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October 14, 2004

Mr. Syed Quadri
Western New York Remediation Section
USEPA, Region II
290 Broadway, 20th Floor
New York NY 10007-1866
United States

Dear Mr. Quadri:

Re: OU-3 August 2004 Groundwater Sampling Event
Hooker/Ruco Site, Hicksville, New York

Groundwater samples were collected from 13 Operable Unit-3 (OU-3) monitoring wells the week of August 23, 2004 and analyzed for volatile organic compounds (VOCs). The wells were sampled to obtain an updated understanding of the extent and concentrations of the vinyl chloride monomer (VCM) subplume. The last available data for most of the subplume was over two years ago in mid- 2002. The complete analytical results and QA/QC review are attached. The analytical results were acceptable without qualification. A summary of the primary detected compounds is presented in Table 1. The most recent VCM results are shown on Figure 1.

When compared to the results for 2002 (see Figure 2), the VCM concentrations along the north, east, and west sides of the VCM subplume are decreasing whereas the concentrations in the southern portion of the core of the VCM subplume are increasing. In addition, VCM was not detected in GP-1 during the most recent sampling. Overall, the areal extent of the VCM subplume is decreasing. This is expected because:

i) there is no longer a source of VCM;

ii) the VCM subplume is migrating to the south consistent with the regional southerly groundwater flow;

iii) the north, east, and west peripheral areas of the VCM subplume are being aerobically degraded due to the aerobic nature of the regional groundwater and recharge; and;

iv) the pumping of GP-3, which is now part of the remedial action specified in the Northrop OU-2 ROD prepared by the NYSDEC, prevents migration of the VCM subplume south of the zone of capture of GP-3.

Should you have any questions on the above, please do not hesitate to contact at (859) 543-2151 or e-mail at steve_whyte@oxy.com.

Yours truly,

Klaus Schmidtke

for Steve Whyte
Project Manager

KDS/jdh/6883/156
Encl.

c.c.: K. Lynch (USEPA)
M. E. Wieder (USEPA)
S. Scharf (NYSDEC)
T. Kelly (Nassau County)
J. Robinson (Bayer)
J. Kay (CRA)

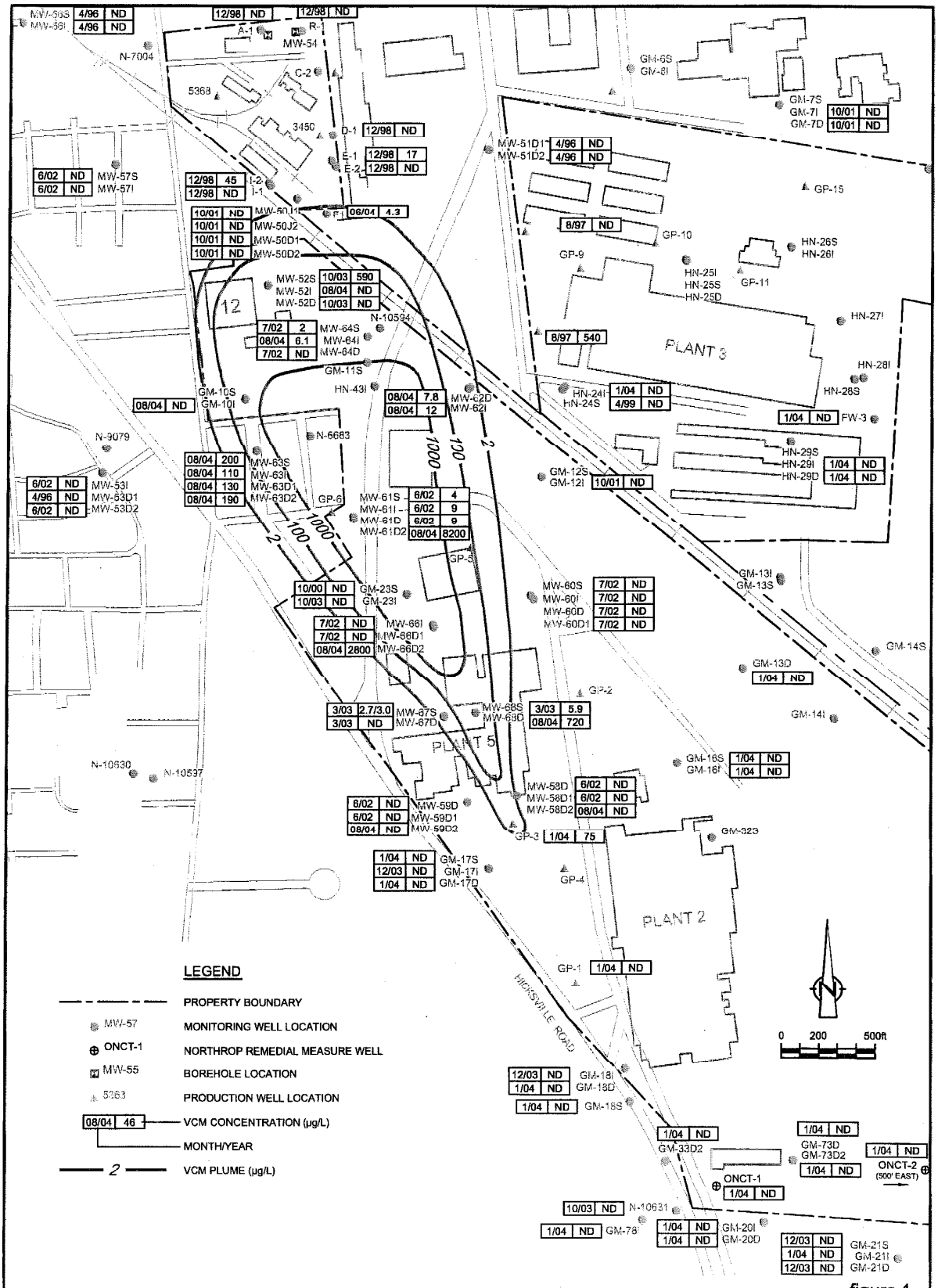

figure 1

AUGUST 2004 VCM GROUNDWATER CONCENTRATIONS
OFF-SITE GROUNDWATER
Hooker/Ruco Site, Hicksville, New York

06883-95(QUAD156)GN-WA001 OCT 14/2004

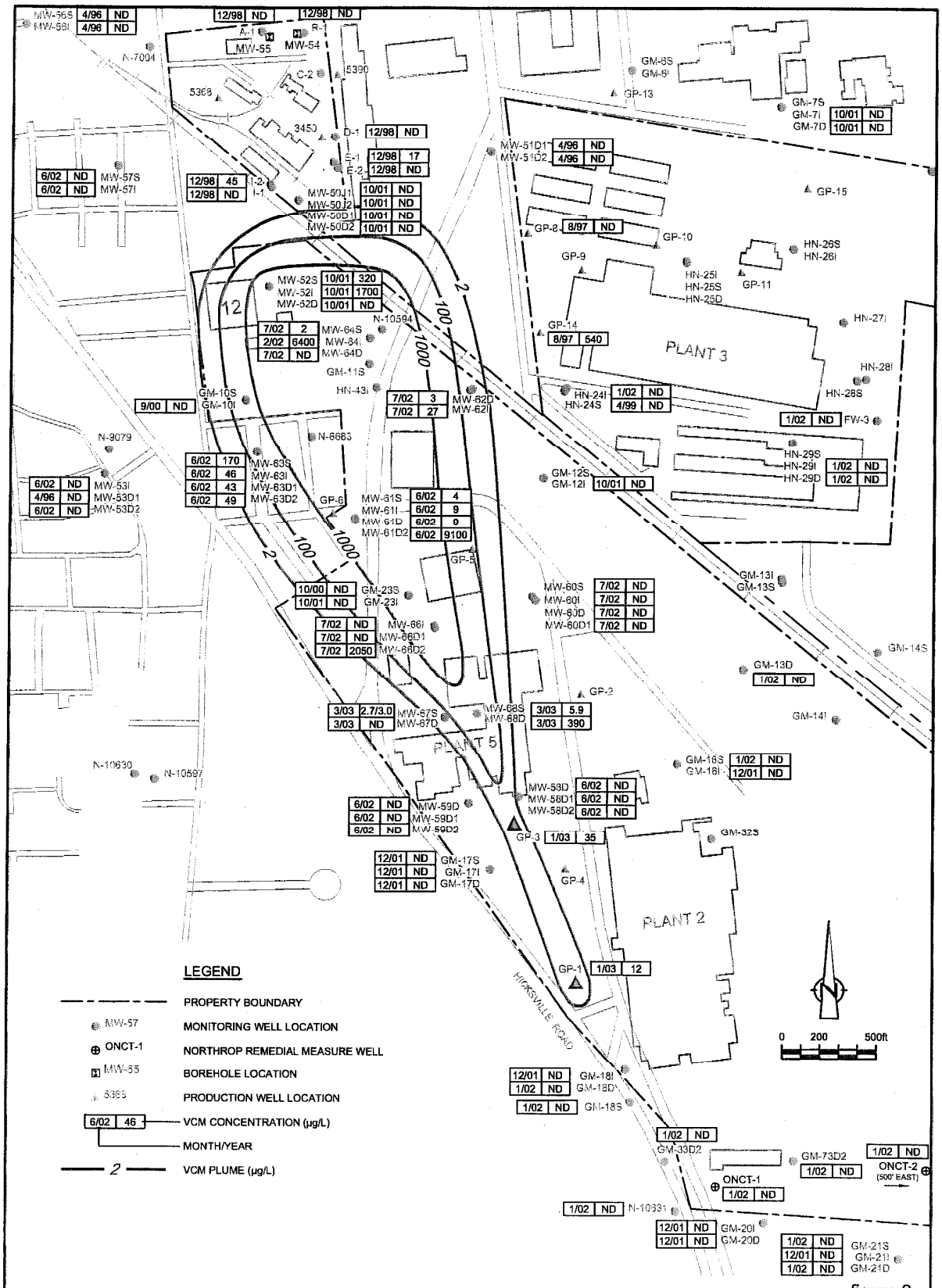

figure 2

JUNE/JULY 2002 VCM GROUNDWATER CONCENTRATIONS
OFF-SITE GROUNDWATER
Hooker/Ruco Site, Hicksville, New York

06883-95(QUAD156)GN-WA002 OCT 14/2004

TABLE 1

SUMMARY OF PRIMARY DETECTED COMPOUNDS
AUGUST 2004 OPERABLE UNIT-3
HOOKER/RUCO SITE, HICKSVILLE, NEW YORK

Well	*Compound (µg/L)*							
	1,1-DCA	*1,1-DCE*	*1,2-DCE*	*1,1,1-TCA*	*Chloroethane*	*PCE*	*TCE*	*VCM*
MW-52I	ND2/ND2	ND2/ND2	3.9/3.8	ND2/ND2	ND2/ND2	28/26	16/15	ND2/ND2
MW-58D2	1J	2.4	4.8	ND2	ND2	18	320	ND2
MW-59D2	4.5	1J	4.1	ND2	ND2	12	230	ND2
MW-61D2	1J	4.7	230	ND2	ND2	140	370	8200
MW-62D	ND2	ND2	8.4	ND2	ND2	ND2	2.8	7.8
MW-62I	ND2	ND2	7.6	ND2	ND2	14	2.4	12
MW-63S	ND2	ND2	17	ND2	4.8	47	36	200
MW-63I	ND2	ND2	10	ND2	2.8	48	34	110
MW-63D1	ND2	ND2	10	ND2	3.4	45	37	130
MW-63D2	ND2	ND2	15	ND2	4.8	47	42	190
MW-64I	ND2	ND2	ND2	ND2	ND2	1J	ND2	6.1
MW-66D2	4.8	7.0	47	4.8	21	150	910	2800
MW-68D	6.9	8.7	33	5.4	20	60	130	720

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MEMORANDUM

TO: Klaus Schmidtke

REF. NO.: 6883 [400035-49]

FROM: Karen Bevilacqua/js/23

DATE: October 5, 2004
E-Mail and Interoffice Mail

RE: **Analytical Data Assessment and Validation**
OU-3 Groundwater Sampling Program
Hicksville, New York
August 2004

INTRODUCTION

Fourteen (14) groundwater samples were collected at the Hicksville Site during August 2004 in support of the OU-3 groundwater sampling program. The samples were submitted to H2M Labs, Inc. (H2M) in Melville, New York for volatile analysis.

The quality assurance/quality control (QA/QC) criteria by which these data have been assessed are outlined in the method and the following documents:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", October 1999, EPA-540/R-99/008; and

ii) "Quality Assurance Project Plan, OU-3 Predesign Activities", January 2002 (QAPP).

A sampling and analysis summary is presented in Table 1. The analytical results are summarized in Table 2. The data quality assessment and validation presented in the following subsections were performed based on the sample results and support QA/QC provided. The data includes calibration data, blank data, matrix spikes, laboratory control samples, surrogate recoveries, and retention time/internal standard results.

SAMPLE HOLDING TIMES

All holding time criteria were met and all samples were properly preserved and stored at 4°C (±2°C).

CALIBRATION

Gas Chromatograph/Mass Spectrometer (GC/MS) Tuning and Mass Calibration

To ensure that the GC/MS are properly tuned over the mass range of interest, tuning compounds are analyzed on a regular basis. The results of these analyses must meet the relative ion abundance criteria specified in the methods.

Tuning compounds were analyzed at the required frequency and all ion abundance criteria were met.

Initial Calibration

A calibration curve is analyzed on each instrument to provide a means for quantitating analyte concentrations in the samples. The calibration curve must be linear and must show acceptable sensitivity for all analytes of interest.

Calibration curves were established for all analytes of interest. Instrument sensitivity and linearity were acceptable for all compounds of interest.

Continuing Calibration

A calibration check standard is analyzed on a regular basis to verify the continued validity of the calibration curve. The results of this analysis must show acceptable instrument stability and sensitivity for all analytes of interest.

Calibration check standards were analyzed at the proper frequency. The results showed acceptable instrument sensitivity for all compounds of interest.

SURROGATE SPIKE RECOVERIES

Surrogate compounds were added to all samples prior to analysis to assess the effects of individual sample matrices on analytical efficiency. All surrogate recoveries met the acceptance criteria.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

A MS/MSD sample was prepared and analyzed for volatiles as shown in Table 1. All spike recoveries were acceptable and consistent indicating good analytical accuracy and precision.

BLANK SPIKE (BS) ANALYSES

BS were prepared and analyzed for volatiles. All recoveries were within the acceptable laboratory control limits indicating adequate analytical accuracy.

LABORATORY BLANK ANALYSES

Contamination introduced by the laboratory is characterized by the analysis of laboratory blanks. These blanks are prepared from deionized water and are analyzed with each batch of samples.

Laboratory blanks were prepared and analyzed at the required frequency. All blank results were non-detect for the compounds of interest.

SAMPLE QUANTITATION

Sample results were quantitated using internal standards as specified in the analytical methods. All internal standard recoveries were acceptable.

FIELD QA/QC

Field Duplicate Sample

To assess overall analytical and sampling precision, a field duplicate sample was collected and submitted "blind" to the laboratory for analysis as shown in Table 1.

A comparison of the results showed good analytical and sampling precision.

Trip Blank

A trip blank was submitted and analyzed with the samples for volatile analysis to evaluate the possibility of cross-contamination during sample shipment and storage. All volatile results were non-detect for the compounds of interest.

CONCLUSION

The data produced by H2M are acceptable for use without qualification.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
OU-3 GROUNDWATER SAMPLING PROGRAM
MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
HICKSVILLE, NEW YORK
AUGUST 2004

Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*Analysis/Parameters* *Volatiles*	*Comments*
GW-6883-082404-RAM-001	MW-59D2	08/24/04	11:40	X	
GW-6883-082404-RAM-002	MW-58D2	08/24/04	12:10	X	
GW-6883-082404-RAM-003	MW-66D2	08/24/04	15:35	X	
GW-6883-082404-RAM-004	MW-68D	08/24/04	15:35	X	
GW-6883-082504-RAM-005	MW-61D2	08/25/04	10:05	X	
GW-6883-082504-RAM-006	MW-63-290	08/25/04	10:00	X	
GW-6883-082504-RAM-007	MW-63-255	08/25/04	11:10	X	Matrix Spike/Matrix Spike Duplicate.
GW-6883-082504-RAM-008	MW-63-220	08/25/04	12:10	X	
GW-6883-082504-RAM-009	MW-63-185	08/25/04	13:25	X	
GW-6883-082504-RAM-010	MW-52I	08/25/04	15:25	X	
GW-6883-082504-RAM-011	MW-52I	08/25/04	15:45	X	Field duplicate of GW-6883-082504-RAM-010.
GW-6883-082604-RAM-012	MW-62I	08/26/04	10:00	X	
GW-6883-082604-RAM-013	MW-62D	08/26/04	10:45	X	
GW-6883-082604-RAM-014	MW-64I	08/26/04	12:35	X	
TB-6883-082604-RAM-001	Trip Blank	08/26/04	13:00	X	Trip Blank.

TABLE 2

ANALYTICAL RESULTS SUMMARY
OU-3 GROUNDWATER SAMPLING PROGRAM
MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
HICKSVILLE, NEW YORK
AUGUST 2004

Sample Location:		*MW-52I*	*MW-52I*	*MW-61D2*	*MW-62D*	*MW-62I*
Sample ID:		*GW-6883-082504-RAM-010*	*GW-6883-082504-RAM-011*	*GW-6883-082504-RAM-005*	*GW-6883-082604-RAM-013*	*GW-6883-082604-RAM-012*
Sample Date:		*8/25/2004*	*8/25/2004*	*8/25/2004*	*8/26/2004*	*8/26/2004*
			Duplicate			
Parameter	*Units*					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	2 U	2 U	2 U	2 U	2 U
1,1,2,2-Tetrachloroethane	µg/L	2 U	2 U	2 U	2 U	2 U
1,1,2-Trichloroethane	µg/L	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethane	µg/L	2 U	2 U	1 J	2 U	2 U
1,1-Dichloroethene	µg/L	2 U	2 U	4.7	2 U	2 U
1,2-Dichloroethane	µg/L	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethene (total)	µg/L	3.9	3.8	230	8.4	7.6
1,2-Dichloropropane	µg/L	2 U	2 U	2 U	2 U	2 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	5 U	5 U	5 U	5 U	5 U
2-Hexanone	µg/L	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	5 U	5 U	5 U	5 U	5 U
Acetone	µg/L	5 U	5 U	5 U	5 U	5 U
Benzene	µg/L	0.7 U	0.7 U	1.4	0.7 U	0.7 U
Bromodichloromethane	µg/L	2 U	2 U	2 U	2 U	2 U
Bromoform	µg/L	2 U	2 U	2 U	2 U	2 U
Bromomethane (Methyl Bromide)	µg/L	2 U	2 U	2 U	2 U	2 U
Carbon disulfide	µg/L	2 U	2 U	5.2	2.1	2 U
Carbon tetrachloride	µg/L	2 U	2 U	2 U	2 U	2 U
Chlorobenzene	µg/L	2 U	2 U	2 U	2 U	2 U
Chloroethane	µg/L	2 U	2 U	2 U	2 U	2 U
Chloroform (Trichloromethane)	µg/L	2 U	2 U	2 U	2 U	2 U
Chloromethane (Methyl Chloride)	µg/L	2 U	2 U	2 U	2 U	2 U
cis-1,3-Dichloropropene	µg/L	2 U	2 U	2 U	2 U	2 U
Dibromochloromethane	µg/L	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	µg/L	2 U	2 U	2 U	2 U	2 U
Methylene chloride	µg/L	2 U	2 U	2 U	2 U	2 U
Styrene	µg/L	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	µg/L	28	26	140	2 U	14
Toluene	µg/L	2 U	2 U	2 U	1 J	2 U
trans-1,3-Dichloropropene	µg/L	2 U	2 U	2 U	2 U	2 U
Trichloroethene	µg/L	16	15	370	2.8	2.4
Vinyl chloride	µg/L	2 U	2 U	8200	7.8	12
Xylene (total)	µg/L	2 U	2 U	5.0	2 U	2 U

Notes:
J Estimated.
U Non-detect at associated value.

TABLE 2

ANALYTICAL RESULTS SUMMARY
OU-3 GROUNDWATER SAMPLING PROGRAM
MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
HICKSVILLE, NEW YORK
AUGUST 2004

Sample Location:		*MW-63-185*	*MW-63-220*	*MW-63-255*	*MW-63-290*	*MW-66D2*
Sample ID:		*GW-6883-082504-RAM-009*	*GW-6883-082504-RAM-008*	*GW-6883-082504-RAM-007*	*GW-6883-082504-RAM-006*	*GW-6883-082404-RAM-003*
Sample Date:		*8/25/2004*	*8/25/2004*	*8/25/2004*	*8/25/2004*	*8/24/2004*
Parameter	*Units*					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	2 U	2 U	2 U	2 U	4.8
1,1,2,2-Tetrachloroethane	µg/L	2 U	2 U	2 U	2 U	2 U
1,1,2-Trichloroethane	µg/L	2 U	2 U	2 U	2 U	1 J
1,1-Dichloroethane	µg/L	2 U	2 U	2 U	2 U	4.8
1,1-Dichloroethene	µg/L	2 U	2 U	2 U	2 U	7.0
1,2-Dichloroethane	µg/L	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethene (total)	µg/L	17	10	10	15	47
1,2-Dichloropropane	µg/L	2 U	2 U	2 U	2 U	2 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	5 U	5 U	5 U	5 U	5 U
2-Hexanone	µg/L	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	5 U	5 U	5 U	5 U	5 U
Acetone	µg/L	5 U	5 U	5 U	5 U	1.3
Benzene	µg/L	0.7 U	0.7 U	0.7 U	0.7 U	2 U
Bromodichloromethane	µg/L	2 U	2 U	2 U	2 U	2 U
Bromoform	µg/L	2 U	2 U	2 U	2 U	2 U
Bromomethane (Methyl Bromide)	µg/L	2 U	2 U	2 U	2 U	2 U
Carbon disulfide	µg/L	2 U	2 U	2 U	2 U	2 U
Carbon tetrachloride	µg/L	2 U	2 U	2 U	2 U	2 U
Chlorobenzene	µg/L	4.8	2.8	3.4	4.8	21
Chloroethane	µg/L	2 U	2 U	2 U	2 U	2 U
Chloroform (Trichloromethane)	µg/L	2 U	2 U	2 U	2 U	2 U
Chloromethane (Methyl Chloride)	µg/L	2 U	2 U	2 U	2 U	2 U
cis-1,3-Dichloropropene	µg/L	2 U	2 U	2 U	2 U	2 U
Dibromochloromethane	µg/L	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	µg/L	2 U	2 U	2 U	2 U	2 U
Methylene chloride	µg/L	2 U	2 U	2 U	47	150
Styrene	µg/L	47	42	45	2 U	2 U
Tetrachloroethene	µg/L	2 U	2 U	2 U	2 U	2 U
Toluene	µg/L	2 U	2 U	2 U	42	910
trans-1,3-Dichloropropene	µg/L	36	34	37	190	2800
Trichloroethene	µg/L	200	110	130	2 U	2
Vinyl chloride	µg/L	2 U	2 U	2 U		
Xylene (total)						

Notes:
J Estimated.
U Non-detect at associated value.

TABLE 2

ANALYTICAL RESULTS SUMMARY
OU-3 GROUNDWATER SAMPLING PROGRAM
MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
HICKSVILLE, NEW YORK
AUGUST 2004

Sample Location:		*MW-58D2*	*MW-59D2*	*MW-64I*	*MW-68D*
Sample ID:		*GW-6883-082404-RAM-002*	*GW-6883-082404-RAM-001*	*GW-6883-082604-RAM-014*	*GW-6883-082404-RAM-004*
Sample Date:		*8/24/2004*	*8/24/2004*	*8/26/2004*	*8/24/2004*
Parameter	*Units*				
Volatile Organic Compounds					
1,1,1-Trichloroethane	µg/L	2 U	2 U	2 U	5.4
1,1,2,2-Tetrachloroethane	µg/L	2 U	2 U	2 U	2 U
1,1,2-Trichloroethane	µg/L	2 U	2 U	2 U	2 U
1,1-Dichloroethane	µg/L	1 J	4.5	2 U	6.9
1,1-Dichloroethene	µg/L	2.4	1 J	2 U	8.7
1,2-Dichloroethane	µg/L	2 U	2 U	2 U	2 U
1,2-Dichloroethene (total)	µg/L	4.8	4.1	2 U	33
1,2-Dichloropropane	µg/L	1 J	2 U	2 U	2 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	5 U	5 U	5 U	5 U
2-Hexanone	µg/L	5 U	5 U	5 U	2 J
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	5 U	5 U	5 U	5 U
Acetone	µg/L	5.1	5 U	5 U	5 U
Benzene	µg/L	0.7 U	0.7 U	0.7 U	1.5
Bromodichloromethane	µg/L	2 U	2 U	2 U	2 U
Bromoform	µg/L	2 U	2 U	2 U	2 U
Bromomethane (Methyl Bromide)	µg/L	2 U	2 U	2 U	2 U
Carbon disulfide	µg/L	2 U	2 U	2 U	2 U
Carbon tetrachloride	µg/L	2 U	2 U	2 U	2.1
Chlorobenzene	µg/L	2 U	2 U	2 U	20
Chloroethane	µg/L	2 U	2 U	2 U	2 U
Chloroform (Trichloromethane)	µg/L	2 U	2 U	2 U	2 U
Chloromethane (Methyl Chloride)	µg/L	2 U	2 U	2 U	2 U
cis-1,3-Dichloropropene	µg/L	2 U	2 U	2 U	2 U
Dibromochloromethane	µg/L	2 U	2 U	2 U	2 U
Ethylbenzene	µg/L	2 U	2 U	2 U	2 U
Methylene chloride	µg/L	2 U	2 U	2 U	60
Styrene	µg/L	18	12	1 J	2 U
Tetrachloroethene	µg/L	2 U	2 U	2 U	2 U
Toluene	µg/L	2 U	2 U	2 U	130
trans-1,3-Dichloropropene	µg/L	320	230	6.1	720
Trichloroethene	µg/L	2 U	2 U	2 U	2
Vinyl chloride	µg/L	2 U			
Xylene (total)					

Notes:
J Estimated.
U Non-detect at associated value.