POST-REMEDIATION GROUNDWATER MONITORING REPORT

ANNUAL 2000 SAMPLING REPORT

Vibratech, Inc.
Buffalo, New York

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ANNUAL 2000 SAMPLING EVENT

Vibratech, Inc.
Buffalo, New York

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TABLE OF CONTENTS

LIST OF FIGURES
(Following Report)

LIST OF APPENDICES

1.0 INTRODUCTION

In 1996, Vibratech, Inc. (Vibratech) sold its facility located at 537 East Delavan Avenue in Buffalo, New York (Site). The facility had been used for manufacture of vibration dampers and rotary shock absorbers for the trucking and railroad industries.

During environmental investigations conducted prior to the sale of the property, an area of soil contamination was discovered along a railroad spur on the south portion of the property. The chemicals of concern are volatile organic compounds (VOCs), specifically: 1,1-dichloroethane; 1,2-dichloroethane; cis-1,2-dichloroethene; trans-1,2-dichloroethene; toluene; 1,1,1-trichloroethane; trichloroethene; vinyl chloride; and total xylenes. The former area of soil contamination is shown on Figure 1.1. These VOCs were also detected in groundwater. Figure 1.2 shows total VOC concentrations in Site monitoring wells based on samples collected in October 1994.

In 1995-1996, the contaminated soil was excavated and disposed off-Site or treated on-Site using soil vapor extraction (SVE). This remedial action removed the source of VOC contamination in the groundwater at the Site. Remaining chemical presence in groundwater is expected to naturally attenuate over time.

A post-remediation groundwater monitoring program was developed to continue to monitor VOC presence in groundwater. The program is described in a report written by Conestoga-Rovers & Associates (CRA) entitled "Post-Remediation Groundwater Monitoring Plan", dated April 1997. The plan provides for groundwater sample collection from three downgradient monitoring wells designated MW-2, MW-6, and MW-7. Groundwater samples are analyzed for selected VOCs using SW-846 Method 8620. The frequency of groundwater sampling specified in the Post-Remediation Groundwater Monitoring Plan is as follows:

i) quarterly for the first four quarters (first year);
ii) semi-annually during the second year; and
iii) annually during years three through five.

At the end of five years, the monitoring program will be re-evaluated. An earlier re-evaluation may be conducted but no changes from the above will be implemented without the consent of the New York State Department of Environmental Conservation (NYSDEC).

The sampling events for years one through three have been completed. This report presents the results of the post-remediation annual sampling event (year four) which

took place during 2000. This represents the completion of the second annual sampling event (item iii), above). The next scheduled sampling event will therefore constitute the third annual event and will be conducted during the first half of 2001.

2.0 WORK PERFORMED

CRA conducted the annual 2000 groundwater sampling event at the former Vibratech facility at 537 East Delavan Avenue in Buffalo, New York on June 21, 2000.

Monitoring wells MW-2, MW-6, and MW-7 were sampled in accordance with the Post Remediation Groundwater Monitoring Plan, dated April 1997. During the sampling event, CRA personnel observed an oil-like, floating layer in monitoring well MW-6. The thickness of the layer was estimated to be approximately 0.1 feet.

A blind duplicate sample was collected at MW-6 and identified as GW-5927-062100-DRS-004. A matrix spike and matrix spike duplicate (MS/MSD) was collected at MW-2 and identified as GW-5927-062100-DRS-001 MS/MSD. Columbia Analytical Services (CAS) picked up the samples on June 22, 2000. The samples were analyzed by CAS using SW-846 Method 8260.

3.0 RESULTS

3.1 DATA QUALITY

CRA performed an assessment and validation of the laboratory's analytical results. The data reported by CRA was determined to be acceptable for use without qualification. Appendix A contains the Analytical Data Quality Assessment and Validation Report and the complete analytical results.

3.2 ANALYTICAL RESULTS

The following chemicals were detected in the groundwater samples collected in June 2000:

Chemical	*MW-2 (µg/L)*	*MW-6 (µg/L)*	*MW-6 (Dup) (µg/L)*	*MW-7 (µg/L)*
1,1-Dichloroethane	160	14	14	ND
Cis-1,2-Dichloroethene	150	16	16	ND
Toluene	ND	ND	ND	ND
1,1,1-Trichloroethane	70	ND	ND	ND
Trichloroethene	18	ND	ND	ND
Vinyl chloride	65	7.0	6.9	ND
o-Xylene	ND	ND	ND	ND

Notes:
ND Non-detect.
µg/L Micrograms per liter.

Figure 3.1 presents the total VOC concentration found in the monitoring wells sampled in June 2000. Figure 3.2 presents a graph of total VOC concentrations versus time for monitoring wells MW-2, MW-6, and MW-7. The graphs show the following:

i) total VOC concentrations in the historically most-contaminated monitoring well (MW-2) have decreased from 1,718 µg/L (prior to remediation) to 463 µg/L (annual 2000);

ii) total VOC concentrations in well MW-6, located near the margin of the contaminant plume decreased from 116 µg/L (annual 1999) to 37 µg/L (annual 2000); and

iii) VOCs have never been detected in well MW-7, located on the downgradient side of the Winchester Avenue sewer. The concentration trends will continue to be monitored and discussed in subsequent reports.

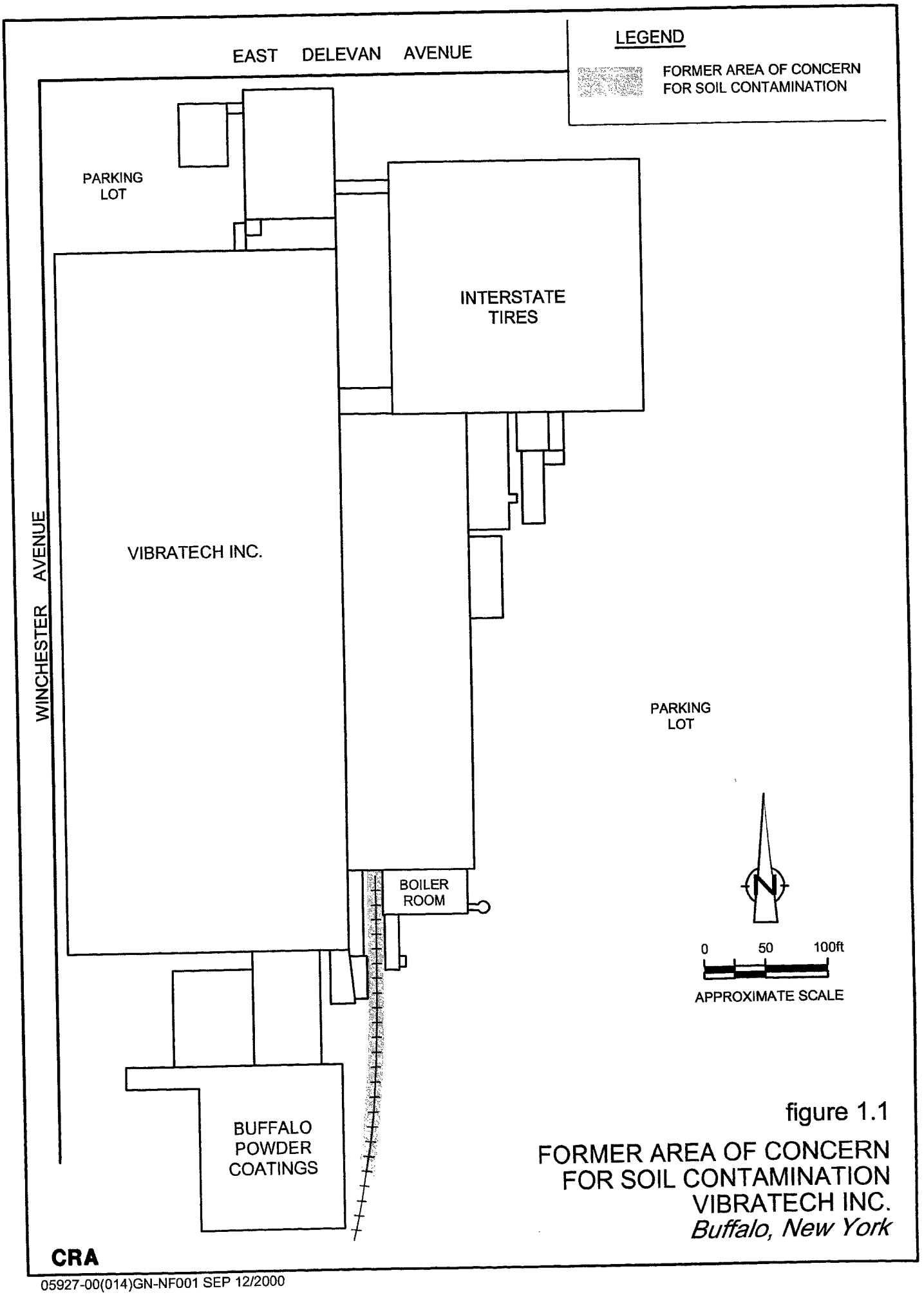

figure 1.1

FORMER AREA OF CONCERN
FOR SOIL CONTAMINATION
VIBRATECH INC.
Buffalo, New York

05927-00(014)GN-NF001 SEP 12/2000

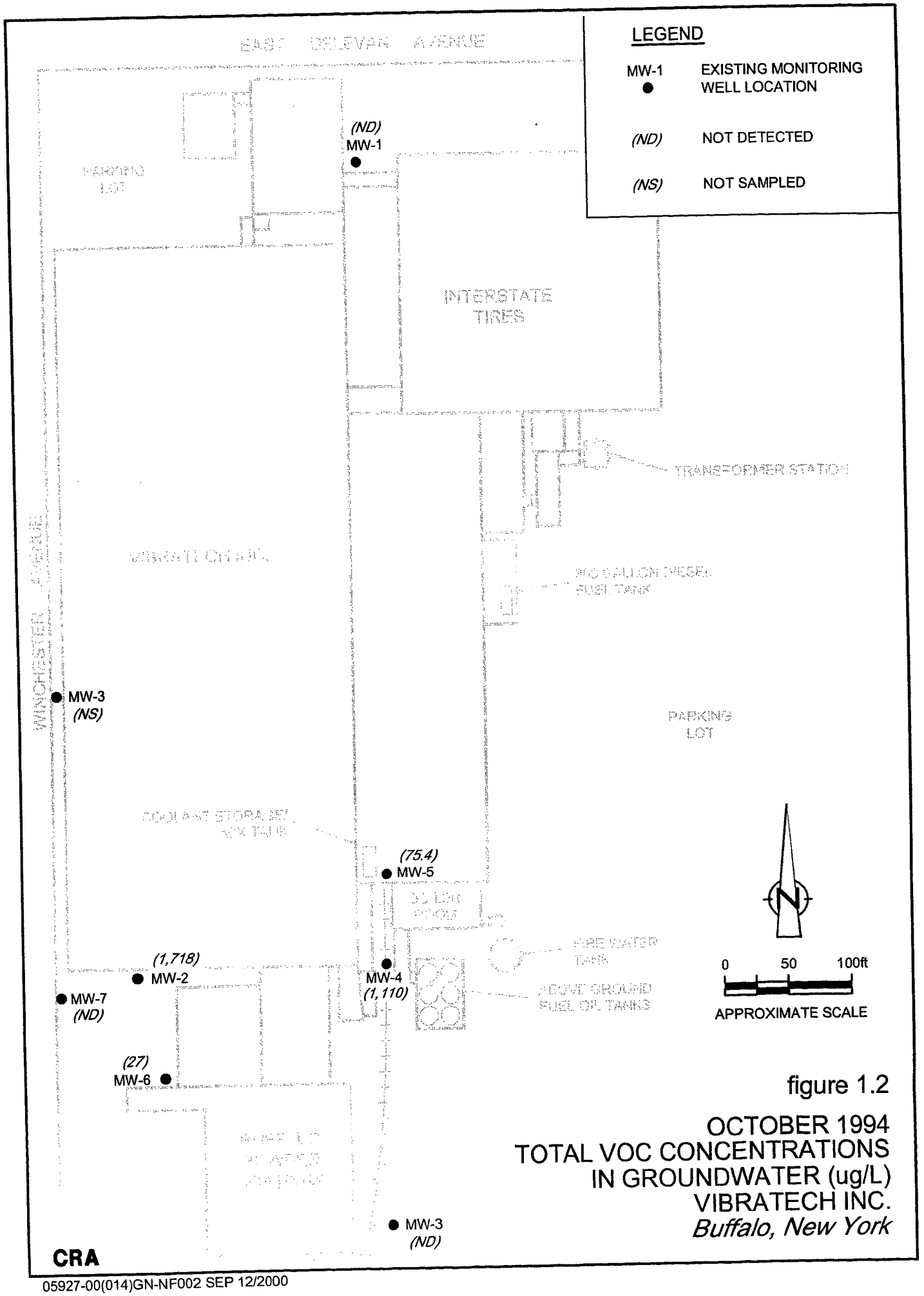

figure 1.2

OCTOBER 1994
TOTAL VOC CONCENTRATIONS
IN GROUNDWATER (ug/L)
VIBRATECH INC.
Buffalo, New York

CRA

05927-00(014)GN-NF002 SEP 12/2000

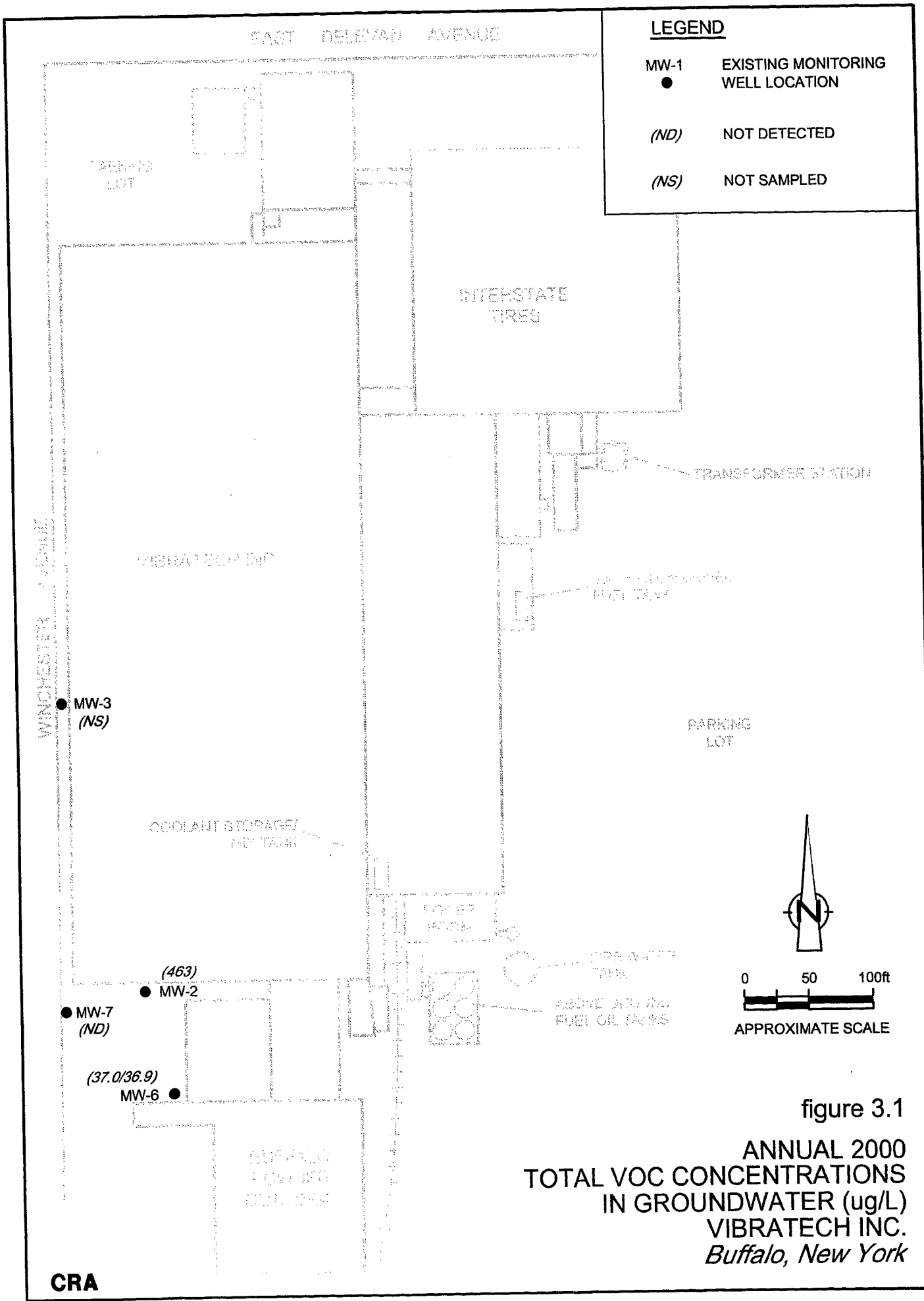

figure 3.1

ANNUAL 2000
TOTAL VOC CONCENTRATIONS
IN GROUNDWATER (ug/L)
VIBRATECH INC.
Buffalo, New York

CRA

05927-00(014)GN-NF003 SEP 12/2000

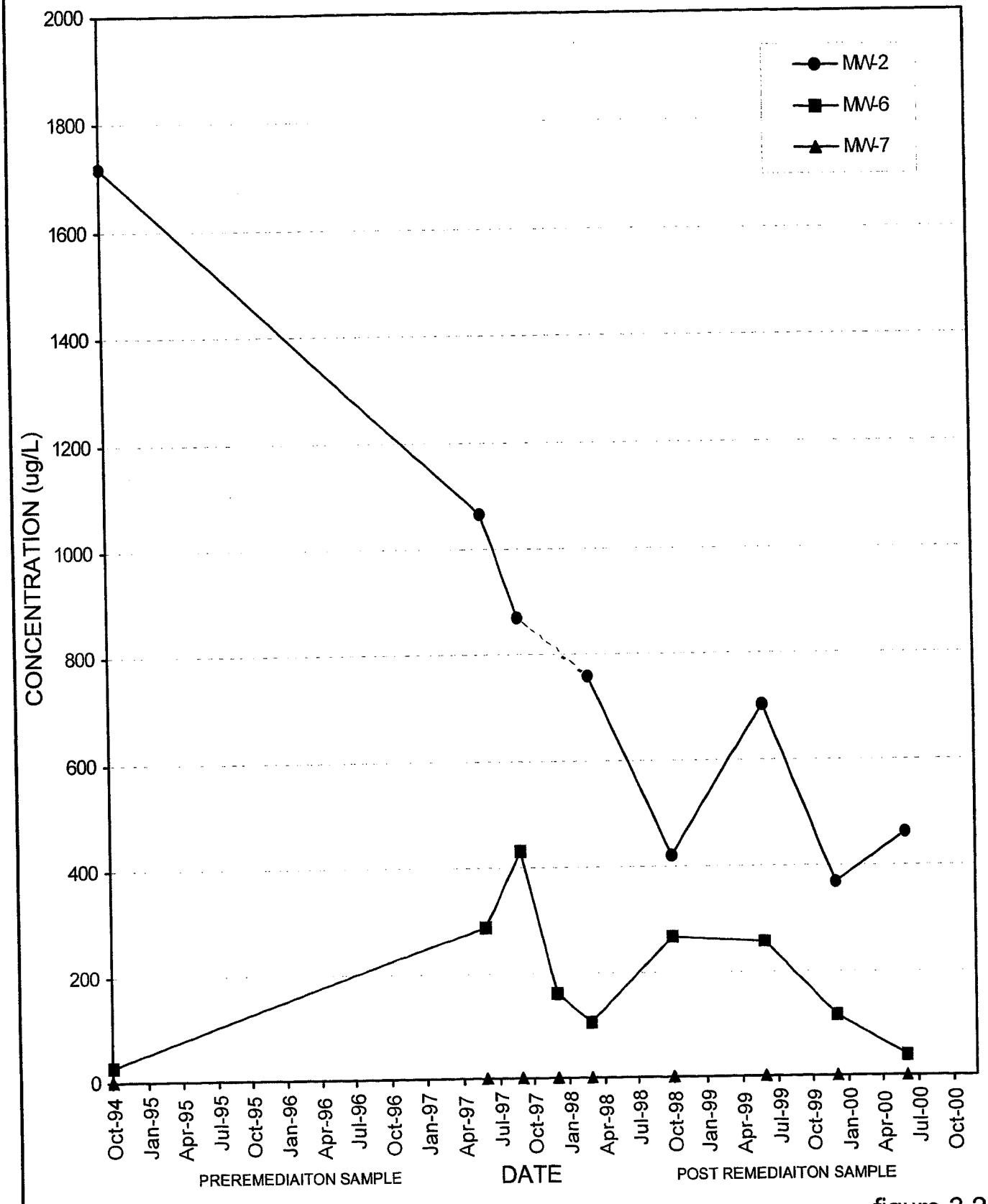

figure 3.2

TOTAL VOC CONCENTRATIONS
IN GROUNDWATER VERSUS TIME
VIBRATECH INC.
Buffalo, New York

CRA

05927-00(014)EX-NF001 SEP 12/2000

APPENDIX A

ANALYTICAL DATA QUALITY ASSESSMENT AND VALIDATION

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MEMORANDUM

TO: Dustin Steiner

REF. NO.: 5927

FROM: Paul McMahon/dh/1

DATE: July 28, 2000

RE: **Analytical Data Quality Assessment and Validation**
Groundwater Sampling
Vibratech Site, Buffalo, New York
June 2000

The following details an assessment and validation of analytical results reported by Columbia Analytical Services, Inc. (CAS) for environmental samples collected in June 2000 from the Vibratech Site (Site). The samples collected were submitted for Site-specific volatile organic compounds (VOCs) as follows:

Parameter	*Matrix*	*Investigative Samples*	*Field Duplicates*	*MS/MSD*	*Trip Blanks*	*Total*
VOCs	Water	3	1	1/1	1	7

Notes:
MS/MSD - Matrix Spike/Matrix Spike Duplicate.

Samples were analyzed by Method 8260B, referenced from "Test Methods for Evaluating Solid Waste", SW-846, 3rd Edition, 1986 and subsequent revisions.

For sample identification and location, a sample collection summary is presented in Table 1. A summary of the analytical results is presented in Table 2. Evaluation of the data was based on information obtained from finished data sheets, blank data, and recovery data from matrix, blank, and surrogate spikes. Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are referenced from the method of analysis and the "National Functional Guidelines for Organic Data Review" (February 1994), both prepared by the United States Environmental Protection Agency (USEPA).

ANALYTICAL ASSESSMENT AND VALIDATION

All samples were properly transported and stored at 4°C (±2°C). The VOC samples were preserved with hydrochloric acid to a pH of less than two. All VOC analyses were performed within the SW-846 recommended holding time of 14 days.

The surrogate compounds 4-bromofluorobenzene, toluene-d_8, and dibromofluoromethane were added to all samples, blanks, and QC samples prior to VOC analysis. All recoveries were acceptable, indicating good analytical efficiency.

Laboratory method blank analyses yielded non-detect results for all analytes of interest, indicating that laboratory contamination was not a factor for this investigation.

Internal standard analyses were performed for VOCs per the method. All percent recoveries and retention times were acceptable, indicating good analytical performance.

One MS/MSD analysis for VOCs was performed on sample GW-5927-062100-DRS-001. All percent recoveries and relative percent differences (RPDs) were within the control limits, indicating that good analytical accuracy and precision were achieved.

A blank spike was analyzed for VOCs. All percent recoveries were within the control limits, indicating good analytical accuracy.

FIELD QA/QC RESULTS

One trip blank was submitted with the VOC samples on June 21, 2000. No compounds of interest were detected in the trip blank.

One field duplicate sample was collected and submitted "blind" to the laboratory for analysis, as indicated in Table 1. All results showed acceptable agreement with the original sample, demonstrating good sampling and analytical precision.

CONCLUSION

The data reported by CAS are acceptable without qualification.

TABLE 1

SAMPLE COLLECTION SUMMARY
VIBRATECH, INC.
BUFFALO, NEW YORK
JUNE 2000

Sample Identification	*Sample Location*	*Sample Matrix*	*Collection Date*	*Collection Time*	*Sample Analyses**	*Comments*
GW-5927-062100-DRS-001	MW2	Water	06/21/00	1430	Site-Specific Volatiles	MS/MSD
GW-5927-062100-DRS-002	MW7	Water	06/21/00	1445	Site-Specific Volatiles	
GW-5927-062100-DRS-003	MW6	Water	06/21/00	1500	Site-Specific Volatiles	
GW-5927-062100-DRS-004	MW6	Water	06/21/00	1510	Site-Specific Volatiles	Field duplicate of GW-5927-062100-DRS-003
TP-5927-DRS-005	-	Water	06/21/00	-	Site-Specific Volatiles	

Notes:

* Site-Specific Volatiles:
1,1-Dichloroethane, 1,2-Dichloroethane, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, Toluene, 1,1,1-Trichloroethane, Trichloroethene, Vinyl Chloride, o-Xylene, m&p-Xylene.

MS/MS Matrix Spike/Matrix Spike Duplicate.

TABLE 2

ANALYTICAL RESULTS SUMMARY
VIBRATECH, INC.
BUFFALO, NEW YORK
JUNE 2000

	Sample ID:	*GW-5927-062100-DRS-001*	*GW-5927-062100-DRS-002*	*GW-5927-062100-DRS-003*	*GW-5927-062100-DRS-004*
	Collection Date:	*06/21/00*	*06/21/00*	*06/21/00*	*06/21/00 (Dup of DRS-003)*
Parameters	*Units*				
Volatiles					
1,1-Dichloroethane	µg/L	160	5.0 U	14	14
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	150	5.0 U	16	16
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1-Trichloroethane	µg/L	70	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	18	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	65	5.0 U	7.0	6.9
o-Xylene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
m&p-Xylene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

Notes:
Dup Field Duplicate.
U Non-detect at the associated value.