DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name: **Remington Arms**
Facility Address: **14 Hoefler Street; Ilion, NY 13357**
Facility EPA ID #: **NYD 002240638**

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   _X_ If yes - check here and continue with #2 below.

   _____ If no - re-evaluate existing data, or

   _____ if data are not available, skip to #8 and enter"IN" (more information needed) status code.

BACKGROUND

Remington Arms operates a manufacturing facility in Ilion, NY that employs approximately 800-900 people. The primary operations are metal-working and metal finishing. In 2000, Remington closed its permitted storage facility and began using a less than 90-day hazardous waste storage area. In 2003, based on the change in facility operations, and on completion of corrective action groundwater monitoring requirements, the Part 373 hazardous waste management permit was terminated.

In the past, Remington Arms performed groundwater monitoring to address two separate concerns- volatile organic contamination, as a follow-up to the RFA-SV investigation and petroleum contamination resulting from former gas stations which were purchased by Remington in the early 1980s. The programs are summarized below. Groundwater monitoring results were compared to the NYS Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (NYS Technical and Operational Guidance Series (TOGS) 1.1.1).

In 1995, Remington Arms completed the RCRA investigation of releases of hazardous waste constituents at its Ilion Facility. [RCRA Facility Assessment Sampling Visit Report, Remington Arms Facility , Ilion NY (RFA) report (1995)]. Although low levels of volatile organic compounds were observed in groundwater, Remington concluded that plant operations had not significantly impacted groundwater quality. The Department concurred with that conclusion, but required Remington to conduct groundwater monitoring to determine whether the magnitude of the contaminants was increasing. This monitoring program continued through 2002.

Remington Arms owns two former gas stations near the facility where hydrocarbon contamination was identified in the early 1990s. [Site Hydrogeological Characterization for Remington Arms (1991), Preliminary Hydrocarbon Contamination Characterization; Closed Chevron/BP Service Stations - Ilion, NY - January 1992]. Additional investigations and groundwater monitoring for a petroleum spill (NYS spill identification number 95-06245) were overseen by the Division of Environmental Remediation Spills Program. Monitoring for volatile organic and base neutral constituents from the NYS Spill Technology and Remediation Series (STARS) List began in 1997 and ended in 2005.

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

__X__ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

_____ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale & References:

Remington Arms monitored five groundwater wells for volatile organic contamination from 1995-2002. At the conclusion of the VOC groundwater monitoring program, one well (MW-11) remained slightly elevated for trichloroethylene (8 ppb vs 5 ppb standard). [References: Annual Groundwater Monitoring Report - Remington Arms Company Inc. URS Corp to NYSDEC (J. Homburger R6 Utica) dated July 18, 2002; Letter NYSDEC to Remington Arms (Firman) dated June 10, 2003.]

Remington conducted groundwater monitoring for a petroleum spill (NYS Spill identification number 95-06245) from 1997 to 2005. At the time of termination, one well (MW-12) contained 1,2,4 trimethylbenzene at 6.5 ppb compared to a standard of 5 ppb, and one other well (MW-6) contained acenapthene at 27 ppb, compared to a guidance value of 20 ppb. [DuPont Letter dated 1/29/06 to NYSDEC (P. Waite DER-R6). Subject: Spill No 95-06245 Annual Monitoring Report]

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

__X__ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

_____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale & References:

Remington Arms monitored five groundwater wells (MW-4, MW-5, MW-6, MW-7 and MW-11) for volatile organic contamination from 1995-2002. The downgradient perimeter wells (MW-4, MW-5, MW-6) had no exceedances during the monitoring period. MW-7 exhibited elevated parameters initially, then concentrations declined to less than groundwater standards. At MW-11, the trichloroethylene (TCE) concentration declined slightly over the course of the monitoring program, and remained slightly elevated for TCE (8 ppb vs 5 ppb standard) at the end of the program. Based on the consistency of all the monitoring data, and lack of down-gradient receptors, NYSDEC and NYSDOH concurred with termination of the monitoring program in 2003. [References: Annual Groundwater Monitoring Report - Remington Arms Company Inc. URS Corp to NYSDEC (J. Homburger R6 Utica) dated July 18, 2002; NYSDEC Ltr to Remington Arms (Firman) dated June 10, 2003.]

Extended monitoring of the petroleum contamination using MW-6, MW-10 and MW-12 showed significant decreases between initial and final concentrations of monitored contaminants. The last three years of monitoring showed VOC and base neutral concentrations were stable and near or below guidance values. Results from MW-10 and MW-12 showed that the plume area was shrinking and natural attenuation was continuing at the site. Based on these results, NYSDEC accepted Remington's recommendation to discontinue the monitoring program. [NYSDEC Letter (Waite-R6) to Remington Arms (Firman) dated 2/1/06]

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[2]"existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

___ If yes - continue after identifying potentially affected surface water bodies.

_X_ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

____ If unknown - skip to #8 and enter "IN" status code.

Rationale & References:

Based on the distance to the nearest surface water body (approximately 2000 feet), no discharge of contaminated groundwater is occurring.

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

___ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

____ If unknown - enter "IN" status code in #8.

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[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR
2) providing or referencing an interim-assessment,[5] appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

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[4]Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5]The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

__X__ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

____ If no - enter "NO" status code in #8.

____ If unknown - enter "IN" status code in #8.

Rationale:

As summarized below, extended groundwater monitoring has been completed for the groundwater contamination associated with this facility.

Remington monitored five wells from 1995-2002 to address VOC contamination in groundwater. During that time, the TCE levels in MW-11 slowly declined to 8 ppb. The standard for TCE is 5 ppb, and NYSDEC expects the 8 ppb to continue to naturally attenuate to 5 ppb. Continued monitoring was evaluated for this site, but due to lack of downgradient receptors, is not considered to be necessary based on best professional judgment.

Groundwater monitoring was conducted from 1997 to 2005 to address a petroleum release. During this period, contaminant concentrations decreased significantly. As noted in item 3, at the conclusion of the monitoring program, two wells each had one compound slightly above the groundwater standards. Due to the lack of downgradient receptors, and the low levels of contamination, NYSDEC concurred that no further monitoring was necessary.

8. Check the appropriate RCRAInfo status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

__X__ YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the **Remington Arms** facility , EPA ID # **NYD 0002240638**, located at **14 Hoefler Street, Ilion, New York.** Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring was conducted to confirm that contaminated groundwater remained within the "existing area of contaminated groundwater." This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

_____ NO - Unacceptable migration of contaminated groundwater is observed or expected.

_____ IN - More information is needed to make a determination.

Rationale: See Response to Item 7

Completed by: _____ Date: 7/27/09
Ruth Curley
Environmental Engineer
Hazardous Waste Engineering Eastern Section

Supervisor: _____ Date: 7/28/09
Daniel Evans
Section Chief
Hazardous Waste Engineering Eastern Section

Director: _____ Date: 7/29/09
Robert Phaneuf, P.E. - Acting Director
Bureau of Hazardous Waste and Radiation Management
Division of Solid and Hazardous Materials

Locations where References may be found:

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7258

Contact, telephone number and e-mail:

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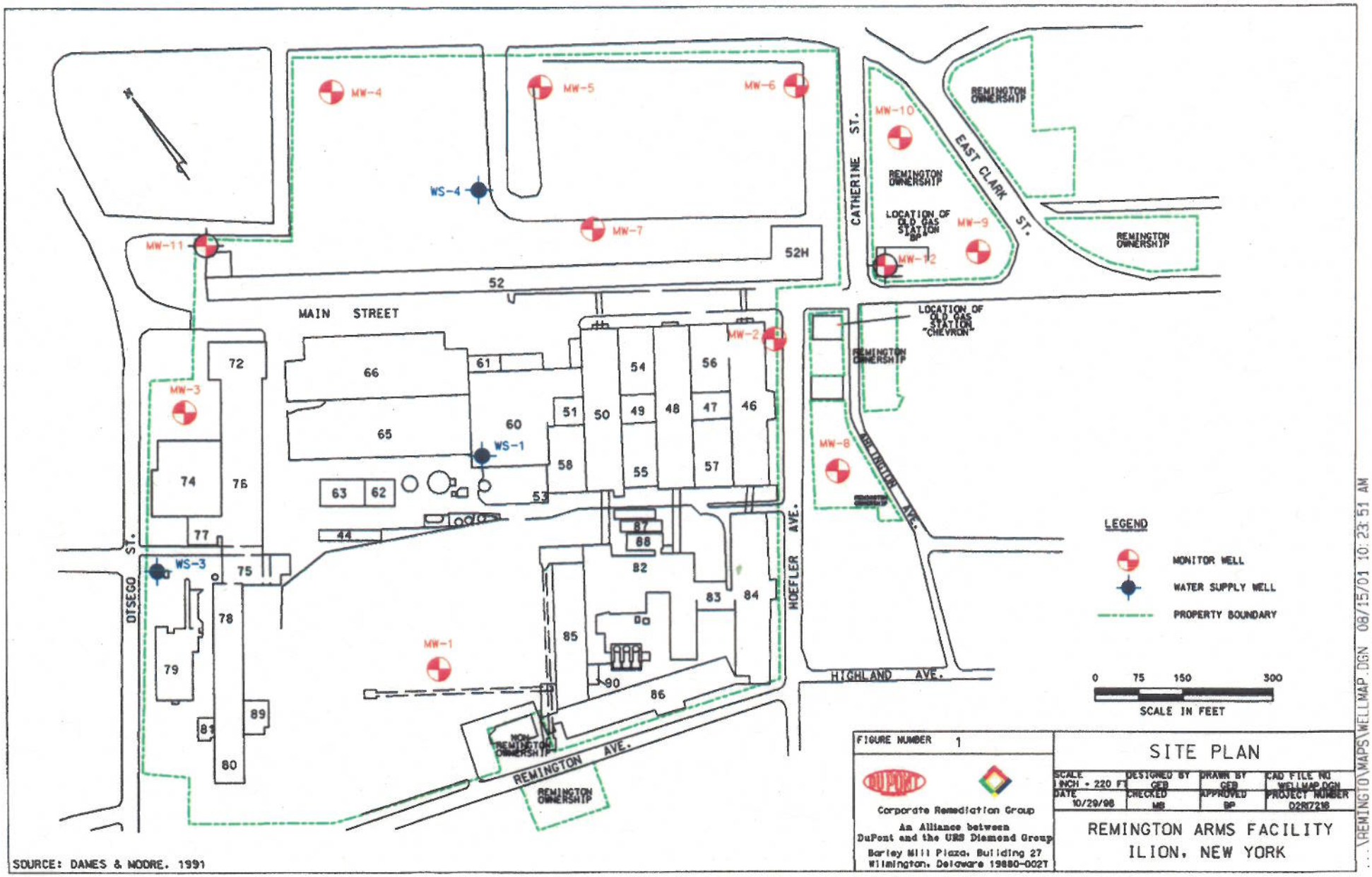
FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.


MW-4
MW-5
MW-6
WS-4
MW-7
MW-11
52H
52
MAIN STREET
MW-10
REMINGTON OWNERSHIP
EAST CLARK ST.
CATHERINE ST.
LOCATION OF OLD GAS STATION BP
MW-9
MW-12
LOCATION OF OLD GAS STATION "CHEVRON"
MW-2
MW-3
MW-8
WS-1
WS-3
MW-1
DISEGO ST.
HOEFLER AVE.
HIGHLAND AVE.
REMINGTON AVE.
LEGEND
MONITOR WELL
WATER SUPPLY WELL
PROPERTY BOUNDARY
0 75 150 300
SCALE IN FEET
FIGURE NUMBER 1
SITE PLAN
Corporate Remediation Group
An Alliance between DuPont and the URS Diamond Group
Barley Mill Plaza, Building 27
Wilmington, Delaware 19880-0027
REMINGTON ARMS FACILITY
ILION, NEW YORK
SOURCE: DAMES & MOORE, 1991
...\REMINGTO\MAPS\WELLMAP.DGN 08/15/01 10:23:51 AM

Parameter	New York State Standards	TABLE								
	ug/L	11/27/95	5/21/96	11/19/96	5/21/97	5/14/98	5/24/99	5/25/00	5/10/2001	5/20/2002
						MW-4				
Methylene chloride	5	ND (5)	ND (5)	ND (5)	ND (5)	1(J)	0.5JB	ND (2)	ND (2)	ND (2)
cis-1,2-dichloroethene	5	ND(5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (2)	ND (1)	ND (0.8)
Chloroform	7	ND(5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (1)	ND (1)	ND (0.8)
Trichloroethene	5	ND(5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	2	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND (2)	ND (1)	ND (1)
Total VOC's	100	ND	ND	ND	ND	1	0.5	ND	ND	ND
						MW-5				
Methylene chloride	5	ND (5)	ND (5)	ND (5)	ND (5)	1(J)	0.6JB	ND (2)	ND (2)	ND (2)
cis-1,2-dichloroethene	5	ND(5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (2)	ND (1)	ND (0.8)
Chloroform	7	ND(5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (1)	ND (1)	ND (0.8)
Trichloroethene	5	ND(5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	2	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND (2)	ND (1)	ND (1)
Total VOC's	100	ND	ND	ND	ND	1	0.6	ND	ND	ND
						MW-6				
Methylene chloride	5	ND (5)	**18 J, N**	2J	ND (5)	ND (5)	0.3J	ND (2)	ND (2)	ND (2)
cis-1,2-dichloroethene	5	ND(5)	ND (50)	ND(5)	ND(5)	ND(5)	ND(5)	ND (2)	ND (1)	ND (0.8)
Chloroform	7	ND(5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (1)	ND (1)	ND (0.8)
Trichloroethene	5	ND(5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	2	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND (2)	ND (1)	ND (1)
Total VOC's	100	ND	18	2	ND	ND	0.3	ND	ND	ND
						MW-7				
Methylene chloride	5	ND (5)	ND (5)	2J	ND (5)	0.8(J)	ND (5)	ND (2)	ND (2)	ND (2)
cis-1,2-dichloroethene	5	ND(5)	**14**	**16**	**10**	**6**	**9**	ND (2)	1 J	2 J
Chloroform	7	ND(5)	ND (5)	ND (5)	ND (5)	ND(5)	ND(5)	ND (1)	ND (1)	ND (0.8)
Trichloroethene	5	ND(5)	**25**	**29**	**21**	**6**	**19**	5 J	3 J	3 J
Vinyl Chloride	2	ND(10)	ND(10)	1J	ND(10)	ND(10)	0.9J	ND (2)	ND (1)	ND (1)
Total VOC's	100	ND	39	48	31	12.8	28.9	5	4	5
						MW-11				
Methylene chloride	5	ND (5)	2J, N	ND (5)	1(J)	2(J)	0.5 (JB)	ND (2)	ND (2)	ND (2)
cis-1,2-dichloroethene	5	**6**	4J	**6**	3(J)	3(J)	3(J)	4 J	2J	3J
Chloroform	7	2 J	ND (5)	ND (5)	ND (5)	ND(5)	0.6J	ND (1)	ND (1)	ND (0.8)
Trichloroethene	5	**9**	**7**	**10**	**7**	5	**6**	**9**	**7**	**8**
Vinyl Chloride	2	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND (2)	ND (1)	ND (1)
Total VOC's	100	17	13	16	10	10	10.1	13	9	11

NOTES: ND(5) = compound not detected at 5 (ug/L) J = estimated concentration (ug/L)
B = analyte found in blanks N = tentative identification

TABLES

Table 1
Spill #9506245
Groundwater Monitoring Results
Stars List Volatile Organic Constituents
MW-6 (ug/l) [1]

	MW-6																New York State Stars List TCLP Extraction Guidance Value	Federal
Parameter	4/3/1997	7/8/1997	9/16/1998	12/15/1998	3/10/1999	6/9/1999	9/21/1999	5/25/2000	11/14/2000	5/10/2001	11/14/2001	5/20/2002	11/14/2002	11/24/2003	11/27/2004	11/28/2005	(ug/l)	MCLs
Benzene	BQL	U	BQL	U	U	U	0.55	0.9J	0.6J	0.6J	0.7J	0.4J	0.5J	ND	ND	0.4 J	0.7 [2]	5
Toluene	BQL	U	BQL	U	U	U	ND	ND	0.2J	0.2J	0.3J	ND	ND	ND	ND	0.3 J	5 [2]	1,000
Ethylbenzene	BQL	U	BQL	U	U	U	ND	2.0	ND	0.4J	0.5J	ND	0.3J	ND	ND	0.3 J	5 [2]	700
Xylenes (Total)	BQL	U	BQL	U	2.1	U	0.72	4.9	0.9J	1.5J	1.7J	0.4J	0.9J	ND	0.2 J	1.2 J	5 [2]	10,000
Isopropylbenzene	BQL	2.0	BQL	U	3.8	U	ND	5.4	2.3	3.0	3.0	2.0	1.2	ND	1.1	3.2	5 [2]	---
n-Propylbenzene	BQL	11	BQL	U	14	U	1.3	7.2	2.6	3.3	4.0	2.0	1.7	0.2J	0.9 J	3.3	5 [2]	---
1,3,5-Trimethylbenzene	BQL	37	BQL	U	1.4	84	ND	5.6	0.4J	1.7	2.0	ND	1.0	ND	ND	0.3 J	5 [2]	---
t-Butylbenzene	BQL	U	BQL	U	U	U	ND	8.5	0.7J	3.2	3.3	0.4J	1.5	0.2J	0.4 J	0.9 J	5 [2]	---
1,2,4-Trimethylbenzene	BQL	16	BQL	U	9	38	ND	10	1.1	3.4	4.2	0.7J	1.1	0.3J	0.2 J	0.6 J	5 [2]	---
s-Butylbenzene	BQL	17	BQL	U	25	11	2.4	12	1.6	5.0	5.7	1.1	2.6	0.4J	0.9 J	1.9	5 [2]	---
p-Isopropyltoluene	BQL	U	BQL	U	3.8	U	ND	9.3	0.6J	3.9	4.6	0.3J	2.4	0.4J	0.5 J	0.8 J	5 [2]	---
n-Butylbenzene	BQL	37	BQL	62	U	200	7.7	15	2.7	7.3	8.6	2.3J	3.7	0.8J	1.4	2.9	5 [2]	---
Napthalene	BQL	20	BQL	U	U	U	20	44	ND	7.0	3.9	ND	12	6.3	6.7	ND	10 [2]	---
1,2-Dibromoethane	BQL	U	BQL	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	0.05
Total Volatile Organic Constituents	BQL	140	BQL	62	59	333	33	125	13.7	40.5	42.5	9.6	28.9	8.6	12.3	16.1	100 [3]	---

[1] Volatile organics were analyzed by Method 8021A

[2] New York State Ambient Water Quality Standard

[3] Total for all Organic Constituents

J = Indicates analyte result between instrument detection limit and method detection limit.

E = Approximate Result. Quantitation above calibration

BQL = Below quantitation limit

U = Not Detected

--- = Limit not established.

Bold = above Stars List Criteria

D = Compound identified in an analysis at a secondary dilution factor

NA = Not Analyzed

ND = Not Detected (Less than Method Detection Limit)

Table 1
Spill #9506245
Groundwater Monitoring Results
Stars List Volatile Organic Constituents
MW-10 (ug/l) [1]

	MW-10																New York State Stars List TCLP Extraction Guidance Value	Federal
Parameter	4/3/1997	7/8/1997	9/16/1998	12/15/1998	3/10/1999	6/9/1999	9/16/1999	5/25/2000	11/14/2000	5/10/2001	11/14/2001	5/20/2002	11/14/2002	11/24/2003	11/27/2004	11/28/2005	(ug/l)	MCLs
Benzene	BQL	5	83	2.2	1.1	U	1.7	5	0.9J	1.8	1.0J	0.7J	0.4J	0.3J	ND	ND	0.7 [2]	5
Toluene	BQL	6	93	2.3	1.1	U	ND	0.6J	0.4	ND	ND	ND	ND	ND	0.5	ND	5 [2]	1,000
Ethylbenzene	30	32	130	1.9	4.6	U	3.6	5.6	1.4	1.4	0.8J	0.5J	1.1	ND	ND	1.1	5 [2]	700
Xylenes (Total)	45	9	220	4.2	2.6	U	8.9	5.8	2.5J	2.8J	1.2J	1.0J	1.4	ND	ND	2.1	5 [2]	10,000
Isopropylbenzene	36	15	130	10	5.7	U	3.0	9.1	2.7	5.0	1.8	1.9	1.1	0.4J	ND	1.1	5 [2]	---
n-Propylbenzene	56	40	200	24	22	14 D	10	25	2.7	12	4.3	5.4	2.4	0.6J	ND	0.8 J	5 [2]	---
1,3,5-Trimethylbenzene	31	10	140	13	5.3	8.6 J D	6.8	3.5	1.1	0.9J	0.4J	0.3J	0.2J	ND	ND	0.4 J	5 [2]	---
t-Butylbenzene	BQL	12	BQL	U	U	U	ND	4.9	1.1	1J	0.7J	0.4J	0.3J	ND	ND	1.2	5 [2]	---
1,2,4-Trimethylbenzene	230	140E	660	65	82	65 D	120	83	6.2	34	13	10	10	0.6J	ND	0.7 J	5 [2]	---
s-Butylbenzene	40	U	150	5.2	14	U	4.8	13	2.4	7.1	3.9	3.1	1.8	1.1	0.5 J	0.8 J	5 [2]	---
p-Isopropyltoluene	28	4	110	U	2.5	U	2.1	5.7	0.9	1.9	1.3	0.7	0.2J	ND	ND	ND	5 [2]	---
n-Butylbenzene	58	73	290	39	20	40 D	25	31	3.0	19	9.7	8.9	2.1	1.9	0.6 J	0.8 J	5 [2]	---
Napthalene	38	U	120	U	3.4	U	23	8.8	ND	ND	ND	ND	1.0	1.9	ND	0.4 J	10 [2]	---
1,2-Dibromoethane	BQL	U	BQL	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	0.05
Total Volatile Organic Constituents	592	346	2,236	155	164	128	209	201	25.3	86.9	38.1	32.9	22.0	6.8	1.6	9.4	100 [3]	---

[1] Volatile organics were analyzed by Method 8021A
[2] New York State Ambient Water Quality Standard
[3] Total for all Organic Constituents
J = Indicates analyte result between instrument detection limit and method detection limit.
E = Approximate Result. Quantitation above calibration
BQL = Below quantitation limt
U = Not Detected
--- = Limit not established.
Bold = above Stars List Criteria
D = Compound identified in an analysis at a secondary dilution factor
NA = Not Analyzed
ND = Not Detected (Less than Method Detection Limit)

Table 1
Spill #9506245
Groundwater Monitoring Results
Stars List Volatile Organic Constituents
MW-12 (ug/l) [1]

Parameter	MW-12																Trip Blank	New York State Stars List TCLP Extraction Guidance Value (ug/l)	Federal MCLs
	4/3/1997	7/8/1997	9/16/1998	12/15/1998	3/10/1999	6/9/1999	9/16/1999	5/25/2000	11/14/2000	5/10/2001	11/14/2001	5/20/2002	11/14/2002	11/24/2003	11/27/2004	11/28/2005	11/28/2005		
Benzene	BQL	U	18	7.1	U	U	ND	0.2J	ND	ND	ND	ND	ND	0.2J	ND	ND	ND	0.7 [2]	5
Toluene	BQL	U	20	6.8	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5 [2]	1,000
Ethylbenzene	1,400	870	81	430 D	160	U	100	2.3	50	27	110	6.5	16	5.9	9.7	0.4 J	ND	5 [2]	700
Xylenes (Total)	2,400	2,200	970	1,239	580	640 D	860	7	110	56	135	8.0	17	5.2	9.0	0.4 J	ND	5 [2]	10,000
Isopropylbenzene	840	260	66	180 E	68	U	ND	2.3	37	23	71	5.2	8.1	3.3	4.1	0.4 J	ND	5 [2]	---
n-Propylbenzene	1,400	940	58	510 D	130	U	ND	8.6	140	82	300	20	33	10	11	1.0 J	0.2 J	5 [2]	---
1,3,5-Trimethylbenzene	2,500	2,100	1,800	1,300 D	1,300	1300 D	ND	21	190	29	4.6	0.4J	ND	0.8J	0.3 J	ND	ND	5 [2]	---
t-Butylbenzene	BQL	U	BQL	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5 [2]	---
1,2,4-Trimethylbenzene	6,100	7,200E	4,400	4,100 D	4,100	3200 D	3,300	75	1,200	700	2,000	140	200	64	91	6.5	ND	5 [2]	---
s-Butylbenzene	BQL	160	68	29	91	U	ND	2	ND	ND	43	4.0	5.5	2.5	2.4	0.4 J	ND	5 [2]	---
p-Isopropyltoluene	BQL	U	72	15	34	U	ND	0.8J	9.9J	7.5J	22	1.6J	2.2J	0.5J	0.5 J	ND	ND	5 [2]	---
n-Butylbenzene	BQL	1,300	1,000	460 D	1,100	650 D	440	13	93	52	120	9.4	13.0	4.0	2.8	0.5 J	ND	5 [2]	---
Napthalene	1,300	1,500	680E	780 D	1000	320 D	390	7.6	130	56	140	5.4	6.1	1.5	3.0	ND	ND	10 [2]	---
1,2-Dibromoethane	BQL	U	BQL	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	0.05
Total Volatile Organic Constituents	15,940	16,530	9,239	9,057	8,563	6,110	4,990	140	1,960	1,033	2,946	200	301	98	134	9.6	ND	100 [3]	---

[1] Volatile organics were analyzed by Method 8021A

[2] New York State Ambient Water Quality Standard

[3] Total for all Organic Constituents

J = Indicates analyte result between instrument detection limit and method detection limit.

E = Approximate Result. Quantitation above calibration

BQL = Below quantitation limt

U = Not Detected

--- = Limit not established.

Bold = above Stars List Criteria

D = indentified in analysis at a secondary dilution factor

NA = Not Analyzed

ND = Not Detected (Less than Method Detection Limit)

Table 2
Spill #9506245
Groundwater Monitoring Results
Stars List Base Neutral Constituents
MW-6 (ug/l) [1]

Analyte	MW-6																New York State Stars List TCLP Extraction Guideance Value (ug/l)	Federal MCLs
	4/3/1997	7/8/1997	9/16/1998	12/15/1998	3/10/1999	6/9/1999	9/21/1999	5/25/2000	11/14/2000	5/10/2001	11/14/2001	5/20/2002	11/14/2002	11/24/2003	11/27/2004	11/28/2005		
Naphthalene	U	U	U	U	U	U	U	ND	ND	4J	10	ND	ND	ND	ND	ND	10 [2]	---
Acenapthylene	U	U	U	U	U	U	U	ND	ND	6J	8J	ND	ND	ND	7.0 J	ND	---	---
Acenaphthene	U	16	9J	U	48J	8J	10	49	26	20	17	26J	430	ND	19	27 J	20 [2]	---
Fluorene	U	11	11	23	64J	8J	15	56	37	30	26	59J	610	ND	15	29 J	50 [2]	---
Phenatnthrene	U	11	9J	10J	65J	7J	19	92	45	49	37	65J	630	ND	19	37 J	50 [2]	---
Anthracene	U	U	1J	2J	27J	2J	8J	31	9J	14	8J	21J	140J	ND	8.0 J	ND	50 [2]	---
Fluoranthene	2J	3J	2J	U	9J	U	2J	7J	4J	ND	4J	ND	97J	ND	3.0 J	ND	50 [2]	---
Pyrene	4J	4J	5J	10J	32J	3J	4J	19	14	11	11	21J	250	7J	12	12 J	50 [2]	---
Benzo(a)anthracene	0.8J	2J	0.8J	2J	6J	0.7J	1J	4J	2J	3J	2J	ND	56J	ND	2.0 J	ND	0.002 [2]	---
Chrysene	2J	U	2J	4J	11J	1J	2J	9J	3J	3J	4J	ND	76J	ND	4.0 J	ND	0.002 [2]	---
Benzo(b)fluoranthene	U	0.6J	0.4J	0.6J	2J	U	0.5J	1J	ND	1J	ND	ND	ND	ND	1.0 J	ND	0.002 [2]	---
Benzo(k)fluoranthene	U	0.4J	U	U	1J	U	0.3J	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Benzo(a)pyrene	U	0.7J	0.4J	0.8J	3J	U	0.6J	2J	1J	1J	1J	ND	28J	ND	2.0 J	ND	0.002	0.2
Indeno(1,2,3-cd)pyrene	U	6J	U	U	U	U	0.4J	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	50	---
Benzo(g,h,i)perylene	U	7J	U	U	3J	U	0.6J	1J	ND	1J	ND	ND	ND	ND	1.0 J	ND	0.002	---
Total Base-Neutrals	9	62	41	52.4	271	29.7	63.4	271	141	143	118	192	2317	7	93	105	100 [3]	---

[1] Base Neutrals were analyzed by Method 8270

[2] New York State Ambient Water Quality Standard

[3] Total for all Organic Constituents

U = Not Detected

B = Indicates analyte found in method blank

J = Estimated value, less than the minimum detection limit, but is greater than zero

ND = Not Detected (Less than Method Detection Limit)

Table 2
Spill #9506245
Groundwater Monitoring Results
Stars List Base Neutral Constituents
MW-10 (ug/l) [1]

Analyte	MW-10																New York State Stars List TCLP Extraction Guideance Value (ug/l)	Federal MCLs
	4/3/1997	7/8/1997	9/16/1998	12/15/1998	3/10/1999	6/9/1999	9/16/1999	5/25/2000	11/14/2000	5/10/2001	11/14/2001	5/20/2002	11/14/2002	11/24/2003	11/27/2004	11/28/2005		
Naphthalene	U	7J	23B	U	U	U	U	ND	ND	2J	2J	ND	ND	ND	ND	ND	10 [2]	---
Acenapthylene	U	U	U	U	U	U	U	ND	ND	2J	ND	ND	ND	ND	ND	ND	---	---
Acenaphthene	U	4J	6J	U	6J	2J	U	9J	ND	3J	1J	ND	ND	ND	ND	ND	20 [2]	---
Fluorene	U	U	5J	5J	20	3J	5J	13	ND	5J	2J	2J	ND	ND	ND	ND	50 [2]	---
Phenatnthrene	8J	7J	12	4J	16	3J	4J	14	ND	4J	2J	ND	ND	1J	ND	ND	50 [2]	---
Anthracene	U	5J	2J	2J	6J	1J	2J	8J	ND	3J	1J	ND	ND	ND	ND	ND	50 [2]	---
Fluoranthene	U	3J	U	0.4J	2J	U	U	2J	ND	ND	ND	ND	ND	ND	ND	ND	50 [2]	---
Pyrene	U	4J	6J	2J	6J	3J	3J	9J	1J	4J	3J	ND	ND	2J	ND	ND	50 [2]	---
Benzo(a)anthracene	0.8J	2J	1J	0.5J	2J	0.6J	U	2J	ND	1J	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Chrysene	1J	U	2J	0.9J	3J	1J	U	4J	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Benzo(b)fluoranthene	U	0.3J	0.3J	0.1J	0.2J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Benzo(k)fluoranthene	U	0.2J	U	U	0.1J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Benzo(a)pyrene	U	0.6J	0.5J	0.2J	0.5J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0.2
Indeno(1,2,3-cd)pyrene	U	5	U	U	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	50	---
Benzo(g,h,i)perylene	U	7	U	U	0.3J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	---
Total Base-Neutrals	10	45	58	15.1	62.1	13.6	14	61	1	24	11	2	ND	3	ND	ND	100 [3]	---

[1] Base Neutrals were analyzed by Method 8270
[2] New York State Ambient Water Quality Standard
[3] Total for all Organic Constituents
U = Not Detected
B = Indicates analyte found in method blank
J = Estimated value, less than the minimum detection limit, but is greater than zero
ND = Not Detected (Less than Method Detection Limit)

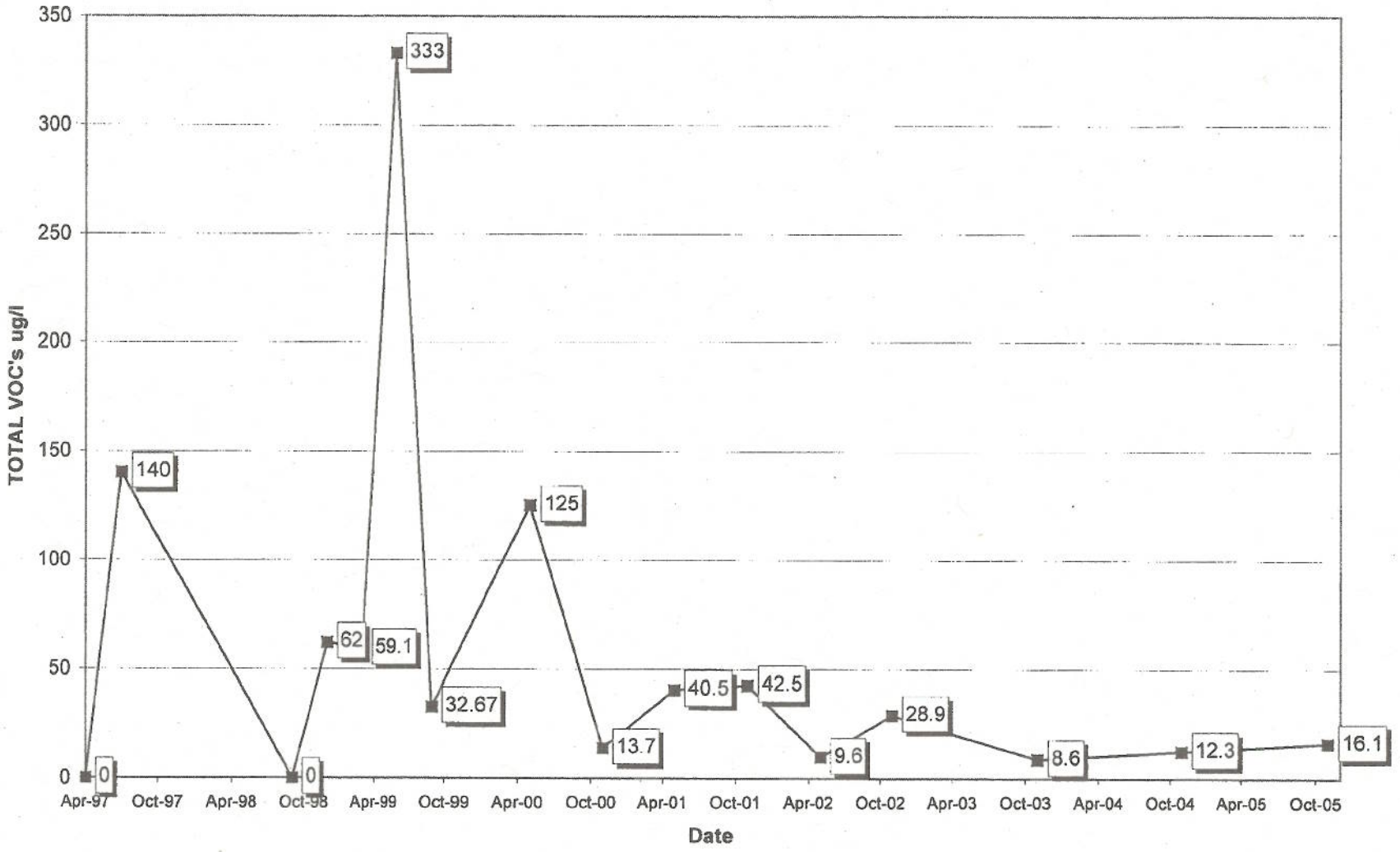
Table 2
Spill #9506245
Groundwater Monitoring Results
Stars List Base Neutral Constituents
MW-12 (ug/l) [1]

Analyte	MW-12																New York State Stars List TCLP Extraction Guideance Value (ug/l)	Federal MCLs
	4/3/1997	7/8/1997	9/16/1998	12/15/1998	3/10/1999	6/9/1999	9/16/1999	5/25/2000	11/14/2000	5/10/2001	11/14/2001	5/20/2002	11/14/2002	11/24/2003	11/27/2004	11/28/2005		
Naphthalene	550	370	510B	670	280	390	300	13	140	32	100	11	11	ND	3.0 J	ND	10 [2]	---
Acenapthylene	U	U	U	U	0.4J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---
Acenaphthene	U	U	U	U	1J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	20 [2]	---
Fluorene	U	U	U	U	1J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	50 [2]	---
Phenatnthrene	U	U	U	0.6J	3J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	50 [2]	---
Anthracene	U	U	U	U	0.9J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	50 [2]	---
Fluoranthene	U	U	U	U	0.9J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	50 [2]	---
Pyrene	U	U	U	U	2J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	50 [2]	---
Benzo(a)anthracene	U	U	U	U	0.8J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Chrysene	U	U	U	U	0.6J	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Benzo(b)fluoranthene	U	U	U	U	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Benzo(k)fluoranthene	U	U	U	U	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Benzo(a)pyrene	U	U	U	U	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0.2
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 [2]	---
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	ND	ND	ND	ND	ND	ND	ND	ND	ND	50	---
Total Base-Neutrals	550	370	510	671	291	390	300	13	140	32	100	11	11	ND	3	ND	0.002	---
																	100 [3]	---

[1] Base Neutrals were analyzed by Method 8270
[2] New York State Ambient Water Quality Standard
[3] Total for all Organic Constituents
U = Not Detected
B = Indicates analyte found in method blank
J = Estimated value, less than the minimum detection limit, but is greater than zero
ND = Not Detected (Less than Method Detection Limit)

GROUNDWATER
TOTAL VOLATILE ORGANIC CONSTITUENTS
CONCENTRATION TREND CHARTS

MW-6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300
250
200
150
100
50
0
TOTAL VOC's ug/l
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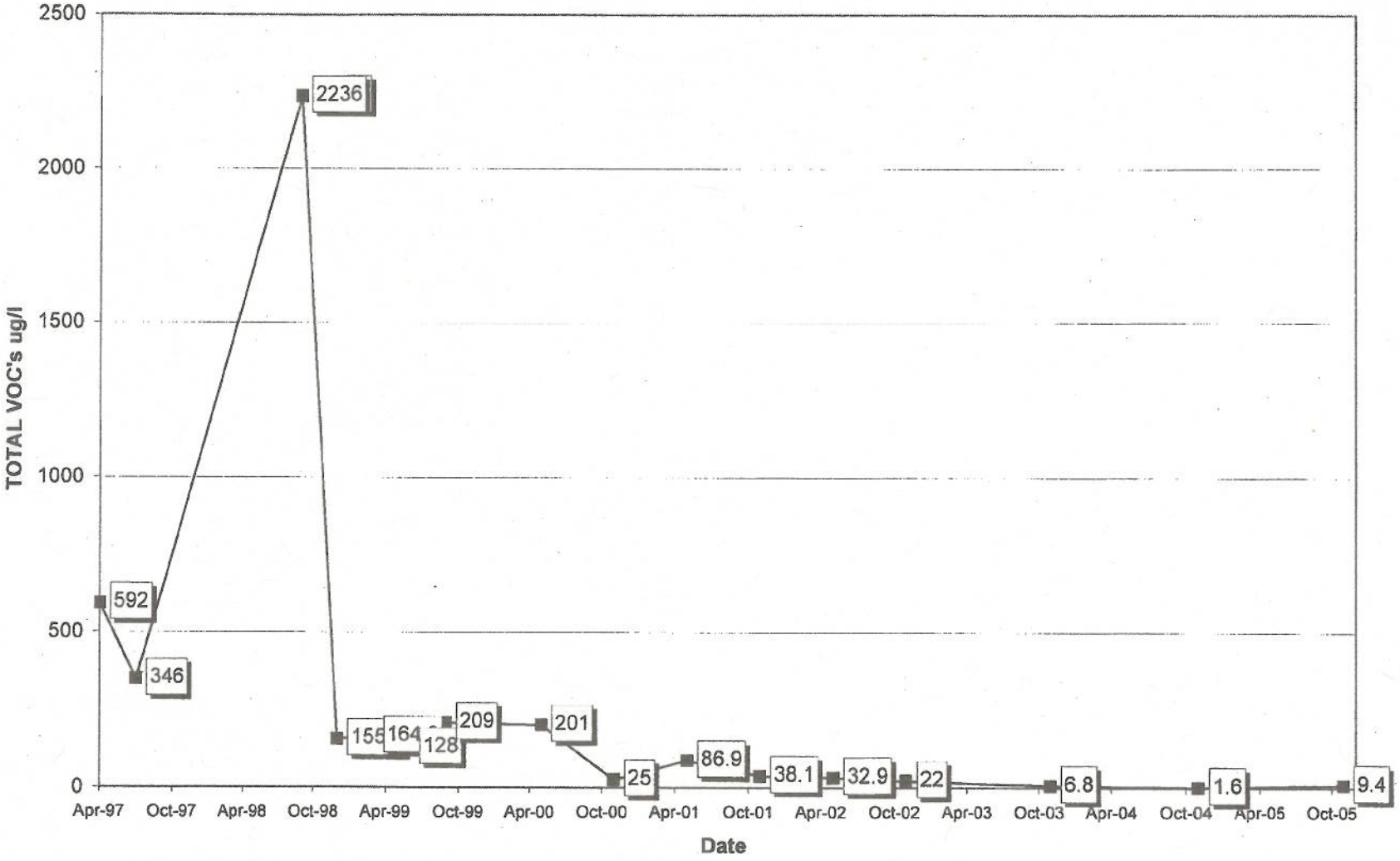
140
0
62
333
59.1
32.67
125
13.7
40.5
42.5
9.6
28.9
8.6
12.3
16.1
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Date

MW-10


2500
2000
1500
1000
500
0
TOTAL VOC's ug/l
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346
2236
155
164
128
209
201
25
86.9
38.1
32.9
22
6.8
1.6
9.4
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
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Oct-02
Apr-03
Oct-03
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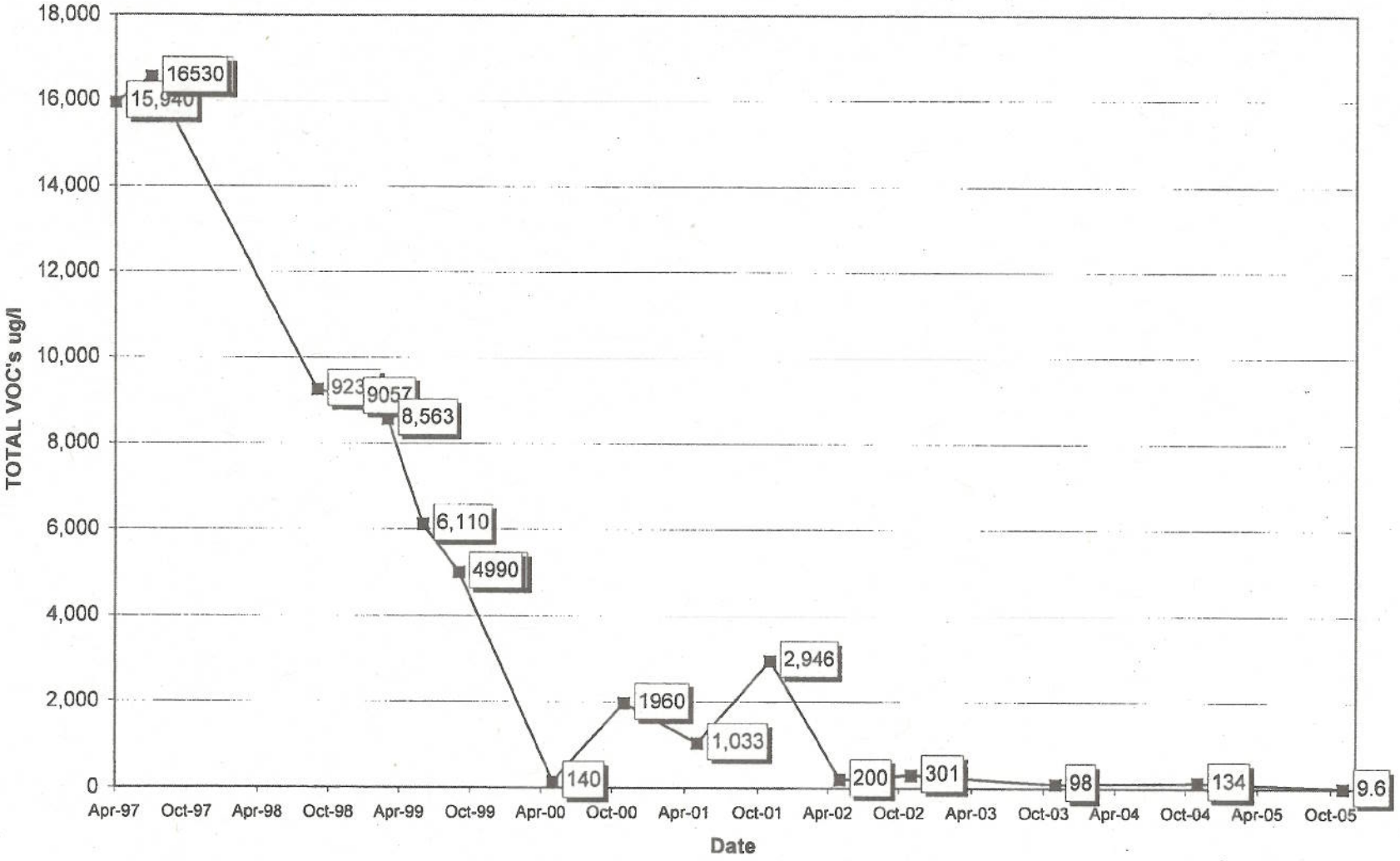
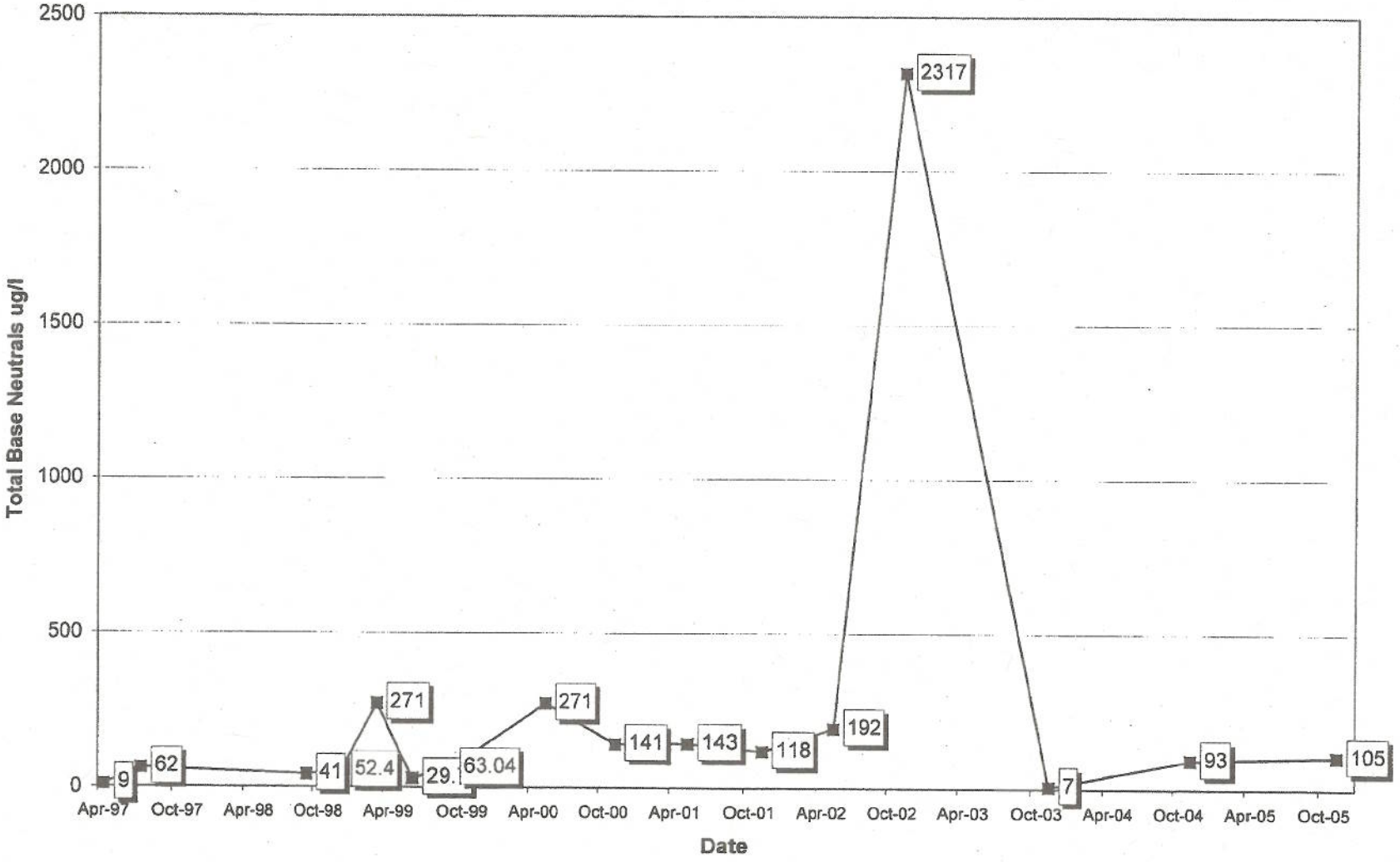
Oct-04
Apr-05
Oct-05
Date

MW-12


18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
TOTAL VOC's ug/l
16530
15,940
923
9057
8,563
6,110
4990
140
1960
1,033
2,946
200
301
98
134
9.6
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Date

GROUNDWATER
TOTAL BASE-NEUTRAL CONSTITUENTS
CONCENTRATION TREND CHARTS

MW-6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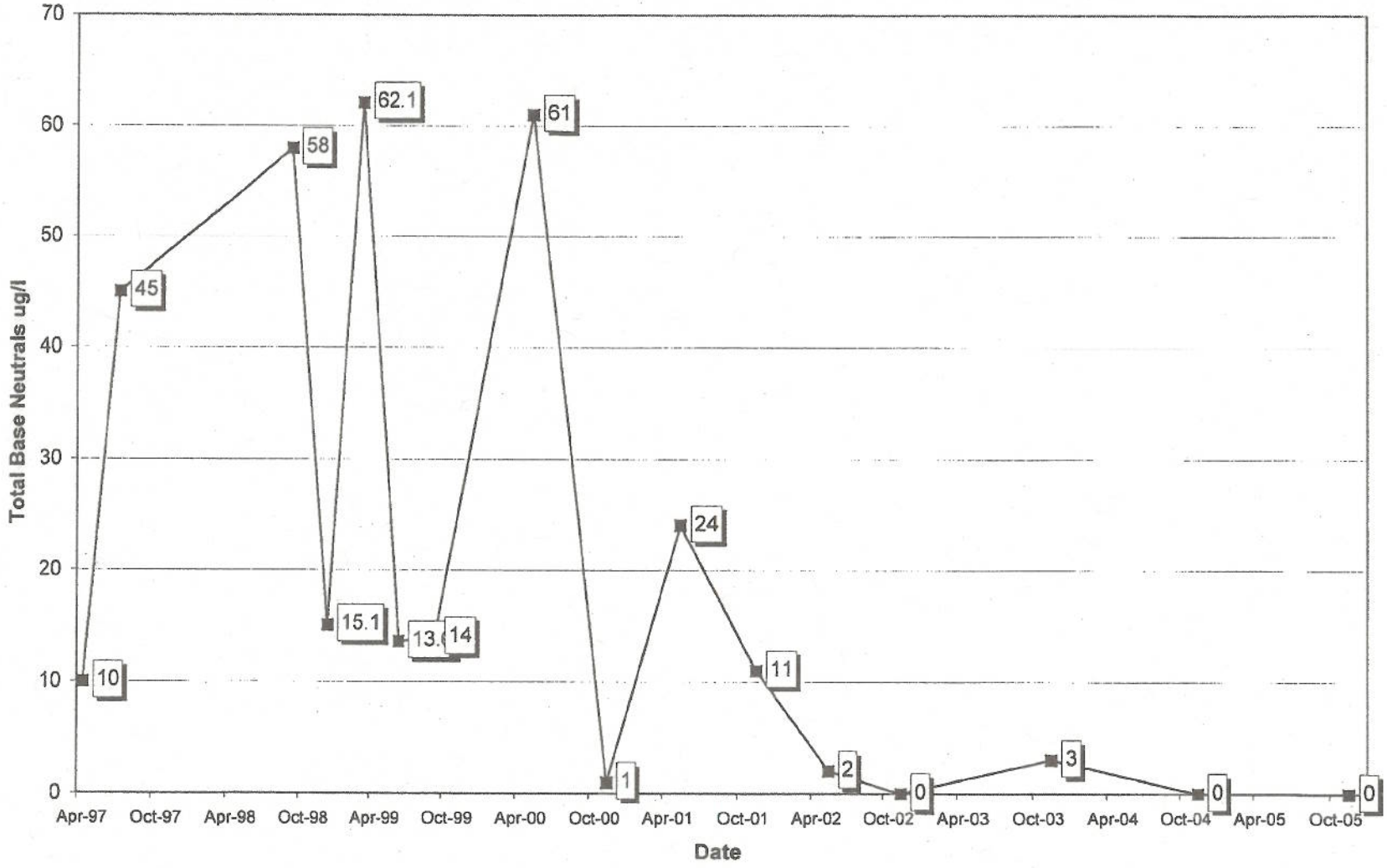
2000
1500
1000
500
0
Total Base Neutrals ug/l
9
62
41
52.4
271
29.1
63.04
271
141
143
118
192
2317
7
93
105
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Date

MW-10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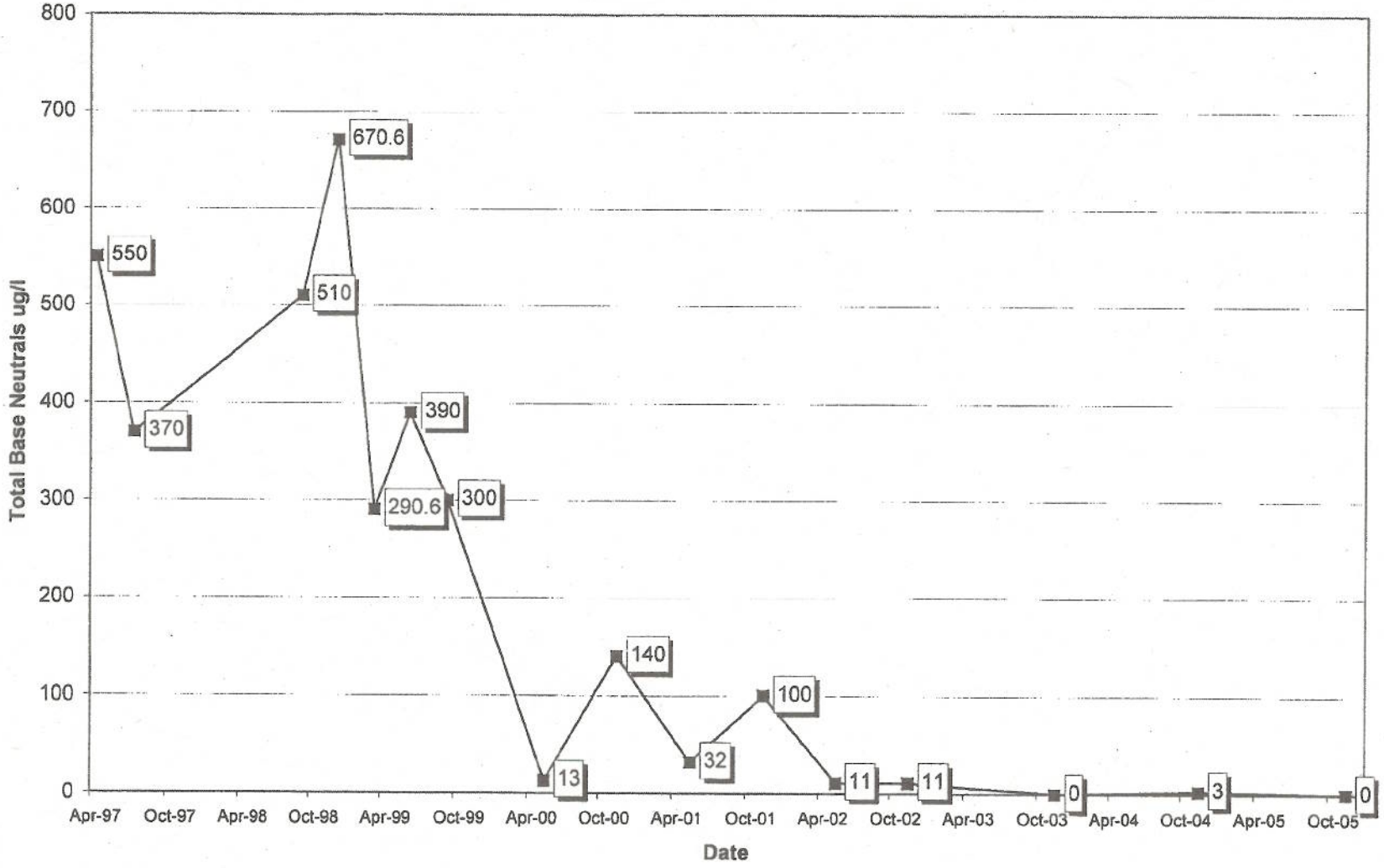
60
50
40
30
20
10
0
Total Base Neutrals ug/l
10
45
58
15.1
62.1
13.
14
61
1
24
11
2
0
3
0
0
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Date

MW-12


800
700
600
500
400
300
200
100
0
Total Base Neutrals ug/l
550
370
510
670.6
290.6
390
300
13
140
32
100
11
11
0
3
0
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Date