
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5										
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5				1.2 J	1.5 J					
Toluene	5										
1,1,1-Trichloroethane (TCA)	5										
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5					1 J		1			
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**26**	**0**	**0**	**1.2**	**4.2**	NS	**1**			
Well Elevation (ft. MSL)		154.4	154.4	154.4	154.4	154.4	154.4	154.4			
Depth of Water (ft.)		4.66	3.73	7.91	10.31	9.10	NS	3.72			
Groundwater Elevation (ft. MSL)		149.74	150.67	146.49	144.09	145.3	NS	150.68			

ote:
" = Found in method blank
' = Estimated result, less than the quantitation limit
" = Dilution performed
S" = Not Sampled

RIZ-7
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

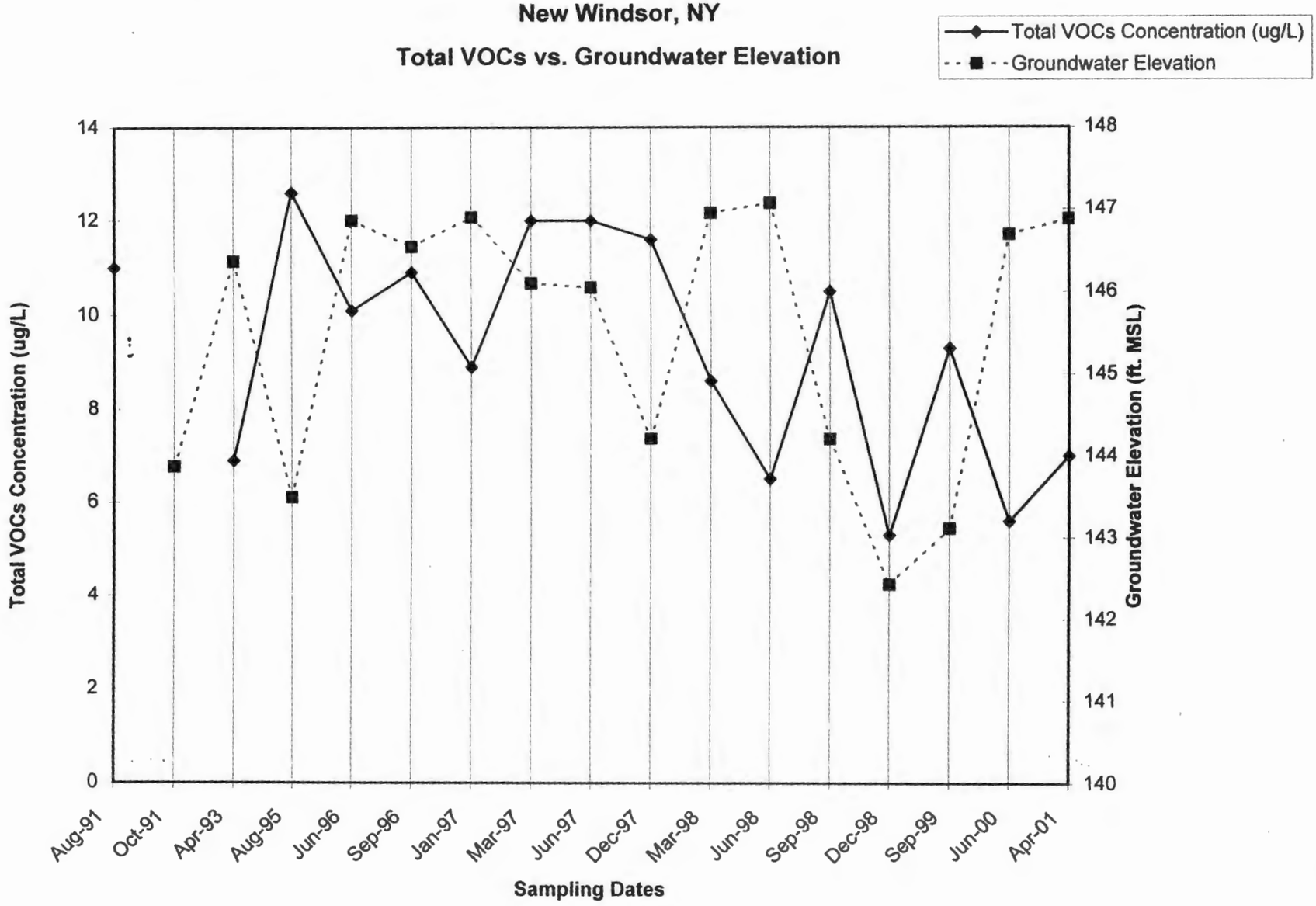

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Table 7
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-7
Monarch Systems, Inc., New Windsor, New York

RIZ-7 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										1.2 J
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard							2.1 J	2.3 J	2.2 J	1.6 J
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				2.7 JB	1.6 J	3.1 J				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5				1.2 J						
Toluene	5										
1,1,1-Trichloroethane (TCA)	5										
1,1,2-Trichloroethane	5										4.2 J
Trichloroethene (TCE)	5	11		6.9	8.7	8.5	7.8	6.8	9.7	9.8	4.6 J
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**11**	**NS**	**6.9**	**12.6**	**10.1**	**10.9**	**8.9**	**12**	**12**	**11.6**
Well Elevation (ft. MSL)			148.01	148.01	148.01	148.01	148.01	148.01	148.01	148.01	148.01
Depth of Water (ft.)			4.14	1.65	4.52	1.15	1.47	1.11	1.91	1.96	3.80
Groundwater Elevation (ft. MSL)			143.87	146.36	143.49	146.86	146.54	146.9	146.1	146.05	144.21

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 7
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-7
Monarch Systems, Inc., New Windsor, New York

RIZ-7																													
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98		Jun-98		Sep-98		Dec-98		Sep-99		Jun-00		Apr-01															
Acetone	No Standard - 50 (guidance value)									1.6	J, B																		
Benzene	0.7																												
Bromodichloromethane	Not Regulated																												
Bromoform	No Standard - 50 (guidance value)																												
Bromomethane	5																												
2-Butanone (MEK)	No Standard - 50 (guidance value)																												
Carbon Disulfide	Not Regulated																												
Carbon Tetrachloride	5																												
Chlorobenzene	5																												
Chloroethane	5																												
2-Chloroethyl Vinyl Ether																													
Chloroform	7																												
Chloromethane	5																												
Dibromochloromethane	No Standard - 50 (guidance value)																												
1,1-Dichloroethane	5																												
1,2-Dichloroethane	5													1	J														
1,1-Dichloroethene	5																												
trans-1,2-Dichloroethene	No Standard	2	J	1.3	J	2.7	J	1.6	J, B	1.9	J	1.1	J																
1,2-Dichloropropane	5																												
cis-1,3-Dichloropropene	5																												
trans-1,3-Dichloropropene	5																												
Ethylbenzene	5																												
2-Hexanone	No Standard - 50 (guidance value)																												
4-Methyl-2-Pentanone (M1BK)	Not Regulated																												
Methylene Chloride	5																												
Styrene	5																												
1,1,2,2-Tetrachloroethane	5																												
Tetrachloroethene	5	1.1	J			1	J					1.1	J	2	J														
Toluene	5																												
1,1,1-Trichloroethane (TCA)	5																												
1,1,2-Trichloroethane	5																												
Trichloroethene (TCE)	5	5.5		5.2		6.8	J	3.7	J	5.8	J	3.4	J	4	J														
Vinyl Acetate	Not Regulated																												
Vinyl Chloride	2																												
Xylenes (Total)	5																												
TOTAL VOCs		**8.6**		**6.5**		**10.5**		**5.3**		**9.3**		**5.6**		**7**															
Well Elevation (ft. MSL)		148.01		148.01		148.01		148.01		148.01		148.01		148.01															
Depth of Water (ft.)		1.06		0.94		3.81		5.58		4.90		1.32		1.13															
Groundwater Elevation (ft. MSL)		146.95		147.07		144.2		142.43		143.11		146.69		146.88															

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-8
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

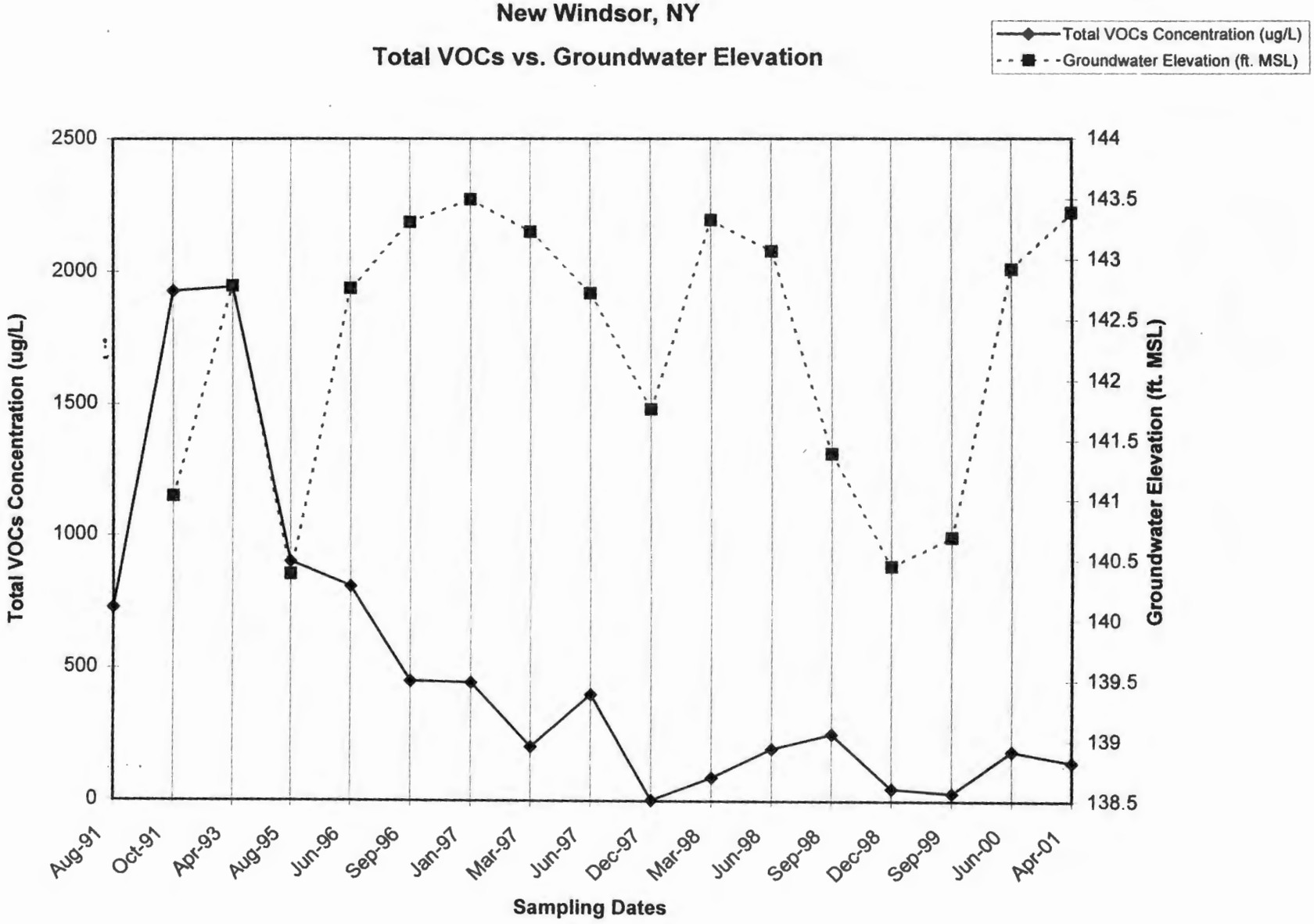

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Table 8
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-8
Monarch Systems, Inc., New Windsor, New York

RIZ-8																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91		Oct-91		Apr-93		Aug-95		Jun-96		Sep-96		Jan-97		Mar-97		Jun-97		Dec-97	
Acetone	No Standard - 50 (guidance value)																				
Benzene	0.7																				
Bromodichloromethane	Not Regulated																				
Bromoform	No Standard - 50 (guidance value)																				
Bromomethane	5																				
2-Butanone (MEK)	No Standard - 50 (guidance value)																				
Carbon Disulfide	Not Regulated																				
Carbon Tetrachloride	5																				
Chlorobenzene	5																				
Chloroethane	5																				
2-Chloroethyl Vinyl Ether																					
Chloroform	7																				
Chloromethane	5																				
Dibromochloromethane	No Standard - 50 (guidance value)																				
1,1-Dichloroethane	5															2.4	J			1.5	J
1,2-Dichloroethane	5																				
1,1-Dichloroethene	5	26		39		63		38	JD	52	D	32	D	38		14		30			
trans-1,2-Dichloroethene	No Standard													3	J			1.7	J		
1,2-Dichloropropane	5																				
cis-1,3-Dichloropropene	5																				
trans-1,3-Dichloropropene	5																				
Ethylbenzene	5																				
2-Hexanone	No Standard - 50 (guidance value)																				
4-Methyl-2-Pentanone (M1BK)	Not Regulated																				
Methylene Chloride	5							49	JBD	37	JBD	15	JD								
Styrene	5																				
1,1,2,2-Tetrachloroethane	5																				
Tetrachloroethene	5							15	JD												
Toluene	5													2.6	J						
1,1,1-Trichloroethane (TCA)	5	650		1,800		1,800		740	D	600	D	340	D	320		150		280			
1,1,2-Trichloroethane	5																				
Trichloroethene (TCE)	5	53		88		79		60	BD	120	D	65	D	83		38		90		1.9	J
Vinyl Acetate	Not Regulated																				
Vinyl Chloride	2																				
Xylenes (Total)	5																				
TOTAL VOCs		**729**		**1927**		**1942**		**902**		**809**		**452**		**446.6**		**204.4**		**401.7**		**3.4**	
Well Elevation (ft. MSL)				143.63		143.63		143.63		143.63		143.63		143.63		143.63		143.63		143.63	
Depth of Water (ft.)				2.60		0.85		3.25		0.87		0.32		0.13		0.40		0.91		1.87	
Groundwater Elevation (ft. MSL)				141.03		142.78		140.38		142.76		143.31		143.5		143.23		142.72		141.76	

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 8
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-8
Monarch Systems, Inc., New Windsor, New York

RIZ-8																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98		Jun-98		Sep-98		Dec-98		Sep-99		Jun-00		Apr-01									
Acetone	No Standard - 50 (guidance value)									5	J, B												
Benzene	0.7																						
Bromodichloromethane	Not Regulated																						
Bromoform	No Standard - 50 (guidance value)																						
Bromomethane	5																						
2-Butanone (MEK)	No Standard - 50 (guidance value)									1.9	J												
Carbon Disulfide	Not Regulated																						
Carbon Tetrachloride	5																						
Chlorobenzene	5																						
Chloroethane	5																						
2-Chloroethyl Vinyl Ether																							
Chloroform	7													0.4	J								
Chloromethane	5																						
Dibromochloromethane	No Standard - 50 (guidance value)																						
1,1-Dichloroethane	5	1.5	J			3.3	J	3.1	J	1.5	J												
1,2-Dichloroethane	5																						
1,1-Dichloroethene	5	6		13		19		4.2	J	1.9	J	15		15									
trans-1,2-Dichloroethene	No Standard					3.6	J							0.6	J								
1,2-Dichloropropane	5																						
cis-1,3-Dichloropropene	5																						
trans-1,3-Dichloropropene	5																						
Ethylbenzene	5																						
2-Hexanone	No Standard - 50 (guidance value)																						
4-Methyl-2-Pentanone (M1BK)	Not Regulated																						
Methylene Chloride	5																						
Styrene	5																						
1,1,2,2-Tetrachloroethane	5																						
Tetrachloroethene	5																						
Toluene	5																						
1,1,1-Trichloroethane (TCA)	5	69		130		160		29		12		130		94									
1,1,2-Trichloroethane	5																						
Trichloroethene (TCE)	5	13		55		68		11		8.2	J	44		37									
Vinyl Acetate	Not Regulated																						
Vinyl Chloride	2																						
Xylenes (Total)	5																						
TOTAL VOCs		**89.5**		**198**		**253.9**		**47.3**		**30.5**		**189**		**147**									
Well Elevation (ft. MSL)		143.63		143.63		143.63		143.63		143.63		143.63		143.63									
Depth of Water (ft.)		0.30		0.56		2.24		3.18		2.94		0.71		0.24									
Groundwater Elevation (ft. MSL)		143.33		143.07		141.39		140.45		140.69		142.92		143.39									

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-9
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

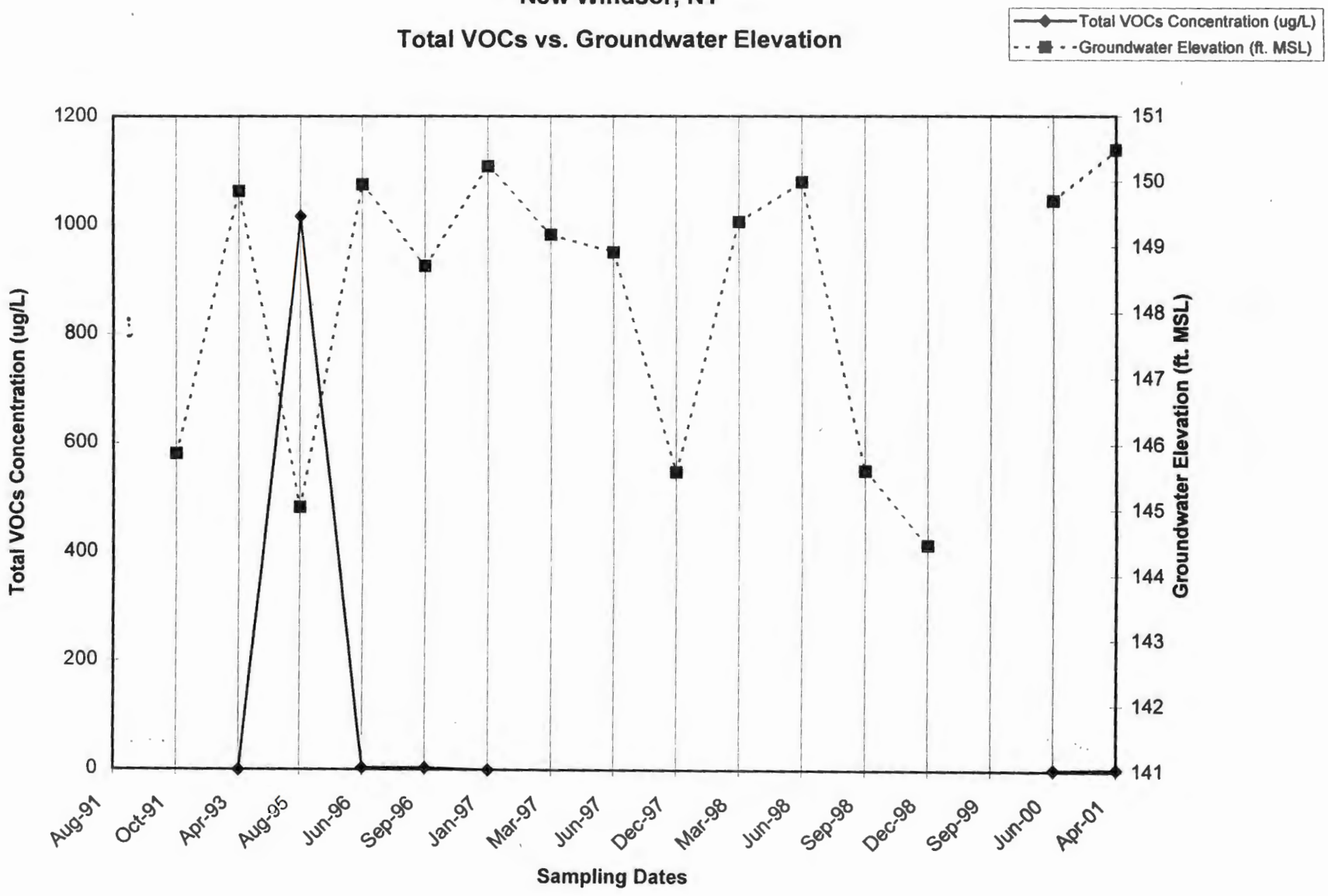

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Table 9
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-9
Monarch Systems, Inc., New Windsor, New York

RIZ-9																									
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91		Oct-91		Apr-93		Aug-95		Jun-96		Sep-96		Jan-97		Mar-97		Jun-97		Dec-97	
Acetone	No Standard - 50 (guidance value)							970	D												
Benzene	0.7																				
Bromodichloromethane	Not Regulated																				
Bromoform	No Standard - 50 (guidance value)																				
Bromomethane	5																				
2-Butanone (MEK)	No Standard - 50 (guidance value)																				
Carbon Disulfide	Not Regulated																				
Carbon Tetrachloride	5																				
Chlorobenzene	5																				
Chloroethane	5																				
2-Chloroethyl Vinyl Ether																					
Chloroform	7																				
Chloromethane	5																				
Dibromochloromethane	No Standard - 50 (guidance value)																				
1,1-Dichloroethane	5																				
1,2-Dichloroethane	5																				
1,1-Dichloroethene	5																				
trans-1,2-Dichloroethene	No Standard																				
1,2-Dichloropropane	5																				
cis-1,3-Dichloropropene	5																				
trans-1,3-Dichloropropene	5																				
Ethylbenzene	5																				
2-Hexanone	No Standard - 50 (guidance value)																				
4-Methyl-2-Pentanone (M1BK)	Not Regulated																				
Methylene Chloride	5							46	JBD	3.4	JB	3.6	J								
Styrene	5																				
1,1,2,2-Tetrachloroethane	5																				
Tetrachloroethene	5																				
Toluene	5																				
1,1,1-Trichloroethane (TCA)	5																				
1,1,2-Trichloroethane	5																				
Trichloroethene (TCE)	5																				
Vinyl Acetate	Not Regulated																				
Vinyl Chloride	2																				
Xylenes (Total)	5																				
TOTAL VOCs			NS		NS	0		1016		3.4		3.6		0			NS		NS		NS
Well Elevation (ft. MSL)				161.7		161.7		161.7		161.7		161.7		161.7		161.7		161.7		161.7	
Depth of Water (ft.)				15.86		11.85		16.68		11.75		13.00		11.47		12.52		12.79		16.13	
Groundwater Elevation (ft. MSL)				145.84		149.85		145.02		149.95		148.7		150.23		149.18		148.91		145.57	

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 9
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-9
Monarch Systems, Inc., New Windsor, New York

RIZ-9

VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98	Jun-98	Sep-98	Dec-98	Sep-99	Jun-00	Apr-01			
Acetone	No Standard - 50 (guidance value)						2.1 J				
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5										
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane (TCA)	5							2 J			
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5							2 J			
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		NS	NS	NS	NS	NS	**2.1**	**4**			
Well Elevation (ft. MSL)		161.7	161.7	161.7	161.7	161.7	161.7	161.7			
Depth of Water (ft.)		12.32	11.71	16.11	17.24	DRY	12.00	11.22			
Groundwater Elevation (ft. MSL)		149.38	149.99	145.59	144.46		149.7	150.48			

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-10
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

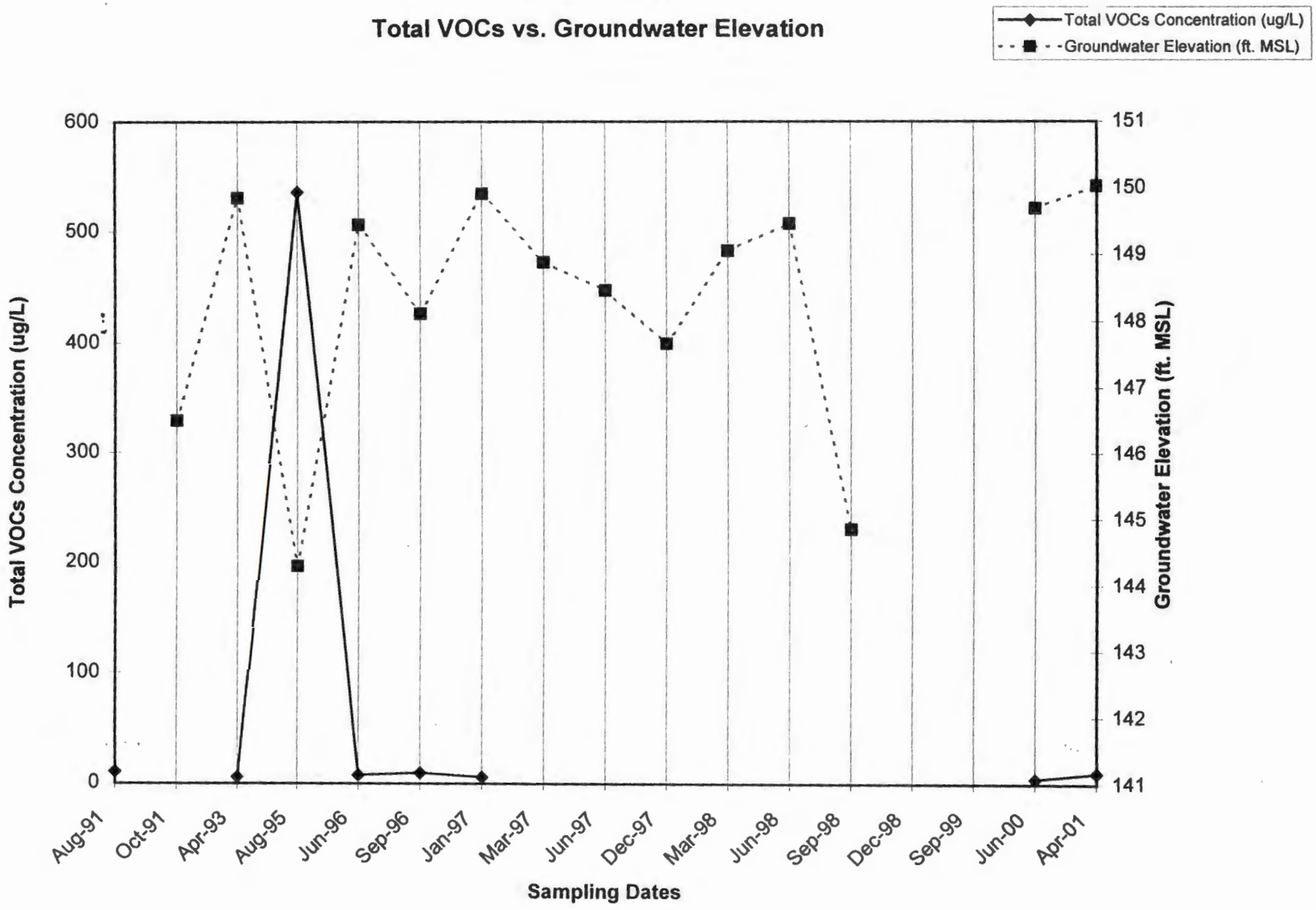

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Table 10
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-10
Monarch Systems, Inc., New Windsor, New York

RIZ-10																									
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91		Oct-91		Apr-93		Aug-95		Jun-96		Sep-96		Jan-97		Mar-97		Jun-97		Dec-97	
Acetone	No Standard - 50 (guidance value)							510	D												
Benzene	0.7																				
Bromodichloromethane	Not Regulated																				
Bromoform	No Standard - 50 (guidance value)																				
Bromomethane	5																				
2-Butanone (MEK)	No Standard - 50 (guidance value)																				
Carbon Disulfide	Not Regulated																				
Carbon Tetrachloride	5																				
Chlorobenzene	5																				
Chloroethane	5																				
2-Chloroethyl Vinyl Ether																					
Chloroform	7																				
Chloromethane	5																				
Dibromochloromethane	No Standard - 50 (guidance value)																				
1,1-Dichloroethane	5	2																			
1,2-Dichloroethane	5																				
1,1-Dichloroethene	5																				
trans-1,2-Dichloroethene	No Standard																				
1,2-Dichloropropane	5																				
cis-1,3-Dichloropropene	5																				
trans-1,3-Dichloropropene	5																				
Ethylbenzene	5																				
2-Hexanone	No Standard - 50 (guidance value)																				
4-Methyl-2-Pentanone (M1BK)	Not Regulated																				
Methylene Chloride	5							20	JBD	2.8	JB	3	J								
Styrene	5																				
1,1,2,2-Tetrachloroethane	5																				
Tetrachloroethene	5																				
Toluene	5																				
1,1,1-Trichloroethane (TCA)	5	2.4																			
1,1,2-Trichloroethane	5																				
Trichloroethene (TCE)	5	6.4				6		6.2	JD	5		6.7	J	5.9							
Vinyl Acetate	Not Regulated																				
Vinyl Chloride	2																				
Xylenes (Total)	5																				
TOTAL VOCs		**10.8**			**NS**	**6**		**536.2**		**7.8**		**9.7**		**5.9**			**NS**		**NS**		**NS**
Well Elevation (ft. MSL)				160.56		160.56		160.56		160.56		160.56		160.56		160.56		160.56		160.56	
Depth of Water (ft.)				14.07		10.71		16.28		11.12		12.45		10.65		11.68		12.10		12.90	
Groundwater Elevation (ft. MSL)				146.49		149.85		144.28		149.44		148.11		149.91		148.88		148.46		147.66	

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 10
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-10
Monarch Systems, Inc., New Windsor, New York

RIZ-10																													
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98		Jun-98		Sep-98		Dec-98		Sep-99		Jun-00		Apr-01															
Acetone	No Standard - 50 (guidance value)											1.8	J																
Benzene	0.7																												
Bromodichloromethane	Not Regulated																												
Bromoform	No Standard - 50 (guidance value)																												
Bromomethane	5																												
2-Butanone (MEK)	No Standard - 50 (guidance value)																												
Carbon Disulfide	Not Regulated																												
Carbon Tetrachloride	5																												
Chlorobenzene	5																												
Chloroethane	5																												
2-Chloroethyl Vinyl Ether																													
Chloroform	7																												
Chloromethane	5																												
Dibromochloromethane	No Standard - 50 (guidance value)																												
1,1-Dichloroethane	5																												
1,2-Dichloroethane	5																												
1,1-Dichloroethene	5																												
trans-1,2-Dichloroethene	No Standard																												
1,2-Dichloropropane	5																												
cis-1,3-Dichloropropene	5																												
trans-1,3-Dichloropropene	5																												
Ethylbenzene	5																												
2-Hexanone	No Standard - 50 (guidance value)																												
4-Methyl-2-Pentanone (M1BK)	Not Regulated																												
Methylene Chloride	5																												
Styrene	5																												
1,1,2,2-Tetrachloroethane	5																												
Tetrachloroethene	5																												
Toluene	5																												
1,1,1-Trichloroethane (TCA)	5													2	J														
1,1,2-Trichloroethane	5																												
Trichloroethene (TCE)	5											2.9	J	8	J														
Vinyl Acetate	Not Regulated																												
Vinyl Chloride	2																												
Xylenes (Total)	5																												
TOTAL VOCs			NS		NS		NS		NS		NS	4.7		10															
Well Elevation (ft. MSL)		160.56		160.56		160.56		160.56		160.56		160.56		160.56															
Depth of Water (ft.)		11.51		11.10		15.71		DRY		DRY		10.87		10.53															
Groundwater Elevation (ft. MSL)		149.05		149.46		144.85						149.69		150.03															

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-15
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

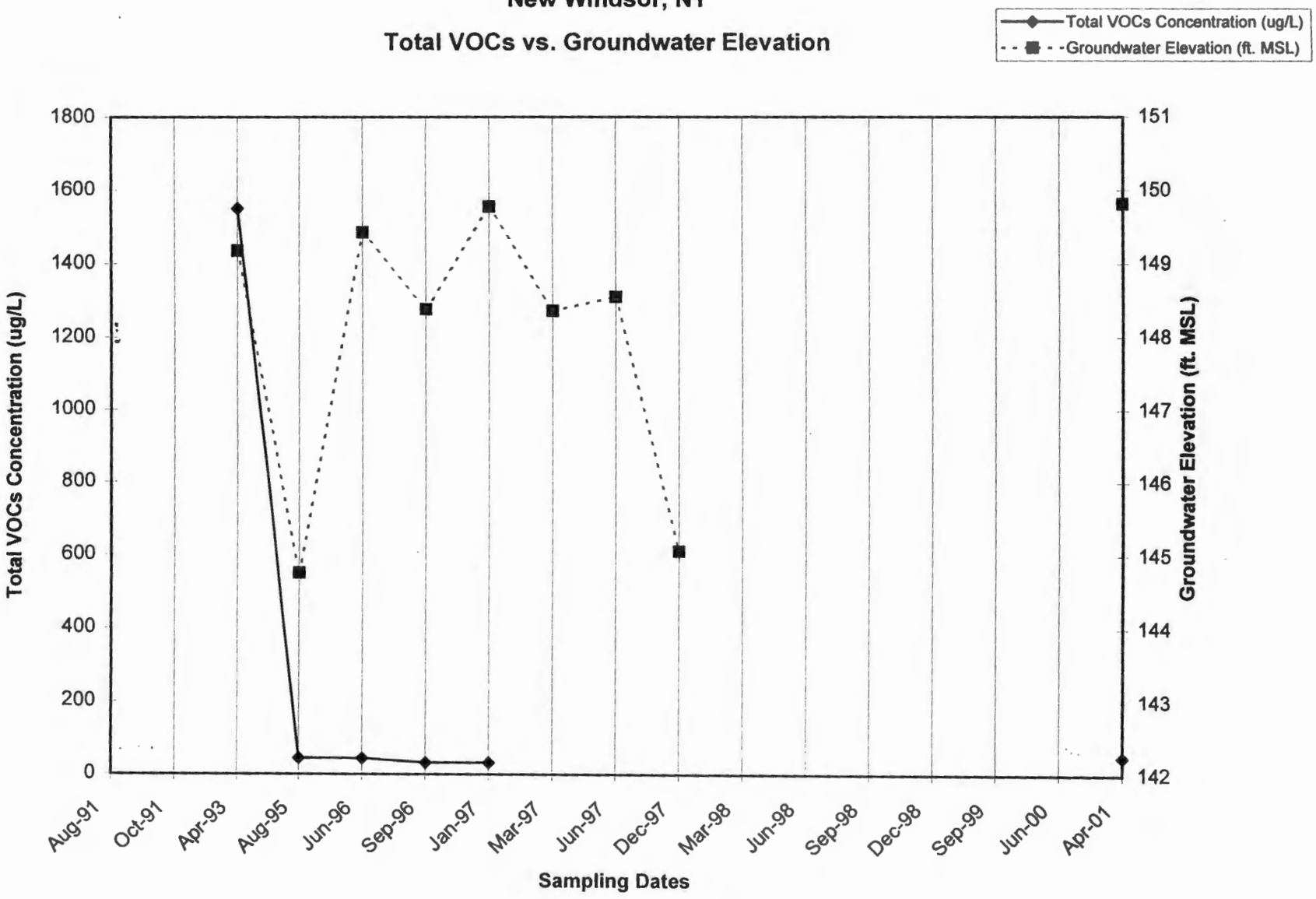

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Table 11
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-15
Monarch Systems, Inc., New Windsor, New York

RIZ-15 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5			15							
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				8.3 B	1.6 J					
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5			16	1.2 J	1 J					
Toluene	5										
1,1,1-Trichloroethane (TCA)	5			680	5.4	3.3 J	4	3.9 J			
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5			840	30	38	28	28			
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs			**NS**	**1551**	**44.9**	**43.9**	**32**	**31.9**		**NS**	**NS**	**NS**
Well Elevation (ft. MSL)				159.23	159.23	159.23	159.23	159.23	159.23	159.23	159.23
Depth of Water (ft.)				10.05	14.48	9.80	10.85	9.45	10.87	10.68	14.17
Groundwater Elevation (ft. MSL)				149.18	144.75	149.43	148.38	149.78	148.36	148.55	145.06

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 11
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-15
Monarch Systems, Inc., New Windsor, New York

RIZ-15 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98		Jun-98		Sep-98		Dec-98		Sep-99		Jun-00		Apr-01							
Acetone	No Standard - 50 (guidance value)																				
Benzene	0.7																				
Bromodichloromethane	Not Regulated																				
Bromoform	No Standard - 50 (guidance value)																				
Bromomethane	5																				
2-Butanone (MEK)	No Standard - 50 (guidance value)																				
Carbon Disulfide	Not Regulated																				
Carbon Tetrachloride	5																				
Chlorobenzene	5																				
Chloroethane	5																				
2-Chloroethyl Vinyl Ether																					
Chloroform	7																				
Chloromethane	5																				
Dibromochloromethane	No Standard - 50 (guidance value)																				
1,1-Dichloroethane	5																				
1,2-Dichloroethane	5																				
1,1-Dichloroethene	5																				
trans-1,2-Dichloroethene	No Standard																				
1,2-Dichloropropane	5																				
cis-1,3-Dichloropropene	5																				
trans-1,3-Dichloropropene	5																				
Ethylbenzene	5																				
2-Hexanone	No Standard - 50 (guidance value)																				
4-Methyl-2-Pentanone (M1BK)	Not Regulated																				
Methylene Chloride	5																				
Styrene	5																				
1,1,2,2-Tetrachloroethane	5																				
Tetrachloroethene	5													1	J						
Toluene	5																				
1,1,1-Trichloroethane (TCA)	5													4	J						
1,1,2-Trichloroethane	5																				
Trichloroethene (TCE)	5													44							
Vinyl Acetate	Not Regulated																				
Vinyl Chloride	2																				
Xylenes (Total)	5																				
TOTAL VOCs			**NS**		**NS**		**NS**		**NS**		**NS**		**NS**	**49**							
Well Elevation (ft. MSL)		159.23		159.23		159.23		159.23		159.23		159.23		159.23							
Depth of Water (ft.)			NS		NS		NS		NS		NS		NS	9.41							
Groundwater Elevation (ft. MSL)			NS		NS		NS		NS		NS		NS	149.82							

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-16
Monarch Systems, Inc.
New Windsor, NY

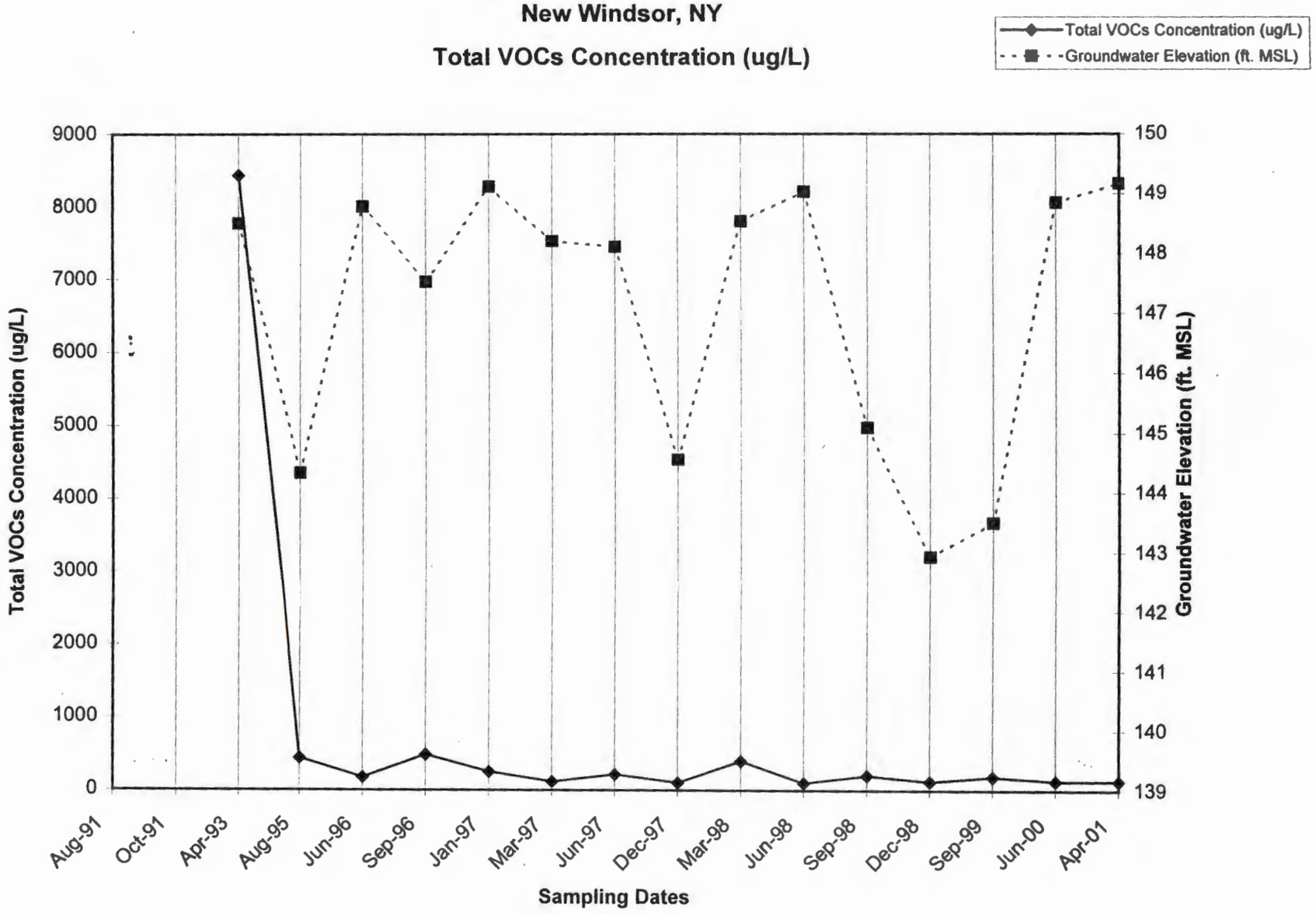

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Table 12
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-16
Monarch Systems, Inc., New Windsor, New York

RIZ-16 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5			12							
1,1-Dichloroethene	5			68							
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				24 JBD	1.5 J	11 JD				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5			56		3.1 J	6.6 D				
Toluene	5										
1,1,1-Trichloroethane (TCA)	5			2,900	47 D	24	38 D	14	7.6	18	12
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5			5,400	370 BD	150	430 D	240	110	200	92
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs			NS	NS	**8436**	**441**	**178.6**	**485.6**	**254**	**117.6**	**218**	**104**
Well Elevation (ft. MSL)					159.25	159.25	159.25	159.25	159.25	159.25	159.25	159.25
Depth of Water (ft.)					10.74	14.93	10.46	11.73	10.13	11.04	11.14	14.70
Groundwater Elevation (ft. MSL)					148.51	144.32	148.79	147.52	149.12	148.21	148.11	144.55

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 12
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-16
Monarch Systems, Inc., New Windsor, New York

RIZ-16																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98		Jun-98		Sep-98		Dec-98		Sep-99		Jun-00		Apr-01									
Acetone	No Standard - 50 (guidance value)									3.1	J,B												
Benzene	0.7																						
Bromodichloromethane	Not Regulated																						
Bromoform	No Standard - 50 (guidance value)																						
Bromomethane	5																						
2-Butanone (MEK)	No Standard - 50 (guidance value)																						
Carbon Disulfide	Not Regulated																						
Carbon Tetrachloride	5																						
Chlorobenzene	5																						
Chloroethane	5																						
2-Chloroethyl Vinyl Ether																							
Chloroform	7																						
Chloromethane	5																						
Dibromochloromethane	No Standard - 50 (guidance value)																						
1,1-Dichloroethane	5																						
1,2-Dichloroethane	5																						
1,1-Dichloroethene	5																						
trans-1,2-Dichloroethene	No Standard																						
1,2-Dichloropropane	5																						
cis-1,3-Dichloropropene	5																						
trans-1,3-Dichloropropene	5																						
Ethylbenzene	5																						
2-Hexanone	No Standard - 50 (guidance value)																						
4-Methyl-2-Pentanone (M1BK)	Not Regulated																						
Methylene Chloride	5																						
Styrene	5																						
1,1,2,2-Tetrachloroethane	5																						
Tetrachloroethene	5	3.3	J			1.8	J			1.7	J	1.0	J	1	J								
Toluene	5																						
1,1,1-Trichloroethane (TCA)	5	37		6.9		21		10		34		6.6	J	6	J								
1,1,2-Trichloroethane	5																						
Trichloroethene (TCE)	5	360	E	95		180		110		150		120		120									
Vinyl Acetate	Not Regulated																						
Vinyl Chloride	2																						
Xylenes (Total)	5																						
TOTAL VOCs		**400.3**		**101.9**		**202.8**		**120**		**188.8**		**127.6**		**127**									
Well Elevation (ft. MSL)		159.25		159.25		159.25		159.25		159.25		159.25		159.25									
Depth of Water (ft.)		10.71		10.22		14.16		16.32		15.75		10.40		10.08									
Groundwater Elevation (ft. MSL)		148.54		149.03		145.09		142.93		143.5		148.85		149.17									

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-17
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

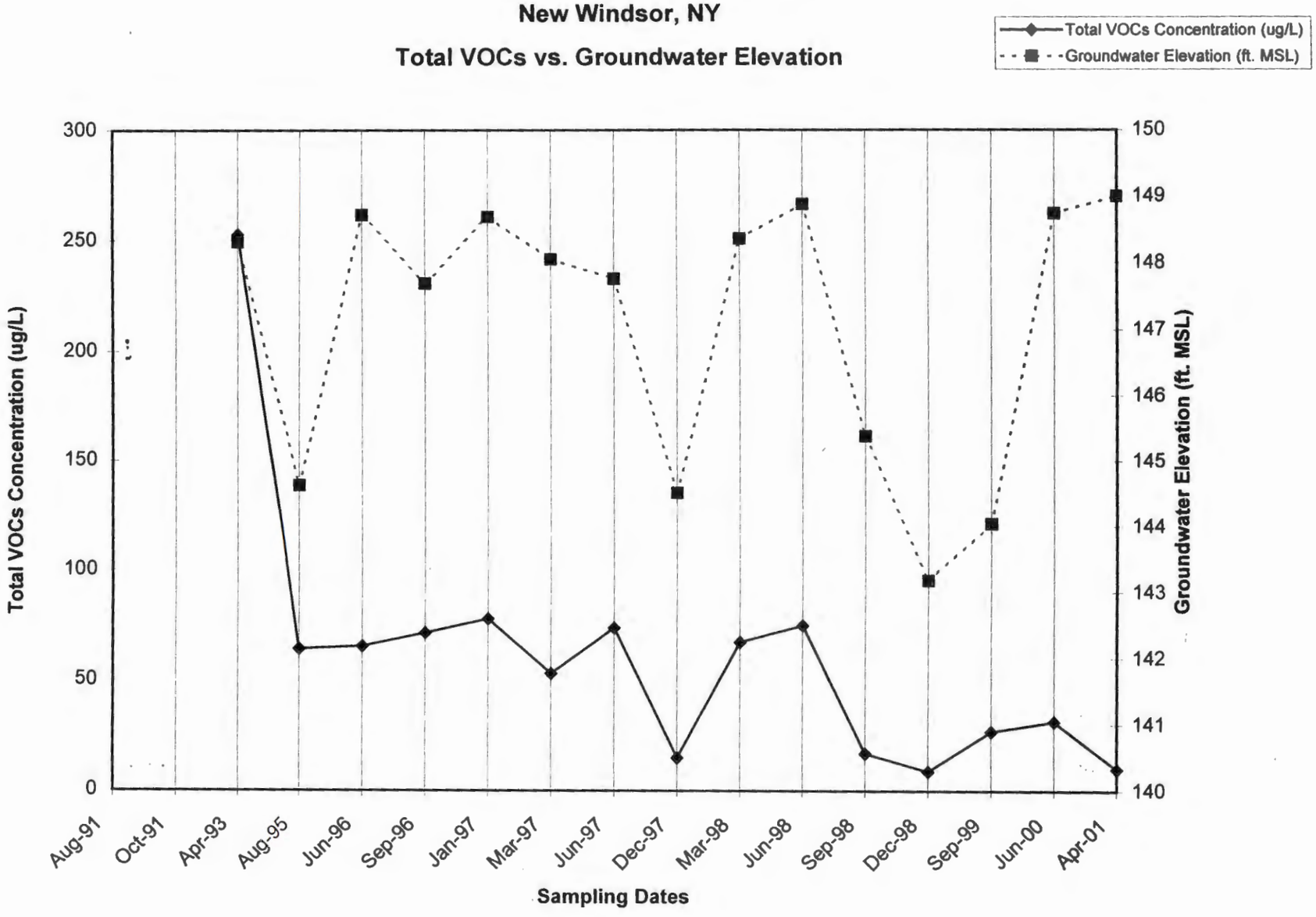

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Table 13
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-17
Monarch Systems, Inc., New Windsor, New York

RIZ-17 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5			1.6							
1,2-Dichloroethane	5										
1,1-Dichloroethene	5			5.1							
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				2.4 JB	5.7 B					
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5			2	1.7 J	1.3 JB	1.8 J				
Toluene	5										
1,1,1-Trichloroethane (TCA)	5			150	14	8.3	7.5	6.7	4 J	4.6 J	
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5			94	46	50	62	71	49	69	15
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs			NS	NS	252.7	64.1	65.3	71.3	77.7	53	73.6	15
Well Elevation (ft. MSL)					159.22	159.22	159.22	159.22	159.22	159.22	159.22	159.22
Depth of Water (ft.)					10.91	14.60	10.50	11.53	10.53	11.17	11.46	14.71
Groundwater Elevation (ft. MSL)					148.31	144.62	148.72	147.69	148.69	148.05	147.76	144.51

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 13
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-17
Monarch Systems, Inc., New Windsor, New York

RIZ-17

VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98	Jun-98	Sep-98	Dec-98	Sep-99	Jun-00	Apr-01			
Acetone	No Standard - 50 (guidance value)					2.5 J, B					
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5										
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5	1.6 J	1.4 J								
Toluene	5										
1,1,1-Trichloroethane (TCA)	5	4.6 J	5.4			2.4 J	1.4 J				
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	61	68	17	8.9 J	22	30	10			
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**67.2**	**74.8**	**17**	**8.9**	**26.9**	**31.4**	**10**			
Well Elevation (ft. MSL)		159.22	159.22	159.22	159.22	159.22	159.22	159.22			
Depth of Water (ft.)		10.86	10.34	13.84	16.04	15.18	10.48	10.22			
Groundwater Elevation (ft. MSL)		148.36	148.88	145.38	143.18	144.04	148.74	149			

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-18
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

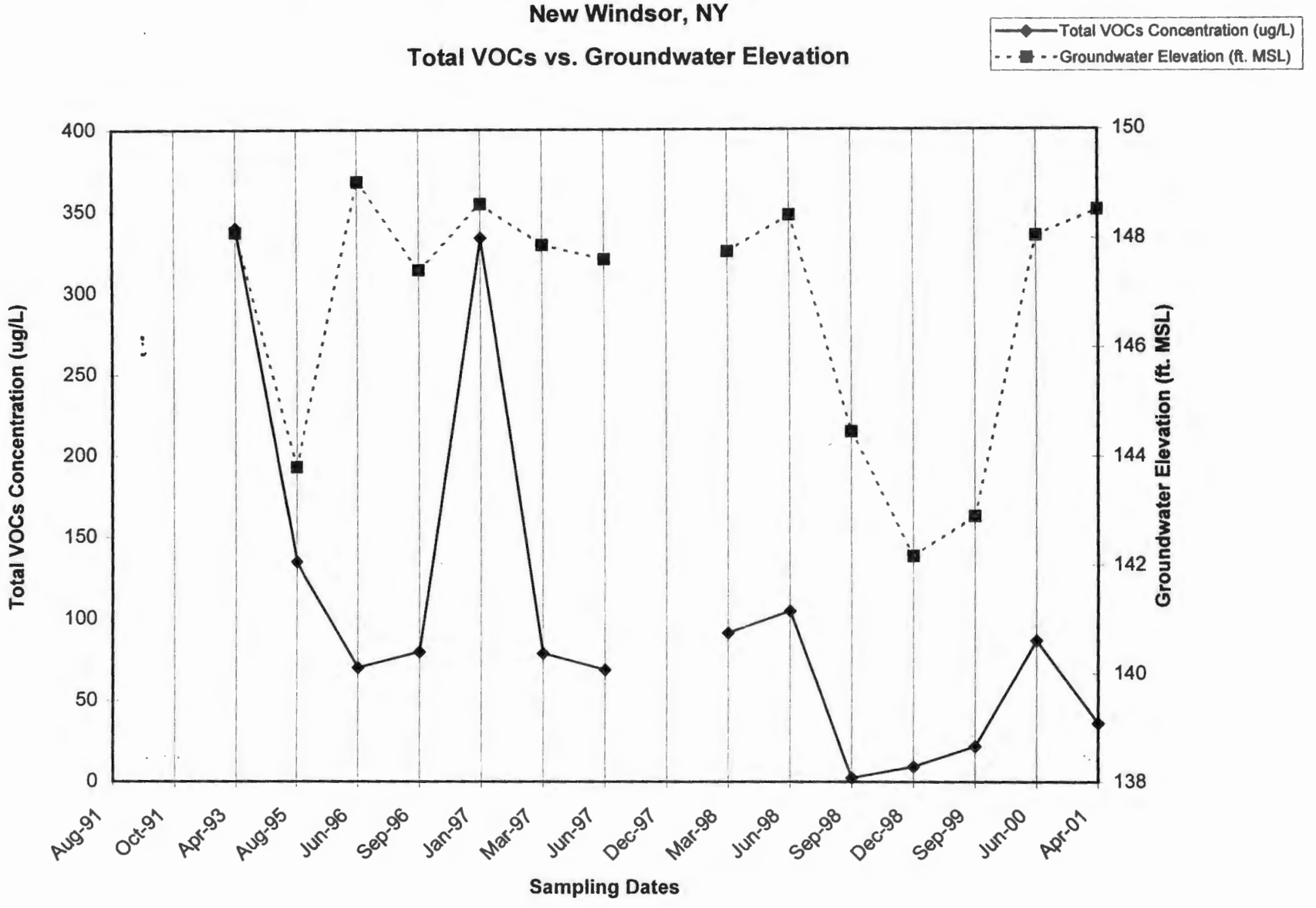

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Table 14
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-18
Monarch Systems, Inc., New Windsor, New York

RIZ-18 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				1.2 JB	1.8 J					
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane (TCA)	5			240	14	5.4	5.9	24	7	6	
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5			100	120	63	74	310	72	63	
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs			**NS**	**NS**	**340**	**135.2**	**70.2**	**79.9**	**334**	**79**	**69**	**NS**
Well Elevation (ft. MSL)					159.21	159.21	159.21	159.21	159.21	159.21	159.21	159.21	
Depth of Water (ft.)					11.09	15.42	10.16	11.78	10.57	11.32	11.59	NS
Groundwater Elevation (ft. MSL)					148.12	143.79	149.05	147.43	148.64	147.89	147.62	NS

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 14
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-18
Monarch Systems, Inc., New Windsor, New York

RIZ-18 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98	Jun-98	Sep-98	Dec-98	Sep-99	Jun-00	Apr-01			
Acetone	No Standard - 50 (guidance value)					3.9 J, B					
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5										
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane (TCA)	5	7.5	5.2		2.6 J	3.9 J	5.9 J	7 J			
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	84	100	2.5 J	6.8 J	14	81	29			
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**91.5**	**105.2**	**2.5**	**9.4**	**21.8**	**86.9**	**36**			
Well Elevation (ft. MSL)		159.21	159.21	159.21	159.21	159.21	159.21	159.21			
Depth of Water (ft.)		11.45	10.78	14.76	17.05	16.32	11.16	10.68			
Groundwater Elevation (ft. MSL)		147.76	148.43	144.45	142.16	142.89	148.05	148.53			

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

RIZ-19
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

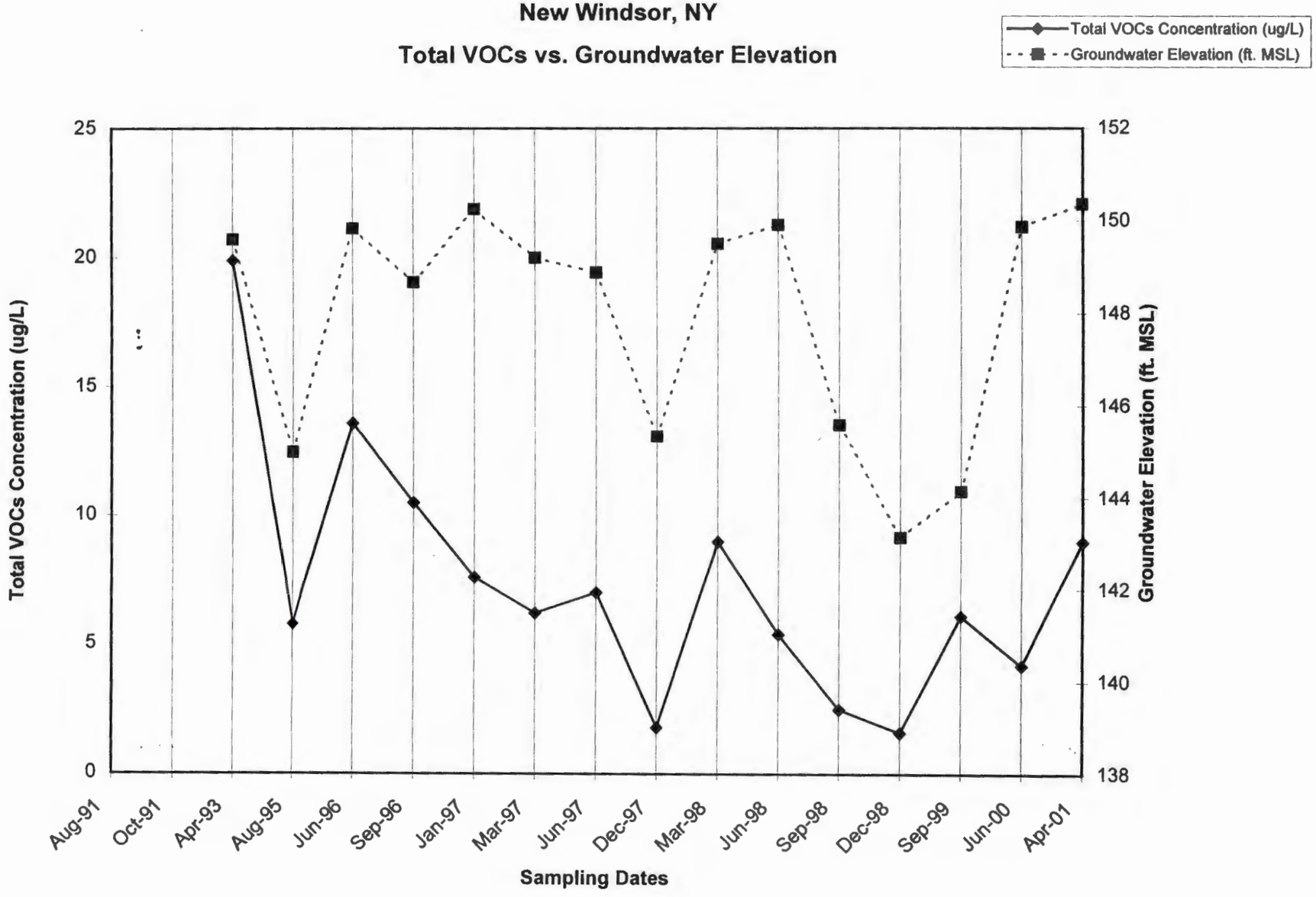

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Table 15
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-19
Monarch Systems, Inc., New Windsor, New York

RIZ-19 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Aug-91	Oct-91	Apr-93	Aug-95	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				1.8 JB	6 B	3.3 J				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5					1.2 J	1.5 J				
Toluene	5										
1,1,1-Trichloroethane (TCA)	5			8.9	1.4 J						
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5			11	2.6 J	6.4	5.7	7.6	6.2	7	1.8 J
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs			NS	NS	**19.9**	**5.8**	**13.6**	**10.5**	**7.6**	**6.2**	**7**	**1.8**
Well Elevation (ft. MSL)					159.18	159.18	159.18	159.18	159.18	159.18	159.18	159.18
Depth of Water (ft.)					9.59	14.20	9.35	10.51	8.93	9.98	10.30	13.85
Groundwater Elevation (ft. MSL)					149.59	144.98	149.83	148.67	150.25	149.2	148.88	145.33

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 15
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - RIZ-19
Monarch Systems, Inc., New Windsor, New York

RIZ-19

VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Mar-98	Jun-98	Sep-98	Dec-98	Sep-99	Jun-00	Apr-01			
Acetone	No Standard - 50 (guidance value)					3.8 J, B					
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5				1.6 J						
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5	1.4 J						1 J			
Toluene	5										
1,1,1-Trichloroethane (TCA)	5										
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	7.6	5.4	2.5 J		2.3 J	4.2 J	8 J			
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**9**	**5.4**	**2.5**	**1.6**	**6.1**	**4.2**	**9**			
Well Elevation (ft. MSL)		159.18	159.18	159.18	159.18	159.18	159.18	159.18			
Depth of Water (ft.)		9.68	9.27	13.59	16.04	15.04	9.31	8.82			
Groundwater Elevation (ft. MSL)		149.5	149.91	145.59	143.14	144.14	149.87	150.36			

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

MW-1S
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

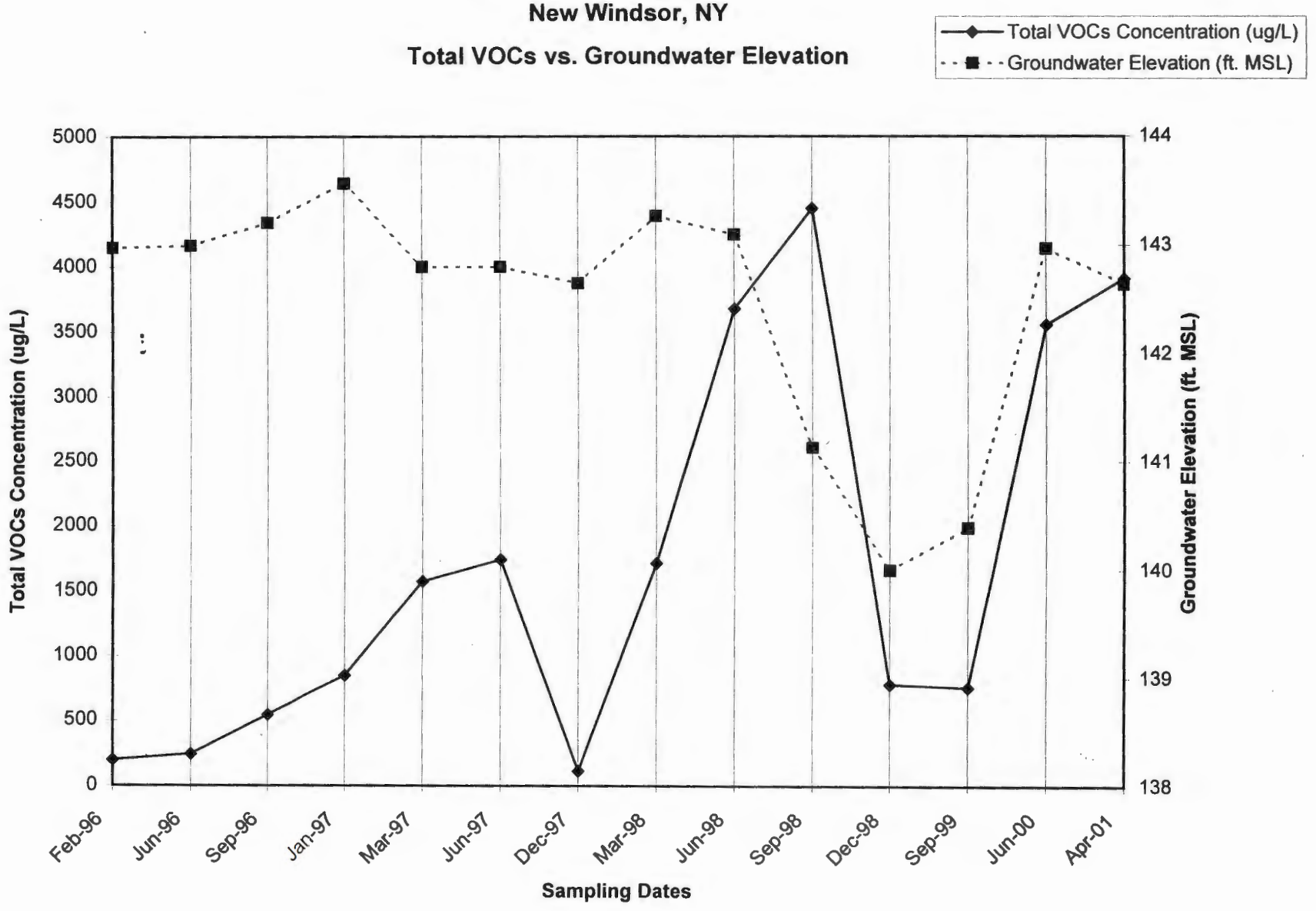

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Table 16
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-1S
Monarch Systems, Inc., New Windsor, New York

MW-1S VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Feb-96	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97	Mar-98	Jun-98	Sep-98
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5	3.5 J	14	37 D	8.6		19 J	3.2 J	7.7		
1,2-Dichloroethane	5								1.8 J		
1,1-Dichloroethene	5	20	30	80 D	97	160	170	17	200	440	450
trans-1,2-Dichloroethene	No Standard				24	27 J	85	11	7.8	29 J	
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5	1.9 JB	6.4 B	8.8 JD							
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane	5	130	130	360 D	550	1000	1100	39	1200 E	2400	2700
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	43	64	61 D	170	390	370	44	300 E	810	1300
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**198.4**	**244.4**	**546.8**	**849.6**	**1577**	**1744**	**114.2**	**1717.3**	**3679**	**4450**
Well Elevation (ft. MSL)		144.1	144.1	144.1	144.1	144.1	144.1	144.1	144.1	144.1	144.1
Depth of Water (ft.)		1.12	1.10	0.89	0.53	1.30	1.30	1.45	0.83	1.00	2.97
Groundwater Elevation (ft. MSL)		142.98	143	143.21	143.57	142.8	142.8	142.65	143.27	143.1	141.13

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 16
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-1S
Monarch Systems, Inc., New Windsor, New York

MW-1S

VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Dec-98	Sep-99	Jun-00	Apr-01						
Acetone	No Standard - 50 (guidance value)		3 J, B								
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5		43								
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5	11 J	22 J	16 J							
1,2-Dichloroethane	5										
1,1-Dichloroethene	5	93	110	420	480						
trans-1,2-Dichloroethene	No Standard	9.8 J	15 J	22 J	30 J						
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5										
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane	5	380	280	1800	2000						
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	290	280	1300	1400						
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2		6.5 J								
Xylenes (Total)	5										
TOTAL VOCs		**783.8**	**759.5**	**3558**	**3910**						
Well Elevation (ft. MSL)		144.1	144.1	144.1	*143.32*						
Depth of Water (ft.)		4.10	3.71	1.13	0.68						
Groundwater Elevation (ft. MSL)		140	140.39	142.97	142.64						

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

MW-1D
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

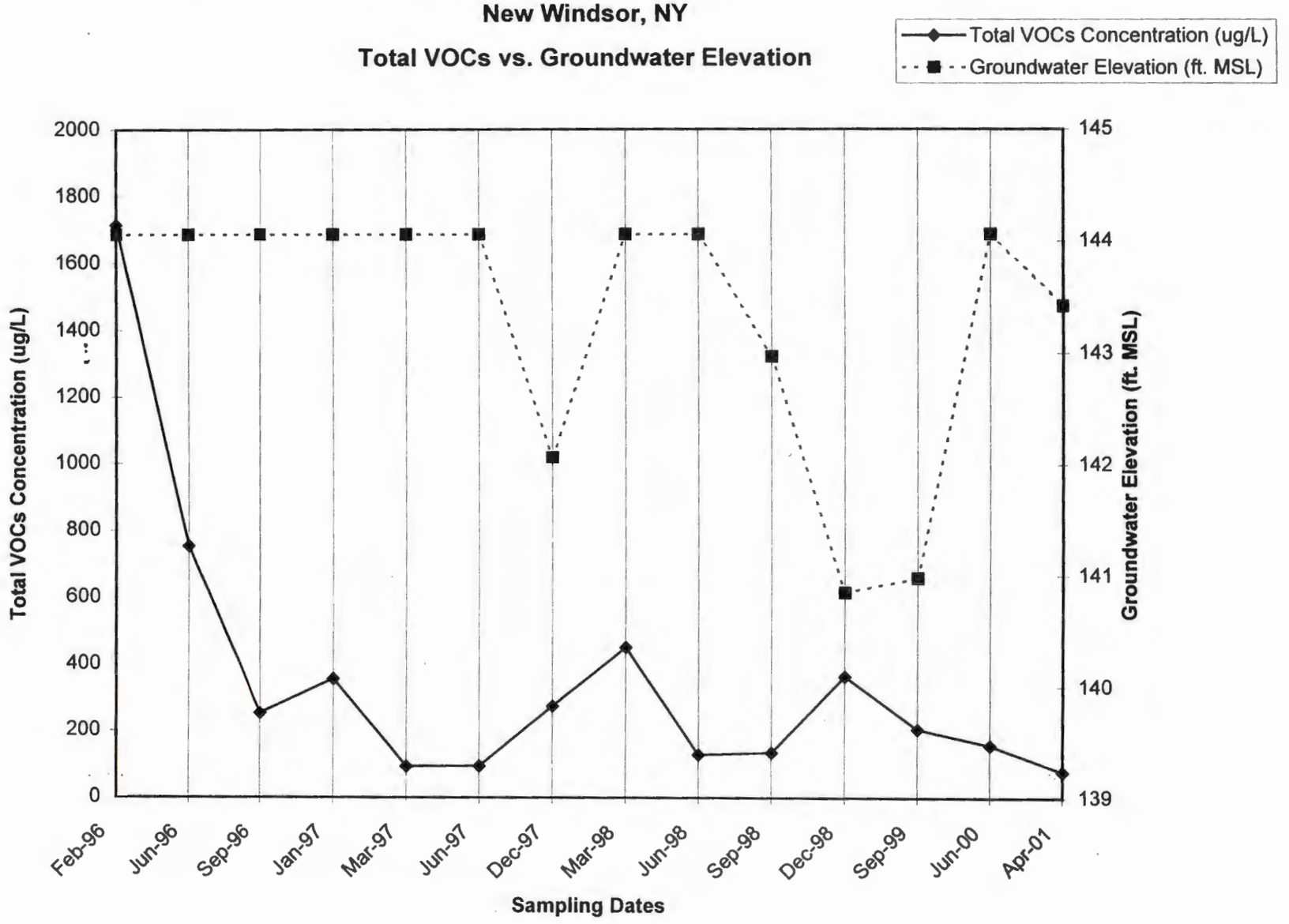

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Table 17
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-1D
Monarch Systems, Inc., New Windsor, New York

MW-1D VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Feb-96	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97	Mar-98	Jun-98	Sep-98
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5	92 D	17 D	7.8 D	13	8.4	8.6	5.4 J	15	11	6.8 J
1,2-Dichloroethane	5										
1,1-Dichloroethene	5	75 D	26 D		7				3.4 J	1.9 J	2 J
trans-1,2-Dichloroethene	No Standard				11						
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5	28 JD	11 JBD	6 JD							
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane	5	720 D	300 D	140 D	230	59	61	230	390	86	110
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	800 D	400 D	100 D	96	27	25	40	43	30	17
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**1715**	**754**	**253.8**	**357**	**94.4**	**94.6**	**275.4**	**451.4**	**128.9**	**135.8**
Well Elevation (ft. MSL)		144.06	144.06	144.06	144.06	144.06	144.06	144.06	144.06	144.06	144.06
Depth of Water (ft.)		0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	1.09
Groundwater Elevation (ft. MSL)		144.06	144.06	144.06	144.06	144.06	144.06	142.06	144.06	144.06	142.97

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

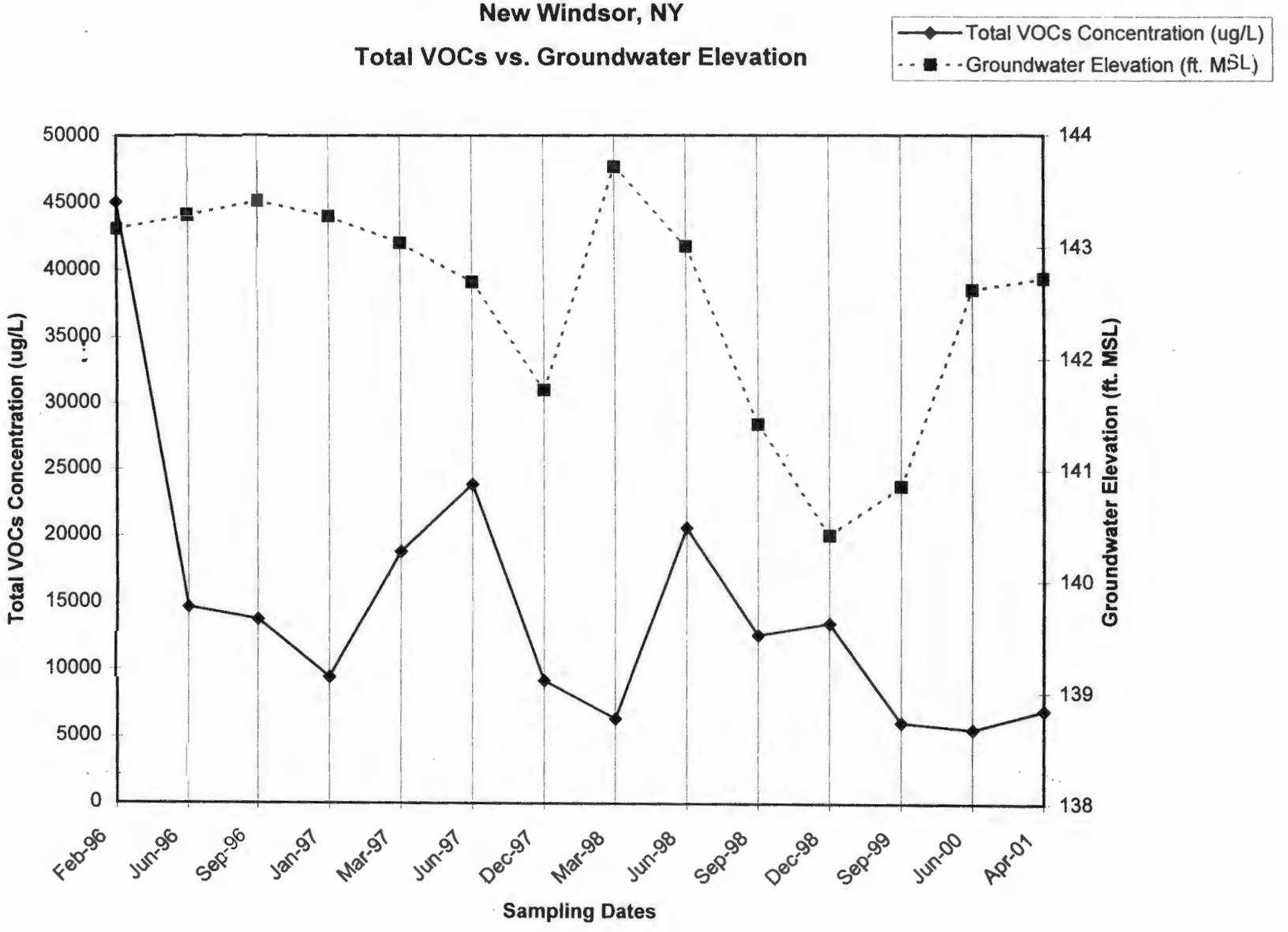
Table 17
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-1D
Monarch Systems, Inc., New Windsor, New York

MW-1D VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Dec-98	Sep-99	Jun-00	Apr-01						
Acetone	No Standard - 50 (guidance value)		1.6 J, B								
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5	13 J	26	22	25						
1,2-Dichloroethane	5										
1,1-Dichloroethene	5		6.1 J	4.4 J	1 J						
trans-1,2-Dichloroethene	No Standard										
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5		1.9 J								
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane	5	320	140	110	44						
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	32	30	21	8 J						
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**365**	**205.6**	**157.4**	**78**						
Well Elevation (ft. MSL)		144.06	144.06	144.06	*143.42*						
Depth of Water (ft.)		3.21	3.08	0.00	0.00						
Groundwater Elevation (ft. MSL)		140.85	140.98	144.06	143.42						

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

MW-2
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation



Monarch2a.xls

Table 18
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-2
Monarch Systems, Inc., New Windsor, New York

MW-2 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Feb-96	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97	Mar-98	Jun-98	Sep-98
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated	4,800 D									
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5		5.4 J								
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5	190 JD	33		160 J		89 J		36 J		
1,2-Dichloroethane	5										
1,1-Dichloroethene	5		230 J		140 J		310	110 J	76 J	300 J	190 J
trans-1,2-Dichloroethene	No Standard	910 D	2.7 J		270	440 J	370	410	350	430 J	340 J
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5	170 JBD	6.5 B	280 JD			110 J				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5		29								
Toluene	5										
1,1,1-Trichloroethane	5	19,000 D	7200	6900 D	4500	9700	13000	4900	3200	10000	7100
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	20,000 D	7200	6600 D	4400	8700	10000	3800	2700	9900 *	5000
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2		1.5 J								
Xylenes (Total)	5										
TOTAL VOCs		**45070**	**14708.1**	**13780**	**9470**	**18840**	**23879**	**9220**	**6362**	**20630**	**12630**
Well Elevation (ft. MSL)		143.92	143.92	143.92	143.92	143.92	143.92	143.92	143.92	143.92	143.92
Depth of Water (ft.)		0.75	0.63	0.50	0.64	0.88	1.23	2.20	0.20	0.91	2.51
Groundwater Elevation (ft. MSL)		143.17	143.29	143.42	143.28	143.04	142.69	141.72	143.72	143.01	141.41

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled
* - Suspected Reporting Error

Table 18
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-2
Monarch Systems, Inc., New Windsor, New York

MW-2																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Dec-98		Sep-99		Jun-00		Apr-01															
Acetone	No Standard - 50 (guidance value)			41	J, B																		
Benzene	0.7																						
Bromodichloromethane	Not Regulated																						
Bromoform	No Standard - 50 (guidance value)																						
Bromomethane	5																						
2-Butanone (MEK)	No Standard - 50 (guidance value)																						
Carbon Disulfide	Not Regulated																						
Carbon Tetrachloride	5																						
Chlorobenzene	5																						
Chloroethane	5					16																	
2-Chloroethyl Vinyl Ether																							
Chloroform	7																						
Chloromethane	5																						
Dibromochloromethane	No Standard - 50 (guidance value)																						
1,1-Dichloroethane	5			24	J	28																	
1,2-Dichloroethane	5																						
1,1-Dichloroethene	5	190	J	93	J	110	J	130	J														
trans-1,2-Dichloroethene	No Standard	310	J	340		120	J	80	J														
1,2-Dichloropropane	5																						
cis-1,3-Dichloropropene	5																						
trans-1,3-Dichloropropene	5																						
Ethylbenzene	5																						
2-Hexanone	No Standard - 50 (guidance value)																						
4-Methyl-2-Pentanone (M1BK)	Not Regulated																						
Methylene Chloride	5																						
Styrene	5																						
1,1,2,2-Tetrachloroethane	5																						
Tetrachloroethene	5					19																	
Toluene	5																						
1,1,1-Trichloroethane	5	8500		2700		2200		2400															
1,1,2-Trichloroethane	5																						
Trichloroethene (TCE)	5	4500		2900		3100		4400															
Vinyl Acetate	Not Regulated																						
Vinyl Chloride	2																						
Xylenes (Total)	5																						
TOTAL VOCs		**13500**		**6098**		**5593**		**7010**															
Well Elevation (ft. MSL)		143.92		143.92		143.92		143.92															
Depth of Water (ft.)		3.51		3.07		1.30		1.20															
Groundwater Elevation (ft. MSL)		140.41		140.85		142.62		142.72															

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled
* - Suspected Reporting Error

MW-3
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

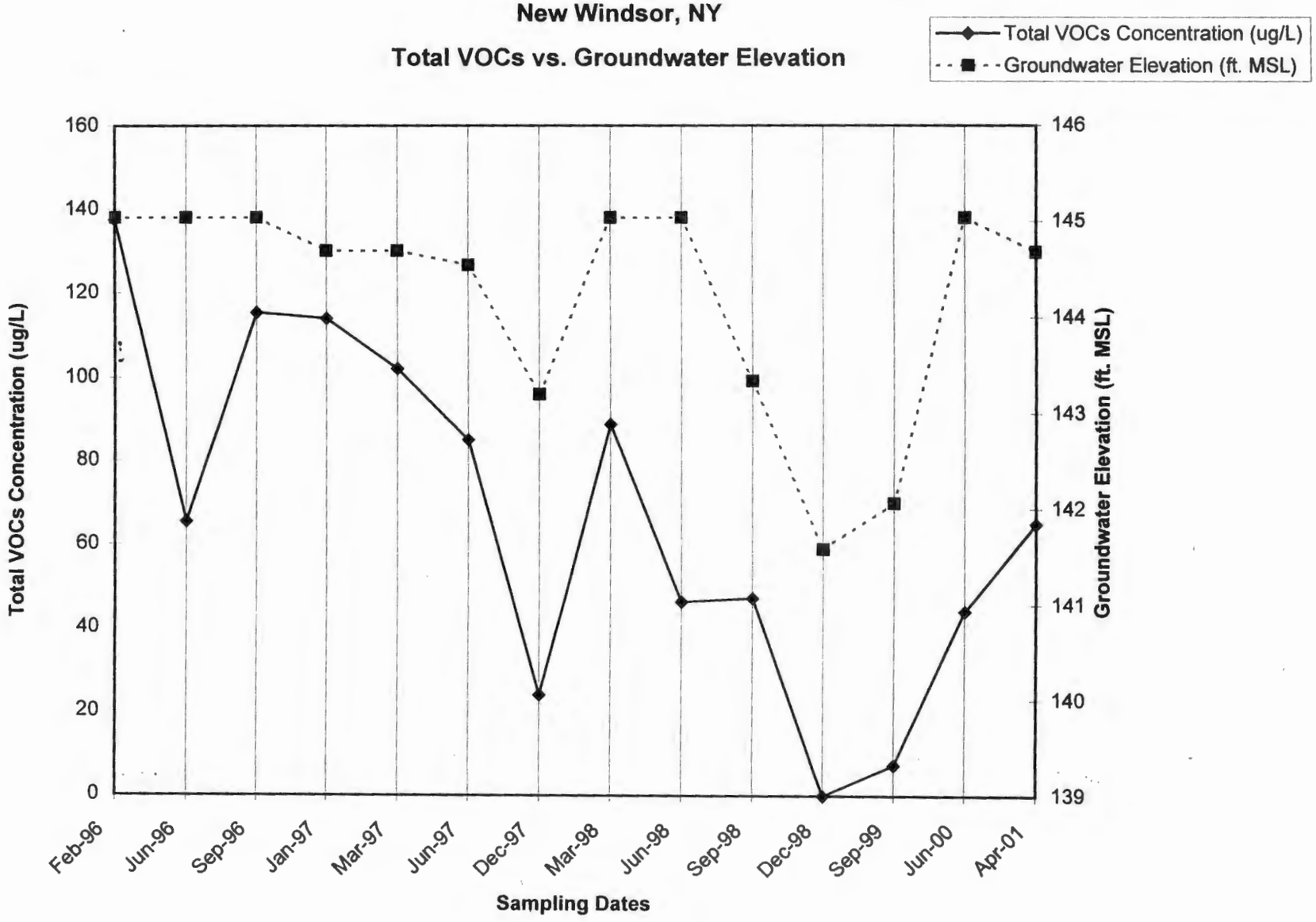


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Table 19
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-3
Monarch Systems, Inc., New Windsor, New York

MW-3 VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Feb-96	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97	Mar-98	Jun-98	Sep-98
Acetone	No Standard - 50 (guidance value)		9.4 J								25
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										15
Carbon Disulfide	Not Regulated	24									
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5										
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard				1.2 J				3.2 J	1.4 J	1.4 J
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5			1.6 J							
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5	1 J									
Toluene	5										
1,1,1-Trichloroethane	5	2.5 J	3 J	3.8	2.8 J	2.1 J			1.6 J		
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	110	53	110	110	100	85	24	84	45	5.9 J
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**137.5**	**65.4**	**115.4**	**114**	**102.1**	**85**	**24**	**88.8**	**46.4**	**47.3**
Well Elevation (ft. MSL)		145.04	145.04	145.04	145.04	145.04	145.04	145.04	145.04	145.04	145.04
Depth of Water (ft.)		0.00	0.00	0.00	0.35	0.35	0.50	1.84	0.00	0.00	1.70
Groundwater Elevation (ft. MSL)		145.04	145.04	145.04	144.69	144.69	144.54	143.2	145.04	145.04	143.34

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 19
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-3
Monarch Systems, Inc., New Windsor, New York

MW-3																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Dec-98		Sep-99		Jun-00		Apr-01															
Acetone	No Standard - 50 (guidance value)			3.4	J, B																		
Benzene	0.7																						
Bromodichloromethane	Not Regulated																						
Bromoform	No Standard - 50 (guidance value)																						
Bromomethane	5																						
2-Butanone (MEK)	No Standard - 50 (guidance value)																						
Carbon Disulfide	Not Regulated																						
Carbon Tetrachloride	5																						
Chlorobenzene	5																						
Chloroethane	5																						
2-Chloroethyl Vinyl Ether																							
Chloroform	7																						
Chloromethane	5																						
Dibromochloromethane	No Standard - 50 (guidance value)																						
1,1-Dichloroethane	5																						
1,2-Dichloroethane	5																						
1,1-Dichloroethene	5																						
trans-1,2-Dichloroethene	No Standard					5.2	J	1	J														
1,2-Dichloropropane	5																						
cis-1,3-Dichloropropene	5																						
trans-1,3-Dichloropropene	5																						
Ethylbenzene	5																						
2-Hexanone	No Standard - 50 (guidance value)																						
4-Methyl-2-Pentanone (M1BK)	Not Regulated																						
Methylene Chloride	5																						
Styrene	5																						
1,1,2,2-Tetrachloroethane	5																						
Tetrachloroethene	5																						
Toluene	5																						
1,1,1-Trichloroethane	5																						
1,2-Trichloroethane	5																						
richloroethene (TCE)	5			3.9	J	39		64															
nyl Acetate	Not Regulated																						
yl Chloride	2																						
enes (Total)	5																						
TAL VOCs		0	ND	7.3		44.2		65															
Elevation (ft. MSL)		145.04		145.04		145.04		145.04															
n of Water (ft.)		3.46		2.98		0.00		0.36															
ndwater Elevation (ft. MSL)		141.58		142.06		145.04		144.68															

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ution performed
ot Sampled

MW-4I
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

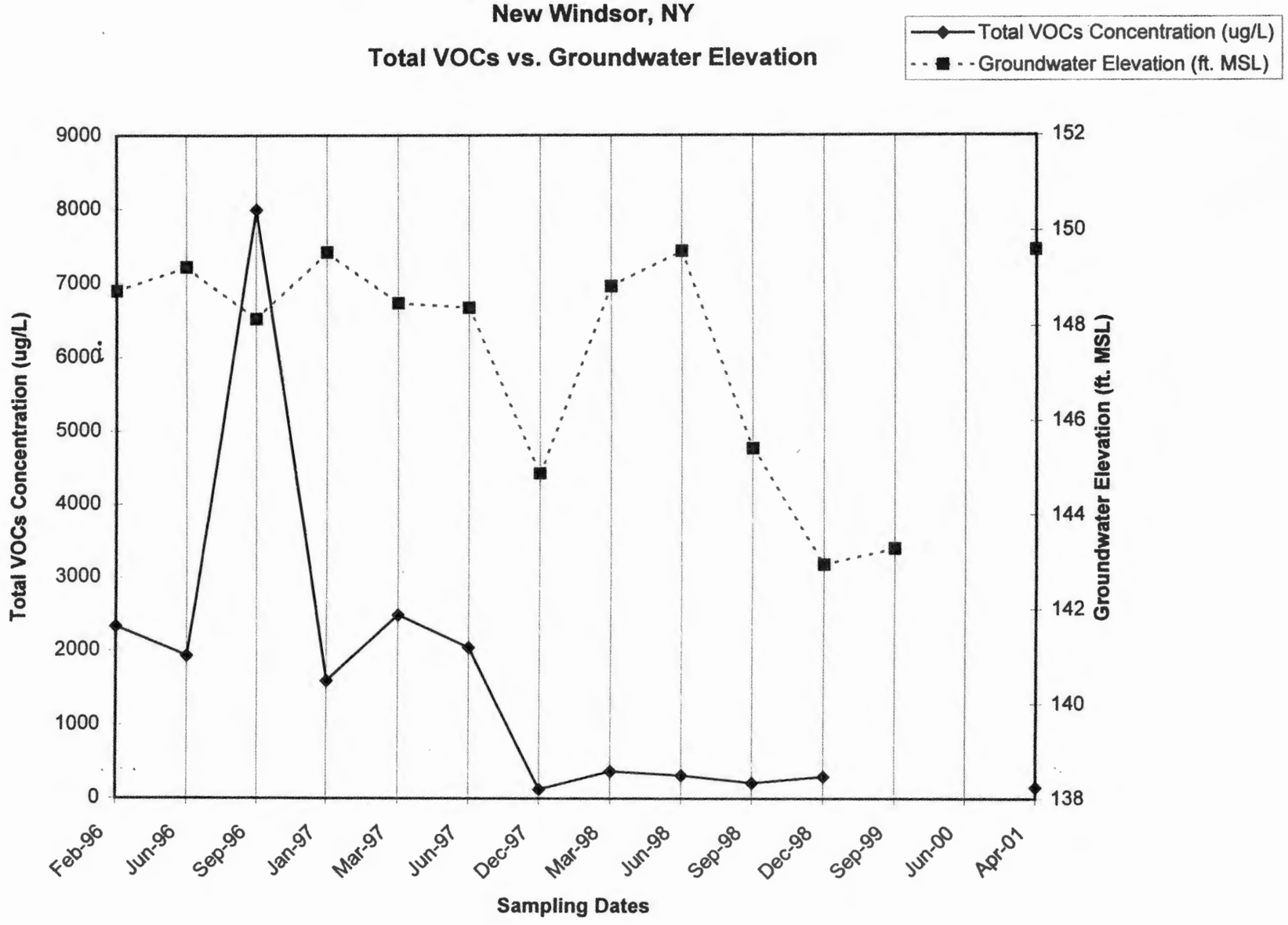

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Table 20
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-4i
Monarch Systems, Inc., New Windsor, New York

MW-4i VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Feb-96	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97	Mar-98	Jun-98	Sep-98
Acetone	No Standard - 50 (guidance value)		17				69 J				
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)		8.6 J								
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5	880 D	590	1000 D	580	400	220	26	110	56	31
1,2-Dichloroethane	5										
1,1-Dichloroethene	5		2.2 J		7.4	7.9	6.7		2.2 J		
trans-1,2-Dichloroethene	No Standard				6.6	3.1 J	2.3 J		1.7 J		
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5	26 JD	2 J	33 JD			17 J,B				
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5		2.7 J	61 D	3.3 J	25 J	2.7 J				
Toluene	5										
1,1,1-Trichloroethane	5	25 JD	210	4500 D		1200	1100	40	66	120	92
1,1,2-Trichloroethane	5										
Trichloroethene (TCE)	5	1,400 D	1100	2400 D	1000	850	630	60	190	140	89
Vinyl Acetate	Not Regulated										
Vinyl Chloride	2										
Xylenes (Total)	5										
TOTAL VOCs		**2331**	**1932.5**	**7994**	**1597.3**	**2486**	**2047.7**	**126**	**369.9**	**316**	**212**
Well Elevation (ft. MSL)		159.26	159.26	159.26	159.26	159.26	159.26	159.26	159.26	159.26	159.26
Depth of Water (ft.)		10.53	10.03	11.11	9.72	10.78	10.88	14.38	10.43	9.69	13.85
Groundwater Elevation (ft. MSL)		148.73	149.23	148.15	149.54	148.48	148.38	144.88	148.83	149.57	145.41

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Estimated result, less than the quantitation limit
Dilution performed
Not Sampled

Table 20
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-4I
Monarch Systems, Inc., New Windsor, New York

MW-4I																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Dec-98		Sep-99		Jun-00		Apr-01															
Acetone	No Standard - 50 (guidance value)																						
Benzene	0.7																						
Bromodichloromethane	Not Regulated																						
Bromoform	No Standard - 50 (guidance value)																						
Bromomethane	5																						
2-Butanone (MEK)	No Standard - 50 (guidance value)																						
Carbon Disulfide	Not Regulated																						
Carbon Tetrachloride	5																						
Chlorobenzene	5																						
Chloroethane	5																						
2-Chloroethyl Vinyl Ether																							
Chloroform	7																						
Chloromethane	5																						
Dibromochloromethane	No Standard - 50 (guidance value)																						
1,1-Dichloroethane	5	49						32															
1,2-Dichloroethane	5																						
1,1-Dichloroethene	5							1	J														
trans-1,2-Dichloroethene	No Standard																						
1,2-Dichloropropane	5																						
cis-1,3-Dichloropropene	5																						
trans-1,3-Dichloropropene	5																						
Ethylbenzene	5																						
2-Hexanone	No Standard - 50 (guidance value)																						
4-Methyl-2-Pentanone (M1BK)	Not Regulated																						
Methylene Chloride	5																						
Styrene	5																						
1,1,2,2-Tetrachloroethane	5																						
Tetrachloroethene	5																						
Toluene	5																						
1,1,1-Trichloroethane	5	110						26															
1,1,2-Trichloroethane	5																						
Trichloroethene (TCE)	5	140						95															
Vinyl Acetate	Not Regulated																						
Vinyl Chloride	2																						
Xylenes (Total)	5																						
TOTAL VOCs		**299**			**NS**		**NS**	**154**															
Well Elevation (ft. MSL)		159.26		159.26		159.26		159.26															
Depth of Water (ft.)		16.32		15.98			NS	9.66															
Groundwater Elevation (ft. MSL)		142.94		143.28			NS	149.6															

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Estimated result, less than the quantitation limit
Dilution performed
Not Sampled

MW-4D
Monarch Systems, Inc.
New Windsor, NY

Total VOCs vs. Groundwater Elevation

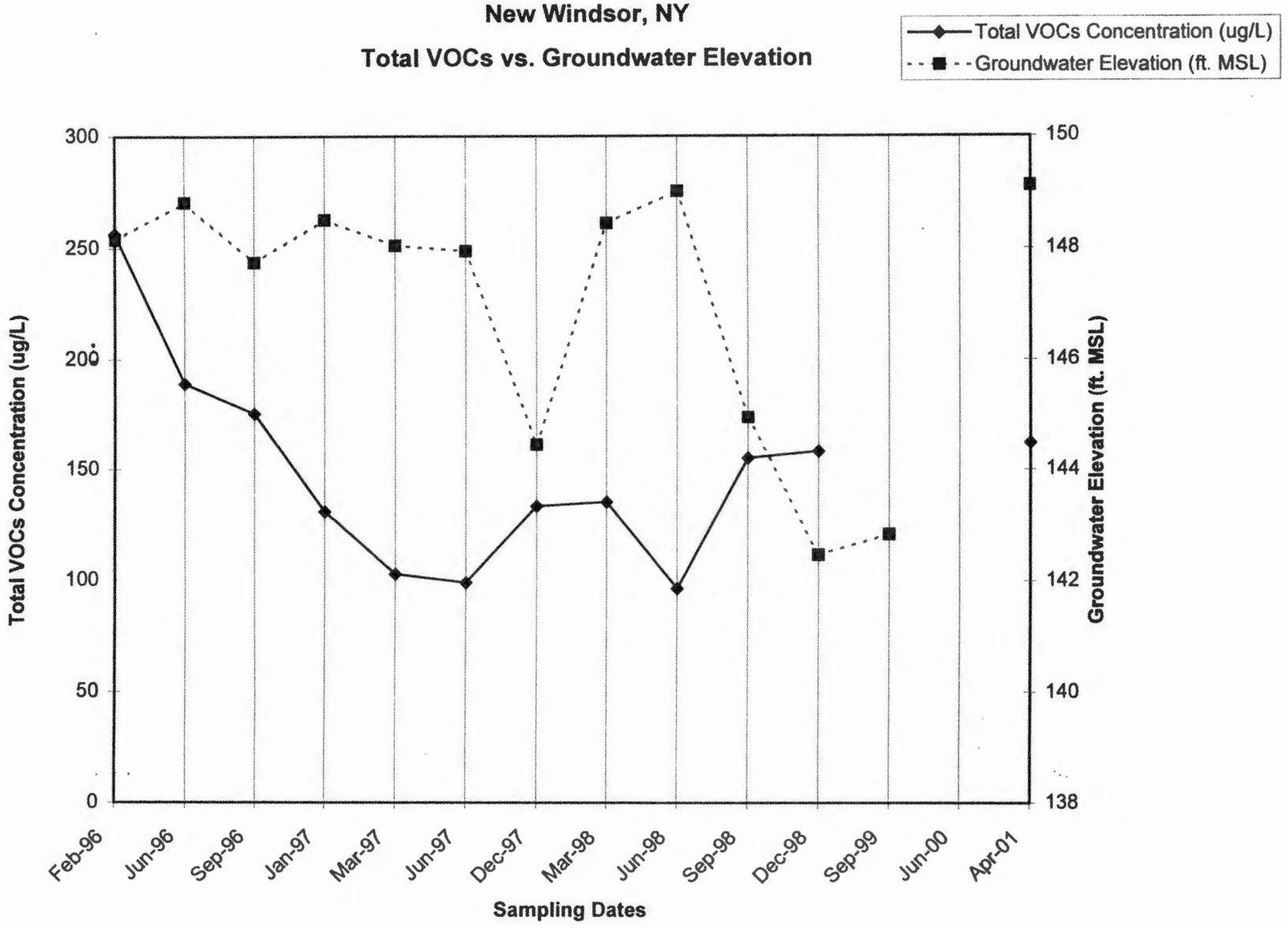

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Table 21
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-4D
Monarch Systems, Inc., New Windsor, New York

MW-4D

VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Feb-96	Jun-96	Sep-96	Jan-97	Mar-97	Jun-97	Dec-97	Mar-98	Jun-98	Sep-98
Acetone	No Standard - 50 (guidance value)										
Benzene	0.7										
Bromodichloromethane	Not Regulated										
Bromoform	No Standard - 50 (guidance value)										
Bromomethane	5										
2-Butanone (MEK)	No Standard - 50 (guidance value)										
Carbon Disulfide	Not Regulated										
Carbon Tetrachloride	5										
Chlorobenzene	5										
Chloroethane	5										
2-Chloroethyl Vinyl Ether											
Chloroform	7										
Chloromethane	5										
Dibromochloromethane	No Standard - 50 (guidance value)										
1,1-Dichloroethane	5	120	50	43	30	20	21	7.3	12	13	10
1,2-Dichloroethane	5										
1,1-Dichloroethene	5										
trans-1,2-Dichloroethene	No Standard				2 J	1.3 J	1.5 J		1.2 J		
1,2-Dichloropropane	5										
cis-1,3-Dichloropropene	5										
trans-1,3-Dichloropropene	5										
Ethylbenzene	5										
2-Hexanone	No Standard - 50 (guidance value)										
4-Methyl-2-Pentanone (M1BK)	Not Regulated										
Methylene Chloride	5	2.4 J	2.9 J	1.3 J							
Styrene	5										
1,1,2,2-Tetrachloroethane	5										
Tetrachloroethene	5										
Toluene	5										
1,1,1-Trichloroethane	5	14	16	11	7	3.5 J	3.6 J	53	23	6.5	54
,1,2-Trichloroethane	5										
richloroethene (TCE)	5	120	120	120	92	78	73	73	99	77	91
nyl Acetate	Not Regulated										
yl Chloride	2										
enes (Total)	5										
TAL VOCs		**256.4**	**188.9**	**175.3**	**131**	**102.8**	**99.1**	**133.3**	**135.2**	**96.5**	**155**
Elevation (ft. MSL)		159.26	159.26	159.26	159.26	159.26	159.26	159.26	159.26	159.26	159.26
h of Water (ft.)		11.11	10.44	11.51	10.75	11.21	11.31	14.81	10.81	10.24	14.32
ndwater Elevation (ft. MSL)		148.15	148.82	147.75	148.51	148.05	147.95	144.45	148.45	149.02	144.94

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stimated result, less than the quantitation limit
lution performed
lot Sampled

Table 21
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-4D
Monarch Systems, Inc., New Windsor, New York

MW-4D

VOCs (ug/l)	**Groundwater Quality Standard Concentration (ug/l)** (From NYSDEC Class - GA Quality Standards)	**Dec-98**		**Sep-99**		**Jun-00**		**Apr-01**							
Acetone	No Standard - 50 (guidance value)														
Benzene	0.7														
Bromodichloromethane	Not Regulated														
Bromoform	No Standard - 50 (guidance value)														
Bromomethane	5														
2-Butanone (MEK)	No Standard - 50 (guidance value)														
Carbon Disulfide	Not Regulated														
Carbon Tetrachloride	5														
Chlorobenzene	5														
Chloroethane	5														
2-Chloroethyl Vinyl Ether															
Chloroform	7														
Chloromethane	5														
Dibromochloromethane	No Standard - 50 (guidance value)														
1,1-Dichloroethane	5	6.1	J					16							
1,2-Dichloroethane	5														
1,1-Dichloroethene	5							1	J						
trans-1,2-Dichloroethene	No Standard							3	J						
1,2-Dichloropropane	5														
cis-1,3-Dichloropropene	5														
trans-1,3-Dichloropropene	5														
Ethylbenzene	5														
2-Hexanone	No Standard - 50 (guidance value)														
4-Methyl-2-Pentanone (M1BK)	Not Regulated														
Methylene Chloride	5														
Styrene	5														
1,1,2,2-Tetrachloroethane	5														
Tetrachloroethene	5														
Toluene	5														
1,1,1-Trichloroethane	5	53						43							
,1,2-Trichloroethane	5														
richloroethene (TCE)	5	99						99							
nyl Acetate	Not Regulated														
yl Chloride	2														
enes (Total)	5														
TAL VOCs		**158.1**			**NS**		**NS**	**162**							
Elevation (ft. MSL)		159.26		159.26		159.26		159.26							
h of Water (ft.)		16.80		16.43			NS	10.14							
dwater Elevation (ft. MSL)		142.46		142.83			NS	149.12							

ound in method blank
timated result, less than the quantitation limit
ution performed
ot Sampled

Table 22
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-4S
Monarch Systems, Inc., New Windsor, New York

	MW-4S																					
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Apr-01																				
Acetone	No Standard - 50 (guidance value)																					
Benzene	0.7																					
Bromodichloromethane	Not Regulated																					
Bromoform	No Standard - 50 (guidance value)																					
Bromomethane	5																					
2-Butanone (MEK)	No Standard - 50 (guidance value)																					
Carbon Disulfide	Not Regulated																					
Carbon Tetrachloride	5																					
Chlorobenzene	5																					
Chloroethane	5																					
2-Chloroethyl Vinyl Ether																						
Chloroform	7																					
Chloromethane	5																					
Dibromochloromethane	No Standard - 50 (guidance value)																					
1,1-Dichloroethane	5																					
1,2-Dichloroethane	5																					
1,1-Dichloroethene	5	0.7	J																			
trans-1,2-Dichloroethene	No Standard	1	J																			
1,2-Dichloropropane	5																					
cis-1,3-Dichloropropene	5																					
trans-1,3-Dichloropropene	5																					
Ethylbenzene	5																					
2-Hexanone	No Standard - 50 (guidance value)																					
4-Methyl-2-Pentanone (M1BK)	Not Regulated																					
Methylene Chloride	5																					
Styrene	5																					
1,1,2,2-Tetrachloroethane	5																					
Tetrachloroethene	5	1	J																			
Toluene	5																					
1,1,1-Trichloroethane	5	21																				
1,1,2-Trichloroethane	5																					
Trichloroethene (TCE)	5	28																				
Vinyl Acetate	Not Regulated																					
Vinyl Chloride	2																					
Xylenes (Total)	5																					
TOTAL VOCs		**51.7**																				
Well Elevation (ft. MSL)		139.48																				
Depth of Water (ft.)		5.88																				
Groundwater Elevation (ft. MSL)		133.6																				

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 23
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - MW-5
Monarch Systems, Inc., New Windsor, New York

MW-5																					
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Apr-01																			
Acetone	No Standard - 50 (guidance value)																				
Benzene	0.7																				
Bromodichloromethane	Not Regulated																				
Bromoform	No Standard - 50 (guidance value)																				
Bromomethane	5																				
2-Butanone (MEK)	No Standard - 50 (guidance value)																				
Carbon Disulfide	Not Regulated																				
Carbon Tetrachloride	5																				
Chlorobenzene	5																				
Chloroethane	5																				
2-Chloroethyl Vinyl Ether																					
Chloroform	7																				
Chloromethane	5																				
Dibromochloromethane	No Standard - 50 (guidance value)																				
1,1-Dichloroethane	5																				
1,2-Dichloroethane	5																				
1,1-Dichloroethene	5																				
trans-1,2-Dichloroethene	No Standard																				
1,2-Dichloropropane	5																				
cis-1,3-Dichloropropene	5																				
trans-1,3-Dichloropropene	5																				
Ethylbenzene	5																				
2-Hexanone	No Standard - 50 (guidance value)																				
4-Methyl-2-Pentanone (M1BK)	Not Regulated																				
Methylene Chloride	5																				
Styrene	5																				
1,1,2,2-Tetrachloroethane	5																				
Tetrachloroethene	5																				
Toluene	5																				
1,1,1-Trichloroethane	5																				
1,1,2-Trichloroethane	5																				
Trichloroethene (TCE)	5																				
Vinyl Acetate	Not Regulated																				
Vinyl Chloride	2																				
Xylenes (Total)	5																				
TOTAL VOCs		0																			
Well Elevation (ft. MSL)		138.35																			
Depth of Water (ft.)		2.32																			
Groundwater Elevation (ft. MSL)		136.03																			

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

Table 24
Groundwater Volatile Organic Compound Data (ug/L)
Well Number - P1
Monarch Systems, Inc., New Windsor, New York

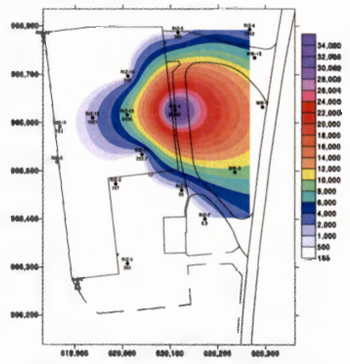
MW-P1																							
VOCs (ug/l)	Groundwater Quality Standard Concentration (ug/l) (From NYSDEC Class - GA Quality Standards)	Apr-01																					
Acetone	No Standard - 50 (guidance value)																						
Benzene	0.7																						
Bromodichloromethane	Not Regulated																						
Bromoform	No Standard - 50 (guidance value)																						
Bromomethane	5																						
2-Butanone (MEK)	No Standard - 50 (guidance value)																						
Carbon Disulfide	Not Regulated																						
Carbon Tetrachloride	5																						
Chlorobenzene	5																						
Chloroethane	5																						
2-Chloroethyl Vinyl Ether																							
Chloroform	7																						
Chloromethane	5																						
Dibromochloromethane	No Standard - 50 (guidance value)																						
1,1-Dichloroethane	5	8																					
1,2-Dichloroethane	5																						
1,1-Dichloroethene	5	2																					
trans-1,2-Dichloroethene	No Standard	30																					
1,2-Dichloropropane	5																						
cis-1,3-Dichloropropene	5																						
trans-1,3-Dichloropropene	5																						
Ethylbenzene	5																						
2-Hexanone	No Standard - 50 (guidance value)																						
4-Methyl-2-Pentanone (M1BK)	Not Regulated																						
Methylene Chloride	5																						
Styrene	5																						
1,1,2,2-Tetrachloroethane	5																						
Tetrachloroethene	5																						
Toluene	5																						
1,1,1-Trichloroethane	5	15																					
1,1,2-Trichloroethane	5																						
Trichloroethene (TCE)	5	21																					
Vinyl Acetate	Not Regulated																						
Vinyl Chloride	2																						
Xylenes (Total)	5																						
TOTAL VOCs		**76**																					
Well Elevation (ft. MSL)		141.05																					
Depth of Water (ft.)		8.82																					
Groundwater Elevation (ft. MSL)		132.23																					

Note:
"B" = Found in method blank
"J" = Estimated result, less than the quantitation limit
"D" = Dilution performed
"NS" = Not Sampled

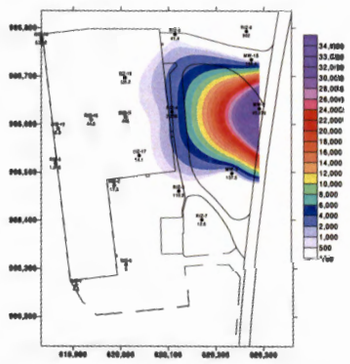
APPENDIX B

TIME SERIES PLOTS OF TOTAL VOLATILE ORGANIC COMPOUND CONCENTRATIONS (UG/L) IN SHALLOW (WATER TABLE) MONITORING WELLS

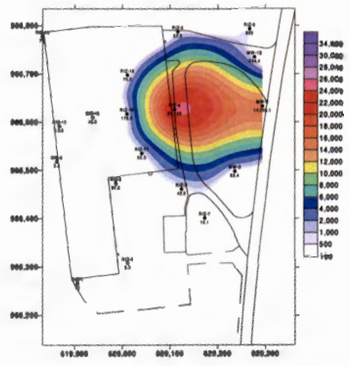
April 1993



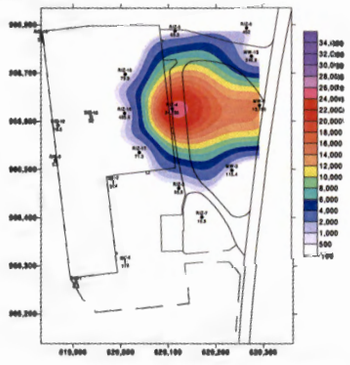
August 1995



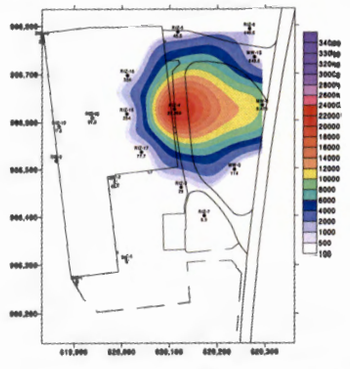
June 1996



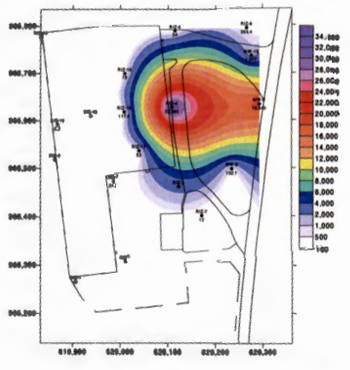
September 1996



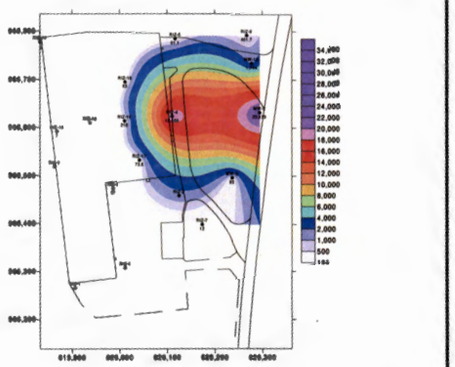
January 1997



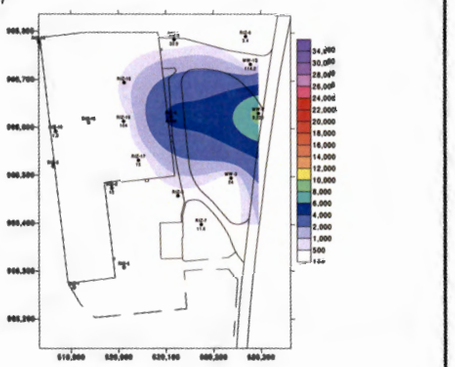
March 1997



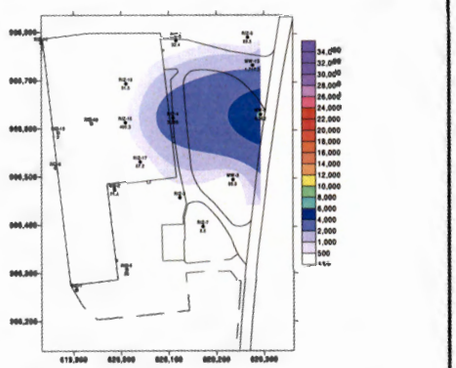
June 1997



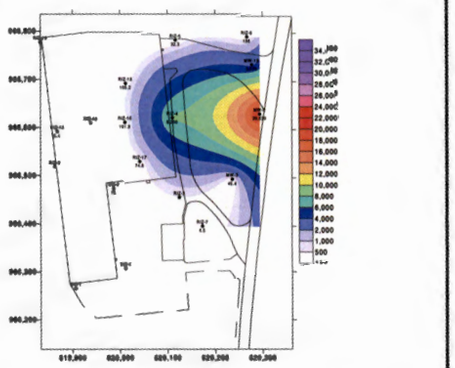
December 1997



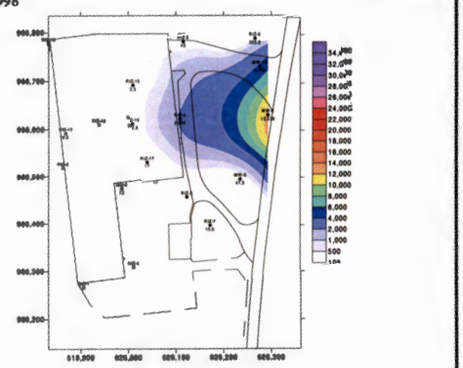
March 1998



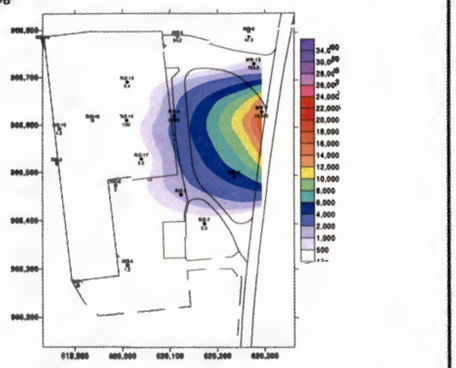
June 1998



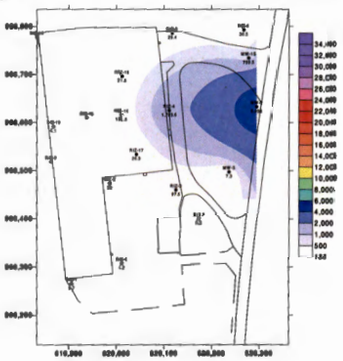
September 1998



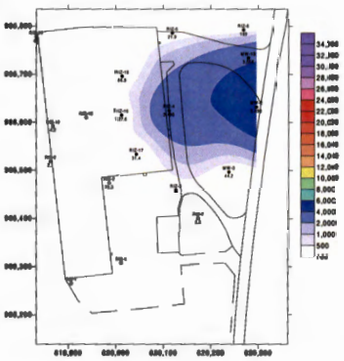
December 1998



September 1999



June 2000



April 2001